

Timothy K. McHugh, Esq.  
Cell Phone (610) 301-9072

April 22, 2024

**VIA ELECTRONIC MAIL ONLY**

Sherri L. Golden, Secretary  
New Jersey Board of Public Utilities  
44 South Clinton Avenue, 1st Floor  
P.O. Box 350  
Trenton, New Jersey 08625-0350  
[board.secretary@bpu.nj.gov](mailto:board.secretary@bpu.nj.gov)

**RE: In the Matter of New Jersey's Distributed Energy Resource Participation in  
Regional Wholesale Electricity Markets**

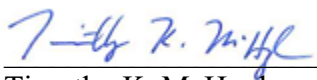
**Docket No. EO24020116**

Dear Secretary Golden:

Enclosed please find Jersey Central Power & Light Company's ("JCP&L" or the "Company") responses to the Request for Information of the Staff New Jersey Board of Public Utilities in connection with the above-referenced matter.

Consistent with the Order issued by the New Jersey Board of Public Utilities in connection with the Matter of the New Jersey Board of Public Utilities' Response to the COVID-19 Pandemic for a Temporary Waiver of Requirements for Certain Non-Essential Obligations, BPU Docket No. EO20030254 (March 19, 2020), these documents are being provided electronically. No paper copies will follow.

Very truly yours,

  
Timothy K. McHugh

Counsel for Jersey Central Power &  
Light Company

## **Questions for New Jersey Electric Distribution Companies**

### **Question 1:**

How is your EDC preparing for the operation of DERAs within the distribution grid? Please explain any processes already under development and which departments (e.g., Operations, Finance, System Planning) are doing this preparation work.

### **Response:**

Jersey Central Power & Light ("JCP&L" or the "Company") has a multi-disciplinary, cross-business-unit FERC Order 2222 ("FO 2222") Strategy Team ("Team") that has been closely following and participating in this matter before PJM Interconnection, L.L.C. ("PJM") and the Federal Energy Regulatory Commission ("FERC"). The Team has developed seven business unit process flows for implementation, which include, but are not limited to, Information Technology, Transmission Planning and Operations, Distribution Engineering and Operations, Regulated Settlements, Metering, Customer Care and Regulatory. The business unit leaders are currently charged with the transition to implementing FO 2222.

Business unit leaders will implement and coordinate process flow activities to track progress and ensure cohesive implementation. They will identify functional gaps that need to be resolved by implementing new systems or changes to existing systems. They will also look to automate and install appropriate controls to meet compliance requirements and minimize risk while quantifying additional costs as required by the various business units. Once PJM's compliance filings have been fully accepted by FERC, business units will analyze the final requirements, detail implementation requirements, and modify any process flow activities necessary for operations, strategy, and compliance. However, as the Board of Public Utilities ("Board") is aware, PJM's most recent compliance filing was only partially accepted by FERC. FERC requested that PJM submit additional information, which it provided, and PJM is awaiting FERC's acceptance of its compliance filing. Once FERC approves such, PJM will initiate workshops with the stakeholders, including electric distribution companies ("EDC"), to define protocols, processes, and additional details that will be necessary for implementing PJM's FO 2222 market. The Team's activities have included modeling ways in which the settlement mechanics *may* function, depending on the final outcome, for participating customers.

**Question 2:**

Are there any concerns about DERAs' impacts on grid reliability that your EDC believes have not been adequately addressed by PJM or the NJBPU, to this date?

**Response:**

In comments submitted to FERC on September 22, 2023 by a joint utility group that includes JCP&L and the FirstEnergy Utility Companies,<sup>1</sup> attached hereto as Attachment 1, the Joint Utilities noted that "certain elements of PJM's Second Compliance Filing substantively fail to provide sufficient safeguards to mitigate risks to distribution system reliability inherent in wholesale market participation by resources interconnected at the distribution level, concerns further validated by PJM in its September 2023 DER Implementation Proposal Filing."<sup>2</sup> The Joint Utilities Comments suggest additional PJM tariff revisions, including, in part:

- Incorporate parameters that will be applied to its distributed energy resource ("DER") aggregation registration process and incorporate an exceptional circumstances provision in the Tariff;
- Revise provisions for metering and telemetry requirements to reflect the fact that next business day data is not possible given the diversity and characteristics of component DERs that are expected to comprise DER aggregations;
- Require PJM to evaluate the impact to reliability and operations from multi-nodal DER aggregation participation in PJM energy markets one year following effectiveness or when sufficient operation data is available; and
- Revise proposed provisions addressing EDC overrides to specifically require that an EDC communication of an executed override be communicated to PJM, in addition to the DER aggregator ("DERA").<sup>3</sup>

The Joint Utilities Comments further urge FERC to issue an order directing PJM to submit a compliance filing with the revisions noted.<sup>4</sup> The importance of each of these proposed tariff revisions is detailed in the Joint Utilities Comments, but JCP&L highlights the above-noted proposed revisions as they are most closely focused on reliability.

Has your company quantified these impacts through risk assessments such as the System Average Interruption Duration Index ("SAIDI") or the System Average Interruption Frequency Index ("SAIFI")?

The Company has not quantified, nor may it be able to sufficiently quantify impacts through risk assessments associated with the failure of PJM to include certain safeguards in its most recent compliance filing, which safeguards are listed in response to the prior question. The Joint Utilities Comments requested that FERC issue an order directing PJM to submit a compliance filing that includes these revisions; however, it is not clear whether FERC will act on the joint utilities' recommendations, thus such assessments may not be relevant or appropriate.

**2(a) Are there any suggested solutions to these concerns that your EDC recommends? Have cost and benefit calculations been run on these proposed solutions?**

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<sup>1</sup> See FERC Docket ER22-962-005, *Comments and Limited Protest of the Joint Utilities on PJM Second Compliance Filing Addressing Order No. 2222* (September 22, 2023) ("Joint Utilities Comments").

<sup>2</sup> See Joint Utilities Comments at 6.

<sup>3</sup> *Id.* at 6.

<sup>4</sup> *Id.* at 13.

It is not yet clear if FERC will require PJM to make the tariff revisions recommended in the Joint Utilities Comments as described above or require additional changes to PJM's previous compliance filing. At this point in the process, the "solutions" recommended by the joint utilities would require revisions to the tariff language proposed by PJM, and thus cost/benefit calculations are not yet appropriate.

**2(b) Have probabilities of occurrence been considered and factored into the risk assessments?**

**Response:**

No. See above responses.

**Question 3:**

Does your EDC have procedures in place to account for and support the addition of new DER technologies into DERAs that may develop between Order No. 2222's implementation and the earliest market participation by DERAs?

**Response:**

The Company has procedures in place to review all DER technologies that synchronize output with the grid (*i.e.*, operate in parallel), but does not yet have procedures to review DER technologies that do not synchronize their output to the grid (*e.g.*, demand response or other load reduction technologies) except for those already required by PJM to support the demand response registration processes, or for a combination of injecting and non-injecting DERs. However, the Company is continuing to develop procedures regarding how to manage the lifecycle of the assets that are connected to the grid as they may shift from retail to wholesale; what the energy accounting practices, and corresponding meter set ups will look like; and the training required of customer care support specialists to answer questions about customer accounts participating with a DERA.

**3(a) Are there any technological, cyber security, or software updates that are needed prior to implementation?**

Yes, significant investment in technology will be required regardless of the level of customer participation in DERAs because of the level of coordination of data and systems required to meet various data submission requirements. No part of the processes to comport with FO 2222 can be accomplished in a manual or semi-manual basis. However, because the PJM Compliance Filing has not been fully approved by FERC, the full scope of its impact is not known. The Company expects a significant impact on its information technology system to accommodate integration of FO 2222 mandates related to DER and DERAs. This may include the development of new systems and impacts on existing systems. Impacted processes and related systems may include the customer relationship management system ("CRM"), website portals, the interactive voice response ("IVR") system, billing systems, the retail settlement system, metering, engineering, mapping, advanced distribution management systems ("ADMS"), data exchange processes with PJM and DERAs, implementation of a distributed energy resource management system ("DERMs"), and others.

With respect to cyber security, the Board should consider an order similar to the one issued in In the Matter of Utility Cyber Security Program Requirements, BPU Docket No. AO16030196 (Mar. 18, 2016) ("Cyber Security Order") to apply a minimum set of cyber security requirements for DERAs and DERs participating in aggregations pursuant to FO 2222. The Cyber Security Order notes that "Reliability and Security Division Staff sought out and included input from cyber security experts at electric, natural gas, and water

utilities. Additionally, Reliability and Security Division Staff consulted with FBI and NJOHSP during the development of these requirements.”<sup>5</sup> A similar approach for this purpose is very likely warranted.

**3(b) Are there any retroactive impacts requiring modification to existing interconnection agreements?**

Existing interconnection agreements were studied under specific DER operating expectations and were studied independently or under existing connections and natural change in outputs (such as cloud movement). As DER equipment is aggregated by a DERA and operated in response to market signals, operating assumptions made during the previous review may no longer be valid. As such, the Company will need an opportunity to review the aggregate operations and understand how market signals may distort the natural operation of previously approved DER to identify issues that were not contemplated during the initial interconnection review. If it is determined that assumptions made during the initial review are no longer applicable under aggregated market-driven operation, interconnection agreements may need to be modified and market participation agreements may need to be aligned with the assumptions made during the initial interconnection review.

**Question 4:**

Are there any costs for facilitating the DER aggregation process that your EDC expects it needs to pay as part of Order No. 2222 implementation work such as software updates and administrative support?

**Response:**

Yes, there will be additional, and likely substantial, costs associated with the implementation of FO 2222. These costs include, but are not limited to, supporting new systems, new interconnection processes and additional administration of DER aggregation performance in the wholesale markets. The need for additional full-time equivalents (“FTEs”) to perform new business functions is also anticipated, including information technology FTEs associated with new system maintenance and enhancements. Some costs will be appropriately allocated directly to the cost causer while others may need rate recovery mechanisms for items such as system impacts listed in response to Question 3a, as well as associated support.

Would these costs be for operational process technologies or additional business functions? Do you have an estimated level of costs available at this time?

The additional costs referenced in response to question 4 would be for both technology changes and additional business functions. As stated above, the need for additional FTEs to perform new business functions is also anticipated, including information technology FTEs associated with new system maintenance and enhancements. Further, it seems very likely that customers electing to participate in FO 2222 will require company support personnel trained not only in retail tariffs but also in the complexities of wholesale market mechanics. As another example, the Company expects to have to develop personnel to support customers desiring to participate with DERAs in wholesale markets while at the same time shopping their retail loads to third party suppliers (“TPS”) as well as utilizing the distribution system for retail purposes. However, the Company does not yet have estimates for these additional costs because they will depend, in part, on the final requirements once PJM’s compliance filings are approved by FERC.

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<sup>5</sup> See Cyber Security Order at 3.

If not, what is your company's schedule for developing these cost estimates?

While the Company has been engaged in the above-noted activity in preparation for FO 2222, cost estimation will not be possible until PJM's finalized compliance filing is approved, and all impacts are fully mapped out and assessed. It is expected that the Team will begin the detailed estimation process shortly after the currently pending PJM compliance filing is accepted by FERC.

**4(a) What is your envisioned mechanism for cost recovery?**

**Response:**

To the extent costs are not recovered from the cost causer or through existing recovery mechanisms, JCP&L requests that the Board support full and timely recovery for all remaining costs through an appropriate recovery mechanism.

**Question 5:**

Have you evaluated how combining current and planned generation projects will fit into existing projects and plans, and where limitations may exist?

**Response:**

The Company seeks clarification regarding the intent of this question. JCP&L does not own or operate generation assets or projects. Therefore, the Company respectfully requests that it be permitted to reserve its response until such clarification is provided by the Board.

**Question 6:**

How will your EDC ensure that provisions in PJM's rules pertaining to the double compensation risk for net energy metered DERs are enforced for resources within your company's service territory that will also participate in the wholesale energy markets?

**Response:**

According to PJM's Compliance Filings, Relevant Electric Retail Regulatory Authority ("RERRA") processes for demand response ("DR") and energy efficiency participation in the wholesale markets will be leveraged for DER aggregations. JCP&L would enforce these rules and requirements, which would help address the risk of dual participation and double compensation, during the DER aggregation registration process. JCP&L would seek clarification from the Board if and when new programs or changes to existing compensation mechanisms give rise to additional dual compensation risks.

**Question 7:**

Are there any misalignments in telemetry, metering, and settlement requirements required for DERAs at PJM and that of resources within your service territory? If so, please explain whether this creates technological limitations for existing resources' ability to participate. Please detail, if applicable, how your telemetry, metering and settlement requirements differ from PJM's.

**Response:**

Until PJM's compliance filings have been fully accepted by FERC, it is unknown how JCP&L's existing telemetry, metering, and settlement may differ from what will be required. Using the approved compliance filing as the starting point, the Company will assess any potential misalignments and necessary changes.

In addition, it is noted in the Joint Utilities Comments that "certain elements of PJM's Second Compliance Filing substantively fail to provide sufficient safeguards to mitigate risks to distribution system reliability inherent in wholesale market participation by resources interconnected at the distribution level, concerns further validated by PJM in its September 2023 DER Implementation Proposal Filing."<sup>6</sup> The comments suggest additional tariff revisions, including revising provisions for metering and telemetry requirements to reflect the fact that next business day data is not possible given the diversity and characteristics of component DERs that are expected to comprise DER aggregations. This specifically addresses what the Company believes to be a "misalignment" that needs to be considered.

**7(a). Does your EDC have comments on the advanced metering infrastructure (AMI) data interval requirements as it relates to the requirements for authorized communication networks in the wholesale market?**

**Response:**

The Company will require metering with the appropriate interval requirements for retail billing and PJM settlement including what is required under FO 2222. However, until PJM's compliance filing is approved, it is difficult to: (a) understand ultimately what those interval requirements will be; (b) gauge the level of complexity that may or may not exist with respect to what metered quantities will be eligible for consideration to be incorporated into a DERA's portfolio; and (c) the degree to which the DERA and EDC may need to share or provide data to each other so that both may carry out their obligations to meet retail billing and wholesale market data reporting requirements. EDCs with AMI in place today may be able to leverage this current data to support PJM wholesale market activities. Data requests and data exchange rules and requirements would need to be developed by the Board.

**7(b). Specifically, how would any modifications be implemented to interval metering devices to bring them into compliance for DERA operation?**

*See the Company's response to 4a.*

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<sup>6</sup> See Joint Utilities Comments at 6.

**Question 8:**

Please specify any unique needs or concerns your EDC has in regard to PJM's demand response opt-out provisions. Are there existing limitations that may restrict demand response from joining a DERA within your service territory?

**Response:**

JCP&L is currently administering the demand response opt-out for the PJM DR activities pursuant to the Board's (*i.e.*, RERRA) requirements and will continue to do so pursuant to PJM DR rules. See also the Company's response to 3 above.

**Question 9:**

Are there any aspects of the cybersecurity standards that govern DERAs that your EDC has questions or concerns about? How does your EDC intend to enforce cybersecurity for DERAs that fall within your service territory?

**Response:**

An EDC would not have the ability or authority to enforce cyber security for DERAs. Therefore, given the potential impact of DERs/DERAs on the functioning of the electrical grid, the Board should consider an order similar to its Cyber Security Order issued in 2016 to apply a minimum set of cyber security requirements for DERAs and DERs participating in aggregations pursuant to FO 2222. While all requirements found in that order may not be applicable to DERs/DERAs, the Board should at least consider issuing a cyber security framework for any system that is related to the delivery of generated power to the distribution grid. This would most likely be applicable to the DERAs and their interconnections with the DERs.

PJM has indicated in its compliance filing that it would have to implement cyber security standards<sup>7</sup>; however, details of those requirements are still unknown. JCP&L also believes that DERAs would need to comply with any state cyber security protocols when implemented and thus recommends an order as suggested above.

**9(a) Please clarify any details on who in your organization will be responsible for coordinating DERA cybersecurity issues and what procedures you will enact to enforce cybersecurity processes among DER components?**

**Response:**

The Company has an extensive system and organization to ensure it complies with laws and rules pertaining to cyber security as those laws and rules relate to utility delivery and customer information. That system and organization would be responsible, and be extended as necessary, to support cyber security needs for JCP&L's internal implementation of FO 2222.

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<sup>7</sup> See *Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 2222, 172 FERC ¶ 61,247 (2020), *order on reh'g*, Order No. 2222-A, 174 FERC ¶ 61,197 (2021), *order on reh'g*, Order No. 2222-B, 175 FERC ¶ 61,227 (2021).



If EDCs are permitted by the state and/or the Board to terminate interconnection communications with a component DER upon violation of an interconnection agreement, EDCs would be able to set a minimum set of baseline standards for a limited set interconnection security elements related to EDC-DER and EDC-DERA interorganizational communications. However, an EDC would not have the ability or authority to enforce cyber security processes among DER components. As stated above, the Board should consider an order establishing DER and DERA cyber security requirements, which would be applicable to component DERs and amongst the DERs and DERAs, which must be enforced by the Board.

**Question 10:**

With New Jersey adopting the Institute of Electrical and Electronics Engineers (IEEE) Standard 1547, specifically 1547-2018, to govern the interconnection and interoperability between inverter based DERs and utility electric power systems, do you anticipate any difficulty in managing aggregations and the individual DER Components that are interconnected? Are there processes or limitations existing today on a DERA's ability to use 1547's capabilities or for allowing individual DERs or microgrids that are disconnected in emergencies to still fulfill their obligations to other resources in the aggregation?

**Response:**

The Company is improving systems and processes to better track interconnected systems and associated site-specific smart inverter settings. Such work is made all the more important by the potential system impacts of aggregations pursuant to FO 2222; however, it is not anticipated that requirements for inverter compliance with IEEE 1547-2018 would make aggregations any more, or less, difficult to manage.

There are no Company process limitations on a DERA's ability to use 1547's capabilities while synchronized with the grid. Once a resource is disconnected from the area electric power system and becomes part of a microgrid, the impact to the microgrid from the DER is different and needs to be evaluated by the microgrid operator, which may or may not be the Company. The wholesale market operator, PJM, will need to determine if individual DERs operating in a microgrid are capable of fulfilling their obligations as part of a DERA.

**Question 11:**

Does your EDC have any plans to prepare for Order No. 2222's implementation by means of launching pilot DERA program(s)? If so, please provide details on the pilot program, such as timelines and potential planned phases, and how the pilot will support subsequent DERAs. Please provide justification for why a pilot program is needed prior to full deployment and explain what the anticipated benefits of such a pilot program are.

**Response:**

JCP&L does not believe it is appropriate to establish pilot programs prior to the implementation date of FO 2222 established by PJM and FERC. Given that PJM's compliance filing is not yet approved by FERC and relevant detail is still unknown, as well as the limited timeframe for implementation, the Company has not developed plans for any pilot programs and would be concerned pilot program establishment independent of PJM would draw resources away from preparing for full implementation.

**Question 12:**

Does your EDC have procedures in place in the event that a DERA or a Component DER's Registration review period goes past 60 days and is granted additional time for the review?

**Response:**

Consistent with the Joint Utilities Comments, PJM's registration rules are very specific and require data to be exchanged, with validation by multiple entities. If at any time during the 60-day PJM review period JCP&L feels it cannot complete the required tasks, it would recommend denial of the registration to PJM for the process to restart. The EDCs have asked PJM to permit the RERRA and PJM to be part of the process via transparency to PJM's DER Hub tool. Furthermore, as advocated in the Joint Utilities Comments, JCP&L recommends that the Board require an exceptional circumstances provision "where EDCs acting in good faith face circumstances that require an extension to the review period to fully achieve the goals of Order 2222."<sup>8</sup>

**Questions for All New Jersey Stakeholders**

**Question 13:**

Do you have any comments or concerns about the classification of certain resources and their operating profiles as eligible for DERAs? Please state any associated control and/or compensation concerns.

**Response:**

Generally, the Company has concerns as individual DERs would shift from operating independently to simultaneously operating as part of a DER aggregation. Operating profiles for the aggregation need to be understood and studied prior to approval or deviation from the initial DER aggregation profile. DERs acting in unison on a distribution circuit when previously not coordinated can cause impact to voltage regulation on a distribution circuit not historically experienced.

**Question 14:**

Do you believe that it is technically feasible to implement Order No. 2222 requirements by PJM's originally proposed 2026 implementation deadline? If not, please explain in detail why not.

**Response:**

JCP&L draws to the Board Staff's attention the Joint Utilities Comments on this point:

It must, however, also be recognized that significant timing challenges remain. While PJM has continued to propose a February 2, 2026 effective date for the tariff revisions to implement this program in its Second Compliance Filing, PJM has also repeatedly documented that necessary software changes require 24 months to be developed, incorporated into its platform and tested to ensure there are no unintended effects to the myriad of its other programs, including its Day-ahead and Real-time Energy Market clearing engines. This work cannot meaningfully commence

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<sup>8</sup> See Joint Utilities Comments at 23.

until PJM has received adequate direction on the program's design in Commission orders addressing PJM's pending compliance filings in this proceeding.<sup>9</sup>

The Joint Utilities Comments further provide that:

PJM originally set forth the February 2, 2026 effective date in its First Compliance Filing, made four years in advance of such date. More than 18 months later, major aspects of its obligations to comply with Order No. 2222 remain[ed] outstanding leading PJM earlier this year to underscore the potential need to extend effective dates it previously proposed in this proceeding for the various tariff revisions implicated hereby. See FERC Docket No. ER22-962-004, *supra*, "Order No. 2222 Compliance Filing on Capacity Market Mitigation Request for Commission Action by November 30, 2023" (dated June 14, 2023) at 6-8 (describing how "[t]he scope of the changes required to comply with the [PJM DER Aggregation] Order, including a number of fundamental aspects of PJM's approach, reasonably prevent PJM from beginning to develop the software changes" necessary to achieve an operational DER Aggregator Participation Model by February 2026.) [In September 2023], PJM reaffirmed the status of its implementation efforts to date given where this proceeding stands and again highlighted the 24-month period required to implement necessary software changes.<sup>10</sup>

The Company continues to support these comments and their acknowledgement of the questionable feasibility of the February 2, 2026 effective date.

**Question 14:**

*(Continued)*

**Are there any actions that PJM or NJBPU could take to make the implementation more efficient and timely?**

**Response:**

Board Staff should participate regularly in PJM's Distributed Resources Subcommittee ("DISRS") meetings and should coordinate efforts with other state entities where possible.<sup>11</sup> This is a PJM market program, and there are significant benefits to a common process for each state for EDCs and DER aggregators. In addition, interconnection rights remain state jurisdictional and as such may need to be modified to preserve the safety and reliability of the distribution grid.

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<sup>9</sup> See Joint Utilities Comments at 4-5.

<sup>10</sup> See Joint Utilities Comments at 4, fn. 10.

<sup>11</sup> See *Distributed Energy Resources Participation in Wholesale Markets*, Pa. P.U.C. Docket No. L-2023-3044115 (Joint Statement of Chairman Stephen M. DeFrank and Vice Chair Kimberly Barrow) (February 22, 2024)(emphasizing the need for numerous entities to collaborate to effectuate implementation of FO 2222 by providing DERA access to wholesale markets).

**Question 15:**

Do you have any comments or questions about dispute resolution processes between DERAs and utilities?

**Response:**

FO 2222 states that “any disputes over the application of coordination and distribution utility review processes among the RTO/ISO, the distribution utilities, and the [DERA] must be subject to a process for resolving disputes in the RTO/ISO tariff.”<sup>12</sup> This should include any disputes or issues regarding distribution utility verification that may occur during registration. Furthermore, RTO/ISO dispute resolution procedures should not limit disputes that are within the RTO/ISO’s authority and subject to its tariff even when such disputes also arise under an EDC’s tariff, agreements and operating procedures or the rules and regulations of any RERRA. Prohibiting the use of PJM’s dispute resolution procedures in such instances is inconsistent with FO 2222 because it does not provide a formal review mechanism for interested parties to attempt to review issues related to the distribution utility review.

**Question 16:**

How should DER Aggregator performance be monitored/tracked/reported to the public?

**Response:**

JCP&L does not believe aggregator performance in the wholesale markets needs to be reported to the public as data may be subject to market participant confidentiality rules. Instead, issues should be resolved between the RERRAs and PJM.

**Question 17:**

Should each EDC be required to formally establish pilot programs demonstrating their procedures and performance for DERA integration? Should these pilots be identical/consistent/unique across EDCs?

**Response:**

See the Company’s response to Question 11. In addition, Board Staff should discuss any proposals for pilot programs with PJM during the PJM DISRS calls, where topics such as this are appropriately discussed with stakeholders.

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<sup>12</sup> See *Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 172 FERC ¶ 61,247 at P 299 (September 17, 2020).

**Question 18:**

As part of NJBPU's efforts to help implement Order No. 2222 how much technical support from the NJBPU, separate from NJBPU's current Grid Modernization Forum working groups, is desired? Would a statewide stakeholder engagement process, working group, technical conference, or public platform for stakeholder engagement be beneficial?

**Response:**

While the Company does not have a position about what form it should take, there will be significant technical support needed from Board Staff to support PJM's implementation of FO 2222 and associated areas the Board will need to implement in conjunction with the EDCs and Basic Generation Service ("BGS") suppliers.

**Question 19:**

Are there any specific questions that you have for NJBPU that has not been addressed yet in the FERC Order, PJM's Compliance Filings, or NJBPU's Order No. 2222 outreach efforts?

**Response:**

Inasmuch as these items can be identified at present, the Company would like to know more about how the Board intends to provide guidance on:

1. Net energy metering / remote net metering / community solar rules and wholesale market participation vis-a-vis double counting;
2. Interconnection requirements for DER aggregations (including energy efficiency, demand response and other injectable distributed energy resources) behind a point of interconnection ("POI");
3. EDC metering and telemetry and DER aggregator data needs/data exchange and customer authorization processes to support FO 2222;
4. Any Board requirements for DER aggregators in addition to PJM requirements;
5. Energy accounting and retail/wholesale data coordination; and,
6. Cost recovery.



Beth Garvey  
518-689-1400  
garveyb@gtlaw.com

September 22, 2023

**VIA E-FILE**

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

Re: Docket No. ER22-962-005 – *PJM Interconnection, L.L.C.*  
Comments and Limited Protest of the Joint Utilities on PJM Second  
Compliance Filing Addressing Order No. 2222

Dear Secretary Bose:

Enclosed for filing in the above-referenced docket is the Comments and Limited Protest of the Joint Utilities on PJM Second Compliance Filing Addressing Order No. 2222.

A copy of this filing is contemporaneously being served upon the active parties in this docket by electronic mail.

Very truly yours,

GREENBERG TRAUIG, LLP

A handwritten signature in blue ink that reads "Elizabeth C. Garvey".

Elizabeth C. Garvey

ECG/ps  
Enclosure  
cc: Official Service List (via electronic mail; w/enc.)

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

PJM Interconnection, L.L.C.                    )  
  )  
  )                    Docket No. ER22-962-005

**COMMENTS AND LIMITED PROTEST OF THE JOINT UTILITIES ON PJM SECOND COMPLIANCE FILING ADDRESSING ORDER NO. 2222**

**I. Introduction**

In Order No. 2222, the Federal Energy Regulatory Commission ("FERC" or "Commission") directed regional transmission organizations ("RTOs") and independent system operators ("ISOs") to develop plans and propose tariff revisions designed to maintain the reliability of the electric system while removing barriers to participation of Distributed Energy Resources ("DERs"), acting through Distributed Energy Resource Aggregations ("DER Aggregations"), in wholesale markets.<sup>1</sup> Electric distribution companies ("EDCs") operating in PJM Interconnection, L.L.C.'s ("PJM") footprint have significant experience and insight implementing State-level DER programs. Given their unique role and utilizing their significant expertise, the Joint Utilities have actively

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<sup>1</sup> See *Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 172 FERC ¶ 61,247 at P 1 (2020) (hereinafter, "Order No. 2222"); *Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 174 FERC ¶ 61,197 at P 1 (2021) (hereinafter, "Order No. 2222-A"); *Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 175 FERC ¶ 61,227 at P 1 (2021) (hereinafter, "Order No. 2222-B"). Unless otherwise specified, this series of orders is referred to collectively herein as Order No. 2222. DERs are generally defined as small-scale technologies such as electric storage, intermittent generation, distributed generation, demand response, energy efficiency, thermal storage and electric vehicles. Order No. 2222 at n 1.

participated in PJM's development of its Order No. 2222 compliance filings.<sup>2</sup> Individually, and working together with other EDCs, the Joint Utilities previously submitted pleadings in this proceeding to provide facts central to the Commission's review and otherwise assist it in its assessment of PJM's First Compliance Filing.<sup>3</sup> Establishing system safety and reliability are paramount, comments previously filed by EDCs, *inter alia*, identified the need for substantive revisions and/or additional clarification to PJM's previously proposed tariff revisions to prevent adverse impacts on system safety and reliability.<sup>4</sup> Preserving distribution and transmission system

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<sup>2</sup> For purposes of this Filing, the Joint Utilities are composed of: Exelon Corporation, on behalf of Atlantic City Electric Company, Baltimore Gas and Electric Company, Commonwealth Edison Company, Delmarva Power & Light Company, PECO Energy Company, and Potomac Electric Power Company; the FirstEnergy Utility Companies comprising Ohio Edison Company, The Cleveland Electric Illuminating Company, The Toledo Edison Company, West Penn Power Company, Pennsylvania Power Company, Pennsylvania Electric Company, Metropolitan Edison Company, Jersey Central Power & Light Company, Monongahela Power Company and The Potomac Edison Company ("FirstEnergy Utilities"); The Dayton Power and Light Company d/b/a AES Ohio; and PPL Electric Utilities Corporation. Collectively, the Joint Utilities, in coordination with PJM, are responsible for the safe and reliable transmission and distribution of electricity to a large portion of the nearly 65 million customers within the PJM footprint.

<sup>3</sup> See FERC Docket ER22-962, *PJM Interconnection, L.L.C.*, "Order No. 2222 Compliance Filing of PJM Interconnection, L.L.C. Motion for Extended Comment Period" (dated February 1, 2022) (hereinafter, "First Compliance Filing"); see also FERC Docket ER22-962, *supra*, "Comments and Request for Second Compliance Filing of the Indicated PJM Utilities Addressing PJM Order No. 2222 Compliance filing under ER22-962" (dated April 1, 2022) (hereinafter "EDC Comments"). The Indicated PJM Utilities sponsoring the filings to address PJM's First Compliance Filing were American Electric Power Service Corporation on behalf of its affiliates, Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc. and AEP West Virginia Transmission Company, Inc.; Virginia Electric and Power Company dba Dominion Energy Virginia; Duquesne Light Company; Duke Energy Corporation on behalf of its affiliates Duke Energy Ohio, Inc., Duke Energy Kentucky, Inc., and Duke Energy Business Services LLC; Exelon Corporation, on behalf of Atlantic City Electric Company, Baltimore Gas and Electric Company, Commonwealth Edison Company, Delmarva Power & Light Company, PECO Energy Company, and Potomac Electric Power Company; the FirstEnergy Utility Companies include Ohio Edison Company, The Cleveland Electric Illuminating Company, The Toledo Edison Company, West Penn Power Company, Pennsylvania Power Company, Pennsylvania Electric Company, Metropolitan Edison Company, Jersey Central Power & Light Company, Monongahela Power Company and The Potomac Edison Company ("FirstEnergy Utilities"); PPL Electric Utilities Corporation.; Public Service Electric and Gas Company; and Rockland Electric Company.

<sup>4</sup> See FERC Docket ER22-962, *supra*, "Comments and Request for Second Compliance Filing of the Indicated PJM Utilities Addressing PJM's Response to the July 7, 2022 Letter Seeking Additional Information" (dated July 28, 2022) (hereinafter, "EDC Comments II"). The same Indicated PJM Utilities sponsoring the filing to address PJM's First Compliance Filing also sponsored the filing to address PJM's response to the Commission's request seeking additional information thereon.



safety and reliability and ensuring that PJM's DER Aggregator Participation Model could be implemented effectively and efficiently were foundational elements in past filings.<sup>5</sup>

PJM has long engaged in an open dialogue among stakeholders to address DER participation in PJM's markets.<sup>6</sup> In the intervening six months since issuance of the Commission's PJM DER Aggregation Order, PJM has addressed its compliance obligations by continuing to prioritize stakeholder engagement and feedback in its development of the DER Aggregator Participation Model.<sup>7</sup> As a direct result, PJM has proposed tariff revisions in both compliance filings largely crafted with consideration of the critical role EDCs will play in successfully implementing the DER Aggregator Participation Model while safeguarding system safety and reliability.

In accordance with Commission directives, PJM submitted its Second Compliance Filing on September 1, 2023.<sup>8</sup> Pursuant to Sections 211 and 212 of the Commission's Rules of Procedure and the Combined Notice of Filings issued on September 1, 2023, the Joint Utilities, on behalf of their EDC subsidiaries or operators, hereby submit this filing in response to PJM's Second Compliance Filing.

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<sup>5</sup> See EDC Comments at 3 (explaining that "[t]he Indicated PJM Utilities and their EDCs share PJM's goal of successfully implementing FERC Order No. 2222 in the most transparent, efficient, and cost-effective manner while continuing to ensure ongoing system reliability and safety, which must remain the paramount consideration"); see also EDC Comments II at 1.

<sup>6</sup> Prior to submission of its compliance filings, PJM held a series of stakeholder meetings throughout the public comment period to solicit feedback from stakeholders and help inform their development. Prior to issuance of Order No. 2222, PJM had established a DER Subcommittee in 2017. This subcommittee was reorganized into the DER and Inverter-based Resources Subcommittee ("DIRS") in 2022 following the Commission's Order No. 2222 directives. The subcommittee was reorganized into the Distributed Resources Subcommittee ("DISRS") in 2022. The DIRS and subsequent DISRS met monthly to discuss PJM's compliance efforts. In addition, PJM convened monthly EDC Coordination workshops focused on coordinating PJM and EDC Order No. 2222 implementation activities.

<sup>7</sup> See *PJM Interconnection, L.L.C.*, 182 FERC ¶ 61,143 (2023) (hereinafter, "PJM DER Aggregation Order").

<sup>8</sup> See FERC Docket No. ER22-962-006, *supra*, "Order No. 2222 Compliance Filing of PJM Interconnection, L.L.C." (dated September 1, 2023) (hereinafter, "Second Compliance Filing").

The Joint Utilities are generally supportive of the clarifications and tariff revisions proposed in PJM's Second Compliance Filing with limited exceptions, as established *infra*, from a substantive standpoint. In large part, PJM has proposed a framework designed to afford Component DERs an adequate opportunity to participate in the wholesale markets through DER Aggregations in accordance with the Commission's directives in Order No. 2222 while maintaining system reliability. Equally important, Order No. 2222 recognized the "substantial role of distribution utilities and state and local regulators in ensuring the safety and reliability of the distribution system," a duty and responsibility for which the EDCs are accountable directly to their individual relevant electric retail regulatory authorities ("RERRA").<sup>9</sup> These decisions must accordingly be given deference, a consideration that must remain central to PJM's implementation of its DER Aggregator Participation Model. The Joint Utilities thus respectfully request that, other than the subset of revisions addressed in this limited protest, PJM's proposed revisions be approved by the Commission.

It must, however, also be recognized that significant timing challenges remain. While PJM has continued to propose a February 2, 2026 effective date for the tariff revisions to implement this program in its Second Compliance Filing, PJM has also repeatedly documented that necessary software changes require 24 months to be developed, incorporated into its platform and tested to ensure there are no unintended effects to the myriad of its other programs, including its Day-ahead and Real-time Energy Market clearing engines.<sup>10</sup> This work cannot meaningfully commence until

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<sup>9</sup> Order No. 2222 at P 279.

<sup>10</sup> PJM originally set forth the February 2, 2026 effective date in its First Compliance Filing, made four years in advance of such date. More than 18 months later, major aspects of its obligations to comply with Order No. 2222 remain outstanding leading PJM earlier this year to underscore the potential need to extend effective dates it previously proposed in this proceeding for the various tariff revisions implicated hereby. *See* FERC Docket No. ER22-962-004, *supra*, "Order No. 2222 Compliance Filing on Capacity Market Mitigation Request for Commission Action by

PJM has received adequate direction on the program's design in Commission orders addressing PJM's pending compliance filings in this proceeding.<sup>11</sup> To address these timing considerations, PJM reiterated its DER Aggregator Participation Model timeline proposal as recently as last week pursuant to which it would, *inter alia*, submit a filing with the Commission by May 1, 2024 either requesting specific capacity market provisions to be made effective or providing an updated status report on its implementation efforts and a projected effective date.<sup>12</sup>

Ensuring continued bulk and distribution system safety and reliability are paramount. The Commission and the RERRAs comprising the PJM footprint unwaveringly have safeguarded this threshold principle throughout this proceeding. The Joint Utilities remain committed to support those principles to implement the DER Aggregator Participation Model in a safe and reliable manner and agree with the need to incorporate such safeguards as reflected in PJM's implementation proposal. The Joint Utilities thus respectfully request that the Commission accept the DER Aggregator Participation Model timeline proposed in PJM's September 2023 DER Implementation Proposal Filing and reflect that determination in its order addressing PJM's Second Compliance Filing accordingly.

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November 30, 2023" (dated June 14, 2023) at 6-8 (describing how "[t]he scope of the changes required to comply with the [PJM DER Aggregation] Order, including a number of fundamental aspects of PJM's approach, reasonably prevent PJM from beginning to develop the software changes" necessary to achieve an operational DER Aggregator Participation Model by February 2026.) Last week, PJM reaffirmed the status of its implementation efforts to date given where this proceeding stands and again highlighted the 24-month period required to implement necessary software changes.

<sup>11</sup> See FERC Docket No. ER23-2841-000, *PJM Interconnection, L.L.C.*, "Postponing Implementation of Capacity Market Mitigation Rules Applicable to DER Capacity Aggregation Resources" at 5 (dated September 14, 2023) (hereinafter, "September 2023 DER Implementation Proposal Filing") (reiterating the concern that the fundamental changes to the approach as set forth in the Second Compliance Filing must await Commission approval prior to commencing the necessary software changes).

<sup>12</sup> See *id.* (providing, *inter alia*, DER program implementation proposal for a May 1, 2024 status report delineating when software and other changes necessary to put the DER program into effect will be completed and proposing to suspend indefinitely July 1, 2023 effective date for certain DER Aggregation capacity-related provisions previously approved by Commission to avoid confusion given subsequent extensions in predefined time frame to conduct Reliability Pricing Model Auctions for 2025/2026 Delivery Year) (citation omitted).

Beyond these procedural considerations, certain elements of PJM's Second Compliance Filing substantively fail to provide sufficient safeguards to mitigate risks to distribution system reliability inherent in wholesale market participation by resources interconnected at the distribution level, concerns further validated by PJM in its September 2023 DER Implementation Proposal Filing.<sup>13</sup> Given that the DER Aggregator Participation Model must be implemented in a safe and reliable manner, the Joint Utilities believe additional tariff revisions are required on further compliance to demarcate the roles and responsibilities of EDCs and RERRAs and to establish a workable DER Aggregator Participation Model framework as follows:

- Adopt the definition of "Electric Distribution Company" set forth herein and incorporate it into the DER Aggregator Participation Model;
- Establish double compensation proscriptions and expressly permit EDCs to raise concerns to the Office of Interconnection related to any potential double counting in this context;
- Incorporate parameters that will be applied to its DER Aggregation registration process and incorporate an exceptional circumstances provision in the Tariff;
- Revise provisions for metering and telemetry requirements to reflect the fact that next business day data is not possible given the diversity and characteristics of Component DERs that are expected to comprise DER Aggregations;
- Require PJM to evaluate the impact to reliability and operations from multi-nodal DER Aggregation participation in PJM energy markets one year following effectiveness or when sufficient operation data is available; and
- Revise proposed provisions addressing EDC overrides to specifically require that an EDC communication of an executed override be communicated to PJM, in addition to the DER Aggregator.

Accordingly, to satisfy the Order No. 2222 directives in a manner that will ensure ongoing system safety and reliability, the Joint Utilities hereby submit these comments and limited protest respectfully urging the Commission to issue an order: (i) directing PJM to submit a compliance

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<sup>13</sup> See September 2023 DER Implementation Proposal Filing at 6-7 (noting need for significant software changes and development of database and system to support registration process and data management, reaffirming its commitment to diligently proceed with development efforts and requesting flexibility to accommodate potential delays in implementation).

filing with the revisions identified herein; and (ii) conditioning the effective date for the implementation of the DER Aggregator Participation Model in the PJM markets in the manner requested by PJM in the September 2023 DER Implementation Proposal Filing.<sup>14</sup>

## II. Background

The Commission issued Order No. 2222 to accommodate DER Aggregation participation in the wholesale electricity markets through the development of participation models flexibly structured to account for the respective system structure and dynamics of individual RTOs/ISOs and to preserve safety and reliability.<sup>15</sup> In conjunction therewith, RTOs/ISOs were directed to include provisions expressly prohibiting Component DERs from being compensated twice for providing the same service in both the retail and wholesale markets, *e.g.*, where RERRAs have established Component DER retail programs offered through the applicable EDCs to their customers, such as net metering or demand response programs.<sup>16</sup> Recognizing that distribution system reliability must remain paramount, Order No. 2222 prescribed the development of registration requirements and metering and telemetry requirements designed to ensure that DER Aggregations are able to provide the RTOs/ISOs with the requisite information and data to prevent double counting of services and ensure system reliability is maintained.<sup>17</sup>

To date, PJM has made three major submissions – and, separately, capacity market-related submissions – to implement Order No. 2222, the third of which is the subject of this Filing. On

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<sup>14</sup> *Id.*, *passim*.

<sup>15</sup> See Order No. 2222-B at P 2 (providing for DER Aggregations to register their resources under “one or more participation models that accommodate the physical and operational characteristics” of the DER Aggregation).

<sup>16</sup> Order No. 2222 at P 161 (noting that restrictions to prevent double counting are permitted whether it is because a component is “(1) registered to provide the same services either individually or as part of another RTO/ISO market participant or (2) included in a retail program to reduce a utility’s or other load serving entity’s obligations to purchase services from the RTO/ISO market”).

<sup>17</sup> *Id.* at PP 262, 263.

February 1, 2022, PJM submitted its First Compliance Filing proposing its DER Aggregator Participation Model after an extensive stakeholder engagement effort. In response to numerous filings raising issues with proposed tariff revisions in PJM's First Compliance Filing, the Commission issued an information request composed of a series of questions seeking further clarifications.<sup>18</sup> PJM's responsive submission constituted its second major submission to address Order No. 2222 compliance.<sup>19</sup>

On March 3, 2023, the Commission issued the PJM DER Aggregation Order, accepting, in part, and rejecting, in part, PJM's First Compliance Filing and directing PJM to submit a second compliance filing in accordance with the Commission's directives.<sup>20</sup> The Commission's PJM DER Aggregation Order contained several directives that have required further PJM stakeholder input, solicited from the Distributed Resources Subcommittee ("DISRS").<sup>21</sup> Through participation at DISRS, the EDCs have shared their insight and expertise as the operators and owners of the distribution system on a variety of issues to more meaningfully address these directives. PJM has now submitted the Second Compliance Filing in an effort to address the Commission's directives in the PJM DER Aggregation Order.<sup>22</sup>

### **III. Limited Protest**

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<sup>18</sup> See FERC Docket No. ER-22-962-000, *supra*, "Letter requesting PJM Interconnection, L.L.C. to file additional information within 30 days re the tariff revisions etc. under ER22-962" (dated May 18, 2022), (hereinafter, "Deficiency Letter").

<sup>19</sup> See FERC Docket No. ER22-962-001, *supra*, "Information Response of PJM Interconnection, L.L.C." (dated July 7, 2022); *see also* EDC Comments.

<sup>20</sup> See PJM DER Aggregation Order.

<sup>21</sup> See DISRS Charter, available at:

<https://pjm.com/-/media/committees-groups/subcommittees/disrs/2023/20230109/item-03---disrs-charter.ashx> (Last accessed: 9/16/2023).

<sup>22</sup> See Second Compliance Filing.

**A. PJM Must Be Directed To Submit a Compliance Filing Revising Their Proposed Definition of “Electric Distribution Company” To Clearly Delineate the Role and Responsibilities of EDCs in Conjunction with Their Implementation of the DER Aggregator Participation Model**

The absence of “Electric Distribution Company” as a defined term in PJM’s First Compliance Filing to implement the DER Aggregator Participation Model created significant ambiguity that could have thrown the market into disarray and adversely impacted the safety and reliability of the distribution grid given the scope of responsibilities designated therein to EDCs.<sup>23</sup> EDCs thus urged the Commission in filings in response to the First Compliance Filing to require PJM to incorporate a definition of “electric distribution company” specifically applicable to the EDC role in the DER Aggregator Participation Model. EDCs further established that the need for clearly defined roles and responsibilities for all parties was, in fact, even more acute in this context given the expectation that the new DER Aggregator Participation Model will spur increased DER participation in PJM markets. EDCs thus proposed the following EDC definition:

For purposes of Attachment K-Appendix, section 1.4C and OA Schedule 1, section 1.4C, “Electric Distribution Company” or “EDC” shall mean the entity that owns and operates the portion of the electric grid that delivers electric power to end-use consumers under rates and tariffs approved or authorized by the applicable Relevant Electric Retail Regulatory Authority.<sup>24</sup>

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<sup>23</sup> See EDC Comments at 16 (highlighting, *e.g.*, “for purposes of Order No. 2222 implementation, the definition does not fully encompass what may constitute a “distribution utility” because entities that are not commonly understood as distribution utilities may own or control electric distribution facilities. For example, some end-use customers such as hospitals and universities own and maintain private distribution networks that include distribution (and occasionally transmission-rated) facilities, yet they could not accommodate the interconnection of third-party DERs, nor would they be required to do so by any RERRA”).

<sup>24</sup> *Id.* (explaining that EDCs’ proposed definition was designed to provide much needed clarity to all entities involved, avoid debates over responsibilities and jurisdiction and allow EDCs to focus on maintaining safe and reliable distribution system operations). Notably, a similar definition specific to its DER Aggregation model was approved as a part of the NYISO compliance submissions in response to Order No. 2222. See FERC Docket Nos. RM18-9, ER21-2460, *New York Independent System Operator, Inc.*, “Compliance Filing and Request for Flexible Effective Date” (dated July 19, 2021) at 171 (“For the purposes of Services Tariff Section 4.1.10, *et seq.*, ‘Distribution Utility’ is defined

Addressing this issue in the PJM DER Aggregation Order, the Commission correctly determined that PJM's proposal to forego defining the term "Electric Distribution Company" was flawed because the lack of definition "creates uncertainty as to the precise entity responsible for the significant roles ascribed to the electric distribution company in PJM's proposed coordination-related tariff revisions, including the electric distribution company review process."<sup>25</sup> Finding that PJM's lack of a defined term did not comply with Order No. 2222's coordination requirements, the Commission directed PJM to revise its tariff to include an EDC definition.<sup>26</sup>

In an attempt to comply with the Commission's directive in its Second Compliance Filing, PJM has proposed the following definition of an "Electric Distribution Company":

"Electric Distribution Company" shall mean, exclusively for purposes of the Tariff, Attachment K-Appendix, section 1.4B and Operating Agreement, Schedule 1, section 1.4B, a PJM Member, or an entity that mutually agrees with a PJM Member that the PJM Member shall represent the entity and act on their behalf, that owns or leases with rights equivalent to ownership, electric distribution facilities that are used to provide electric distribution service to electric load within the PJM Region under rates and tariffs approved or authorized by the applicable Relevant Electric Retail Regulatory Authority.<sup>27</sup>

In its filing letter, PJM asserts that its definition was intended to "ensure that an applicable distribution utility participating in the DER Aggregator Participation Model is either a PJM

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as 'an entity, *such as* a Transmission Owner or Public Power Entity, that owns and operates facilities used for the retail distribution of electricity and provides retail service(s) under tariffs approved by the applicable Relevant Electric Retail Regulatory Authority.'" (emphasis added). Notably, the NYISO did not require membership.

<sup>25</sup> See PJM DER Aggregation Order at P 333.

<sup>26</sup> *Id.*

<sup>27</sup> Second Compliance Filing at 55; *see also* Second Compliance Filing, Attachment A Proposed Tariff Attachment K-Appendix Definitions E-F.



Member, or represented by a PJM Member, as is the case for some entities within the PJM Region.”<sup>28</sup>

Given that the DER Aggregator Participation Model is an entirely new construct that will have far-reaching impacts on PJM’s market operations, the Joint Utilities reiterate their concern that each entity participating in the Model must have a clear understanding of its own roles and responsibilities to ensure the Model’s effective implementation. While the Joint Utilities certainly acknowledge PJM’s efforts to develop this definition intended “for the protection of customers and other market participants,” PJM’s proposed definition falls far short of the Commission’s directive in the PJM DER Aggregation Order.

Specifically, PJM directly ties its proposed definition of “Electric Distribution Company” to being, or being represented by, a PJM Member, *i.e.*, it makes PJM membership the gating factor. First, and most importantly, Order No. 2222 did not mandate an “Electric Distribution Company” definition must contain RTO/ISO membership requirements. PJM’s unilateral proposal to do so thus has no footing. Irrespective of RTO/ISO membership, EDCs are statutorily obligated by their respective RERRAs to provide distribution service.

Equally problematic, this requirement will strain the EDCs’ relationships with both PJM and the RERRAs by placing EDCs in the untenable position of potentially being obliged to two masters. Rather than providing clarity, inextricably linking an EDC’s ability to be defined as an “Electric Distribution Company” to PJM membership potentially muddles the fact that EDCs have statutory obligations under the State laws of, and are subject to direct oversight by, RERRAs.

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<sup>28</sup> *Id.* at 55.

Indeed, it impermissibly implies EDCs are accountable to PJM, not their respective RERRA, with respect to administration of the DER Aggregator Participation Model.<sup>29</sup>

As FirstEnergy established in its limited protest on PJM's First Compliance Filing, the core purpose underlying Order No. 2222 of removing barriers to DER wholesale market participation is expressly predicated upon "coordinat[ing] and respect[ing] the corresponding statutory authority of the Commission and [RERRAs]."<sup>30</sup> Yet by attempting to tie this definition to PJM membership, PJM fails to adequately account for the EDCs' continued obligation to provide the very services that are necessary for the distribution of electricity in a safe and reliable fashion.

Equally problematic, PJM members are diverse and, in addition to EDCs, include transmission and generation owners, organizations that sell electricity to end-users and end-use customers themselves.<sup>31</sup> PJM's proposed definition, however, does not adequately clarify which PJM members are obligated to perform distribution-related activities under the DER Aggregator Participation Model.<sup>32</sup> To provide sufficient clarity for all parties involved in execution of the DER

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<sup>29</sup> See *id.* PJM even seems to suggest that the operating agreement of PJM serves as a primary consumer protection construct, explaining that because "all PJM Members sign the PJM Operating Agreement and are subject to the rights and obligations therein, PJM views this requirement as important for the protection of customers and other market participants." *Id.* Attempting to place the Operating Agreement above other obligations to RERRAs and the Commission is at odds with the Joint Utilities' statutory obligations. *Id.*

<sup>30</sup> See FERC Docket No. ER22-962-000, *supra*, "FirstEnergy Comments and Limited Protest to PJM's First Compliance Filing" at n. 52, citing Order No. 2222 ("As in Order No. 845, we reiterate that nothing in this final rule preempts the right of states and local authorities to regulate the safety and reliability of the distribution system and that all distributed energy resources must comply with any applicable interconnection and operating requirements.").

<sup>31</sup> For example, when a municipality or cooperative is serving customers beyond the single metering point of an EDC, which is providing bulk supply to those entities and functioning as the Load Serving Entity (LSE), the owner of the system (i.e., the EDC) is the municipality or the cooperative. The ambiguity arises because the DER Aggregator Participation Model requires reading meters and providing meter data, and thus, begs the question of whether the intent is that one of the Joint Utilities (which in this case is only the LSE providing bulk supply) provide the information or the municipality or cooperative (that is the EDC in the example).

<sup>32</sup> Second Compliance Filing at 55.

Aggregator Participation Model and to ensure the continued safe and reliable operation of the electric system, PJM's proposed definition must be revised.

In contrast to PJM's proposed definition, the "Electric Distribution Company" definition previously proposed by EDCs is not only concise and clear, but it was expressly developed so that it would not impermissibly assign any jurisdictional role to PJM that, as a matter of law, lies with the RERRAs. The Joint Utilities accordingly respectfully urge the Commission to issue an order directing PJM to submit a compliance filing incorporating the definition previously proposed by the EDCs.<sup>33</sup>

**B. PJM Must Be Directed To Submit a Compliance Filing Proposing Tariff Revisions Expressly Proscribing Net Energy Metering (NEM) Resources and Co-located Component DERs from Being Compensated Twice with Respect to Any Service.**

Order No. 2222 expressly prohibits a resource from being paid twice by providing the same service or when it was included in a retail load reduction program.<sup>34</sup> PJM's proposed double compensation provisions set forth in its First Compliance Filing were the subject of extensive stakeholder review with a primary focus on whether products were being credited in more than one program.

Notably, the Commission accepted most of these tariff revisions with one critical exception.<sup>35</sup> Finding ambiguity in PJM's proposed language referencing "products credited" and,

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<sup>33</sup> See n. 24, *supra*.

<sup>34</sup> See Order No. 2222 at PP 160, 161 (establishing that "if a distributed energy resource is registered to provide the same service twice in an RTO/ISO market (e.g., as part of multiple distributed energy resource aggregations, as part of a distributed energy resource aggregation and a standalone demand response resource, and/or a standalone distributed energy resource), then that resource would also be double counted and double compensated if it clears the market as part of both market participants").

<sup>35</sup> Notably, in addressing this aspect of PJM's First Compliance Filing, the Commission expressly recognized the point raised in the EDC filings that resources participating in retail program may have the opportunity to receive payments

specifically, its adequacy in proscribing double compensation for providing the same service, the Commission directed PJM to clarify whether its proposed tariff revisions “assess[ ] whether the ‘same product is not also credited as part of a retail program’ rather than whether the same service is not also being provided in a retail program, to include an explanation of how this language as proposed is consistent with Order No. 2222, or alternatively to revise this language such that it is consistent with Order No. 2222.”<sup>36</sup> Dispositive here, the Commission did not direct an outcome in its PJM DER Aggregation Order; the Commission presented PJM the opportunity to clarify the intent of the existing Tariff language and demonstrate it comported with Order No. 2222.

Notwithstanding the fact it was not required to do so, PJM nevertheless has proposed to eliminate references to products credited to address this directive and has instead included language specifically referencing only the provision of services.<sup>37</sup> However, as demonstrated *infra*, by proposing this language, PJM has inadvertently allowed the potential for the very double compensation to result that Order No. 2222 expressly proscribed. Its proposed tariff language must be rejected.

To effectively address this issue, it must initially be recognized that PJM comprises 13 States and the District of Columbia and thus many RERRAs, each of which has its own programs to address NEM resources, compensation models and the markets (wholesale/retail) in which they may or may not concurrently participate. NEM programs are also not solely a product of the RERRAs, but often State legislation establishes a program which is simply implemented by a

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or credits that fully compensate them for all services that they offer for energy, capacity and ancillary services. *See* PJM DER Aggregation Order at P 248.

<sup>36</sup> *See* PJM DER Aggregation Order at P 136 (otherwise agreeing with PJM’s position that its proposal in this regard was narrowly designed and did not broadly limit or restrict DER participation in wholesale markets when a Component DER participates in a retail program).

<sup>37</sup> *See* Second Compliance Filing at 12; *see also* Second Compliance Filing, Proposed Tariff, Attachment K-Appendix, section 1.4B(h) and Operating Agreement, Schedule 1, section 1.4B(h).

RERRA. Adding to the complexity, these programs are each unique and will continue to evolve over time in their own ways to meet their respective state's renewable energy resource requirements and distribution system needs.<sup>38</sup> Given PJM's composition, it is thus impossible to apply "one size fits all" provisions even if these programs would remain static, which they are not.

As a result, PJM must incorporate tariff revisions that will effectively describe the double compensation behaviors that are prohibited; it cannot simply develop a list capturing specific prohibited programs in each State. To that end, it must also be recognized that, under some RERRA fully bundled retail rate programs, an entity may be compensated for *not providing* the PJM service in question, *i.e.*, payment is received for *foregoing service*. For example, many smart thermostats can be remotely controlled to increase or decrease temperatures on a peak load day. A residential customer receives a payment, usually small, or a rebate to purchase the device itself, in exchange for agreeing to have the temperature raised or lowered pursuant to the criteria needed and requested by the EDC. In this case, the upfront payment compensates for foregoing using energy on a given day.

By requiring the EDCs to address only whether or not the product is provided, PJM has effectively delinked the direct connection to payment that was embodied in its First Compliance Filing's proposed tariff revisions. The end result is that, by specifically designating *services provided* instead of PJM's originally proposed *products credited*, entities will be able to receive double compensation. Thus, carrying forward the above example, if a DER Aggregation signs up the residential smart thermostat user who has already committed to permit the utility to control

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<sup>38</sup> Notably, PJM's wholesale market rules are constantly evolving while retail market rules can remain bundled for all services further complicating efforts to prevent double compensation. In any event, if it is the Commission's intent that RERRAs be forced to re-evaluate their compensation, not only must EDCs and DER Aggregations be involved but often State legislation must be modified. Such processes likewise require time to be effectuated.

electricity usage under retail programs and counts that same reduced usage as part of the DER Aggregation's total reduction, the same homeowner will be compensated twice for the same reduced energy usage and other retail customers will bear costs for both retail and wholesale payment.

And, in any event, Order No. 2222 should not be interpreted in a manner that prevents the EDCs from raising any potential double compensation concerns to the Office of Interconnection to ensure resources are not double compensated for the same service via the retail programs or in multiple wholesale arrangements. Yet if the Commission accepts PJM's modification as drafted, it could be interpreted as constraining EDCs from identifying concerns about potential double counting where services are merely credited and not physically rendered, *i.e.*, no tariff provision would be triggered in circumstances where one of the payments is made for foregoing the subject service under PJM's modification.<sup>39</sup> Thus, by proposing this change to the Tariff, PJM has inadvertently contravened a separate directive in the PJM DER Aggregation Order, which expressly mandated that PJM must clarify an EDC has the ability to raise any concerns related to *credits or payments* in a retail program resulting in double compensation.<sup>40</sup>

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<sup>39</sup> RTOs/ISOs were granted flexibility to ensure that they could "minimize market impacts caused by the double counting of services provided by distributed energy resources in the RTO/ISO markets." Order No. 2222 at P 164. It appears an argument could be made that EDCs could not raise a double compensation concern in the proposed fifteen-day registration review window addressed below unless the resource is actually *providing* the subject services. However, an EDC is also obligated to address the participation per the dictates of the RERRA-established retail program, which may result in removal from the retail program. While PJM has absolved itself of involvement, that outcome may be less than desirable for the Component DER, which may be surprised to see that participation in a DER Aggregation has cost it a more lucrative opportunity to participate in the RERRA-based NEM program. It is, however, unclear in PJM's proposed tariff revision whether PJM also intends for the Component DER or the DER Aggregation to be informed of the EDC's concern. Given that the need for transparency is a central principle throughout Order No. 2222, PJM should be directed to revise its tariff provision to specify the affected DERs will be notified.

<sup>40</sup> See PJM DER Aggregation Order at P 138.

Whether a resource is actually providing a service in a retail program or is merely receiving payment for foregoing doing so, the end result is the same. It will be paid twice for the same core action irrespective of whether it is manifested as inaction in one of the instances.<sup>41</sup> Without additional clarification to correct for these flaws in the double compensation provisions, the Joint Utilities caution that PJM's implementation of the DER Aggregator Participation Model will ultimately result in unjust and unreasonable rates for ratepayers in direct contravention of explicit requirements in Order No. 2222 as further upheld in the PJM DER Aggregation Order.

Indisputably, Order No. 2222 expressly proscribes DERs from receiving remuneration for the same services for which compensation is received via participation in another program, and thus, from participating in the wholesale market via a DER Aggregation under such circumstances.<sup>42</sup> To comply with Order No. 2222's double payment proscription, the Joint Utilities respectfully urge the Commission to direct PJM to submit a compliance filing expressly providing: (i) a Component DER cannot be paid twice for the same service irrespective of whether such payment is received for actually providing the service or foregoing doing so; and (ii) EDCs are permitted to raise any concerns regarding double counting to the Office of Interconnection accordingly.

**C. PJM Must Be Directed To Submit a Compliance Filing To Modify the Registration Process Provisions and To Provide for the Ability To Obtain an Extension of Time Under Exceptional Circumstances To Prevent Unnecessary DER Rejections.**

*1. The Review Process Provisions Must Be Revised To Ensure Adequate Time Is Provided To Assess the Incremental Effects of a DER Aggregation on System Safety and Reliability*

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<sup>41</sup> In short, it will incorrectly be treated as a load reduction and supply side resource which is a fundamental flaw in the energy accounting process.

<sup>42</sup> See Order No. 2222 at P 163 (noting the Commission's intent to "captur[e] the full value of distributed energy resources and enable[e] efficient resource allocation while also requiring RTOs/ISOs to address double-counting concerns").

In addition to the clarifications concerning the registration process addressed *supra* in Section III.B, the Commission determined in the PJM DER Aggregation Order that PJM's proposed pre-registration verification process must be encompassed within the 60-day review period for DER Aggregation registrations.<sup>43</sup> To address this directive, PJM initially recognizes in its Second Compliance Filing that the 60-day period to review incremental changes must occur "upon PJM transmitting *the necessary* information to review such incremental changes to the electric distribution company."<sup>44</sup> PJM then provides for utility review "separated into two non-concurrent and distinct review periods" during which: (i) the EDC must determine whether Component DERs meet all criteria for participation in PJM's markets, verify the accuracy of all relevant data components provided by the DER Aggregator, including the ability to raise the Component DER participation in any NEM retail program, and provide the primary electrical node in the initial 15-day period; and (ii) the EDC must perform any "reliability assessments necessary to determine that the participation of each the DER Aggregation Resource in the PJM energy, capacity and/or ancillary service markets do not pose a threat to the reliable and safe operation of the distribution system, the public, or distribution utility personnel" in the remaining 45-day period.<sup>45</sup>

Notably, consistent with the Commission's directive, PJM's proposed tariff language specifies that an EDC's receipt of notification to begin the registration process must "includ[e] all applicable information or data."<sup>46</sup> However, its proposed tariff revisions are silent as to the rules

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<sup>43</sup> See PJM DER Aggregation Order at P 300 (establishing that "[a]ny distribution utility review, to include verification of information provided by the DER Aggregator, should be completed as part of the 60-day process as set forth in Order No. 2222 through which the distribution utility determines whether the proposed distributed energy resource is capable of participation in the DER aggregation").

<sup>44</sup> See Second Compliance Filing at 38 (emphasis added).

<sup>45</sup> *Id.* at 41-42.

<sup>46</sup> *Id.* at 39-40; see *id.* at 41 (specifying EDC will be able to "access all relevant information and data necessary to determine whether the Component DER meets the criteria for participation in PJM's markets, as outlined in PJM's



that will be applied in the cases where the EDC identifies that there is inaccurate, incomplete or missing data upon commencing its initial 15-day and/or 45-day review processes or subsequent DER Aggregation list change requests.

While it is anticipated PJM will endeavor to only provide registrations with complete data components, data may well be found incomplete by the EDC upon closer inspection or inaccurate although it initially appeared valid. It also bears clarification that the 45-day review period cannot begin until all data components submitted by a DER Aggregation for its Component DERs are validated in the 15-day review period. There must also be some established means of communication whereby the EDC and DER Aggregation can exchange information regarding the Component DER or DER Aggregation registration to resolve issues should they arise. The PJM DER Hub tool could be utilized for this purpose, and this would allow the EDC to notify the DER Aggregator that certain Component DERs in a proposed DER Aggregation raise concerns with proceeding to the reliability study.<sup>47</sup> This allows PJM and, if desired, the RERRA's access to review the communication exchanges that occurred to timely resolve issues or complaints should they arise.

Yet by failing to adequately confirm that the submission of inaccurate or insufficient information will pause or, if there is a denial recommended by the EDC, reset the fifteen-day period, PJM's proposed tariff revisions thus appear to leave open the possibility that the clock will be

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Tariff' at time of notification); *see also id.*, Proposed Tariff Attachment K-Appendix, section 1.4B(b) and Operating Agreement, Schedule 1, section 1.4B(b).

<sup>47</sup> While other stakeholders may argue that the EDC maintains the ability to override an Aggregation, that is an imperfect solution. If an Aggregation is not properly studied at the outset, it may result in more overrides than the Commission would find reasonable, which could lead to unnecessary administrative proceedings, which could have been easily avoided.

allowed to continue ticking thereby reducing the necessary 45-day period to evaluate the safety and reliability of the Aggregation.<sup>48</sup> Because reliability could be adversely affected if the DER Aggregation evaluation period is truncated, this gap in the PJM's proposed tariff language must be addressed.

As PJM has correctly recognized, EDCs must be involved in the pre-registration process to validate that the Component DERs proposed to be later included in a DER Aggregation can safely and reliably participate as an aggregation.<sup>49</sup> Indeed, if the full reliability analyses are not completed, reliability may be jeopardized. And, even under the best circumstances, the inability to complete a fulsome review of a DER Aggregation presents new system safety or reliability issues, which could unnecessarily result in EDC overrides that could have otherwise been avoided had a sufficient opportunity for review been presented. Neither outcome is desirable. The 15-day time period must start anew if there is any missing or inaccurate data components provided by the DER Aggregator by submitting a new registration filing to the Office of Interconnection.

To achieve compliance with the Commission's directive in the PJM DER Aggregation Order, PJM's proposed registration process must be structured to allow all the necessary information to be provided by the DER Aggregator and validated by the EDC to be accurate within the 15-day period or the 15-day period will start anew until the DER Aggregator and EDC confirm the data components are all valid prior to moving into the following 45 day period. Accordingly,

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<sup>48</sup> See Second Compliance Filing at 43-44; *see also* Second Compliance Filing, Proposed Redline Tariff at Attachment K, Section 1.4B(b).

<sup>49</sup> Capability to participate in a DER Aggregation could involve many considerations, including, e.g., retail interconnections, double counting determinations by RERRAs for NEM and other retail programs, location of the Component DER for a specific Pnode aggregation in the energy market, metering and telemetry. Without fully restating comments filed addressing the First Compliance Filing, it does bear reiterating that PJM lacks the knowledge to make determinations related to the safety and reliability of the electric distribution system, and thus, these matters are properly within the obligations that EDCs undertake with the RERRAs. *See* EDC Comments at 12.

the Joint Utilities respectfully urge the Commission to direct PJM to submit a compliance filing specifying that in instances where the EDC identifies inaccurate or insufficient information, the subject DER Aggregation's 15-day review period will start anew as soon as the EDC receives the requisite information.

*2. An Exceptional Circumstances Provision Is Required To Holistically Establish an Effective DER Aggregation Registration Review Process*

The proposed DER Aggregation registration review process has evolved throughout this proceeding from a consensus two-stage, pre-registration/registration process to a review process containing an overall 60-day review period. Notably, under the tariff revisions proposed by PJM in the First Compliance Filing, the 60-day review period would not have commenced until each Component DER could be designated to a pricing node by the DER Aggregator, a structure that ensured the DER Aggregation was formed and fixed with verified data components at the outset of the pre-registration process. In contrast, the newly proposed tariff revisions commence review upon submission, with a fifteen-day period of time to validate the information provided on each Component DER and truncates the time to study the DER Aggregation's impacts on the electric distribution system. Based on these facts, the EDCs believe that the substantial modifications to the DER Aggregation registration review process and the inclusion of provisions for exceptional or unusual circumstances warrant further refinement to the structure of PJM's proposed registration process.

In Order No. 2222-A, the Commission recognized unusual circumstances could require a distribution utility to exceed the 60-day review period and established RTOs/ISOs could propose an exceptional circumstances provision as part of their DER Aggregator Participation Model

structure.<sup>50</sup> In light of the significant changes to PJM's proposed registration process, its DER Aggregator Participation Model should include this mechanism to address exceptional circumstances that may present themselves. However, PJM did not propose an exceptional circumstances provision in its Second Compliance Filing notwithstanding the substantial changes ordered to its proposed registration process. Given the overall structure now being proposed for the registration process, the failsafe of an exceptional circumstances provision is required.

The circumstances that could arise necessitating this provision are readily apparent. For example, while several simple use cases have been studied at the DISRS, other very complex use cases including those with larger quantities of DER sites and multiple DER types were not and must be considered. If hundreds of registration notifications are received within a short timeframe, it could greatly impact the ability of the EDCs to perform all required validations.<sup>51</sup> Further, the proposed structure also fails to consider emergency circumstances that may arise.<sup>52</sup> While an EDC is authorized to recommend that a requested DER Aggregation registration be rejected under these

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<sup>50</sup> Order No. 2222-A at P 72 (“If an RTO/ISO believes unusual circumstances could give rise to the need for additional distribution utility review time, it may propose provisions for certain exceptional circumstances that may justify additional review time.”).

<sup>51</sup> Given that the Commission has confirmed modifications to DER Aggregations trigger the EDC review process as well, the combined total of registration reviews may well be very substantial. One only need to look to PJM's recent filing to understand the timeline such review and analysis may require. *See* September 2023 DER Implementation Proposal Filing at 6.

<sup>52</sup> EDCs have previously offered several potential criteria to delineate the unusual circumstances for which an extension of time could be granted. *See* EDC Comments at 21 (arguing that “[a]s such, and as permitted by Order No. 2222-A, the Indicated PJM Utilities request that PJM modify its proposal to include that EDCs may have additional time to review registrations under the following limited circumstances: (1) unexpected emergent issues arise with extended ramifications that must be addressed, such as extreme weather, which often requires employees to take on additional duties outside their usual roles, or legal disputes requiring a pause in review; (2) uncontrollable staffing shortfalls make registration approval within 60 days impossible; (3) state regulatory authority actions, such as rule changes or legislative changes, require additional implementation time; (4) the EDC, due to other demonstrated unusual or exceptional circumstances, has been unable to complete its Registration analyses and needs additional time to identify potential safety and reliability concerns; and (5) where additional information is required from the DER Aggregator or is provided by the DER Aggregator during the Registration review period, necessarily extending the review beyond 60 days”).

circumstances, that outcome inefficiently wastes the time and resources of the DER Aggregator, PJM and the EDC.

The Commission wisely recognized the potential for unnecessary rejections in these review processes and found that the RTO/ISO could propose circumstances which would justify exceeding the 60-day limit. Preemptive rejections could easily be avoided by accommodating situations where extending the 60-day period is justified.<sup>53</sup>

PJM has not previously proposed an exceptional circumstances provision in its compliance filings addressing Order No. 2222. However, the significant modifications to the registration process now required and offered in the Second Compliance Filing, viewed holistically, now warrant adding this mechanism to the PJM registration structure. Implementing this exceptional circumstances provision as a component of PJM's overall registration process is thus both permissible and necessary. The Joint Utilities therefore respectfully urge the Commission to direct PJM to submit a compliance filing setting forth an exceptional circumstances provision to address circumstances where EDCs acting in good faith face circumstances that require an extension to the review period to fully achieve the goals of Order No. 2222.<sup>54</sup>

**D. PJM Must Be Directed To Submit a Compliance Filing To Correct Certain Metering and Telemetry Provisions and Establish the Structure To Develop the Parameters To Be Set Forth in Its Manuals**

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<sup>53</sup> See Order No. 2222-A at P 72.

<sup>54</sup> See Order No. 2222 at P 3. (Finding that the “restrictions on competition can reduce the efficiency of the RTO/ISO markets” the goal of the final rule was to “enhance competition and, in turn, help to ensure that the RTO/ISO markets produce just and reasonable rates.”). Going through a complicated study and evaluation process only to reject the DER Aggregation is directly contrary to that goal and must be harmonized with requirements to preserve the safety and reliability of the electric distribution system.

In its proposed tariff revisions, PJM suggests the EDCs will have settlement data reflecting DER Aggregation operations the next business day.<sup>55</sup> While the next business day requirement may be used for larger generation resources, it may not be appropriate for smaller DER or aggregated resources. Additionally, if its PJM's intent to allow DER Aggregators to utilize EDC interval metering to provide this data, the required 24 hours will not be sufficient for most EDCs, as the utilities themselves will likely not have the meter data within 24 hours. It is unclear whether the DER Aggregator would be able to provide the settlement data to PJM via their own metering in that timeframe.<sup>56</sup>

PJM has yet to formalize the process by which a Component DER will be obtained for each Component DER in a DER Aggregation and until this process is clearly outlined, knowing how PJM requirements would be accommodated in the retail interconnection process by EDCs is still unknown.<sup>57</sup> Currently, a resource that is seeking to interconnect to the distribution system may not be reviewed with an eye towards market participation or as part of a DER Aggregation. For example, the metering required to participate in a retail NEM program is very different from the metering contemplated in the wholesale energy market. It may not be feasible (or practical) for EDCs to obtain meter data for NEM customers even within 30 days. In any event, the current proposal of one day needs to be reconsidered.

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<sup>55</sup> See Second Compliance Filing, Proposed Redline Tariff, Attachment K, Section 1.4B (e). PJM further notes in the Second Compliance Filing that this is consistent with generation resources currently operating.

<sup>56</sup> EDC meter data is not generally available until 24 to 48 hours after the data has been acquired to allow for the raw meter data to go through a Validation, Evaluation and Estimation (VEE) process and will not be available to the EDCs within the 24-hour period.

<sup>57</sup> The proposal contemplates that EDCs will modify existing utility systems to enable DER Aggregations to obtain settlement data, the infrastructure for which does not exist either in the frequency or scale required to meet the anticipated demand of DER Aggregators. The timeline for legislation or RERRA-based activity to accommodate this undertaking is unclear.

The EDCs need individual Component DER data, not aggregated data, to perform settlements. While the Joint Utilities appreciate that PJM has endeavored to establish uniformity, one cannot compare a large base load generator with sophisticated metering and operational parameters with smaller DER resources that do not otherwise have sophisticated metering and should consider where possible utilization of the EDC interval metering.

PJM must also be directed to prohibit the participation of its residential mass market DR programs to DER Aggregations. The use of sample sites or a sample population for DR mass market programs may have been deemed reasonable for single devices with similar usage characteristics used per residential premise. However, it should not be found reasonable to gauge the load reductions or energy injections obtained from multiple device types per premise or used to extrapolate results to other premises without interval metering given the wide variety of new DER types, unique usage patterns available and currently in service. Additionally, it is irrational to base payments on an assumption of load reduction or energy injections at a given location if EDC interval metering is in place.<sup>58</sup>

It is vital that EDCs retain the ability to properly verify that applicable metering and telemetry requirements for the proposed market participation are met by each Component DER participating in a DER Aggregation.<sup>59</sup> Moreover, PJM must review more complex use cases with

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<sup>58</sup> Not all EDCs currently have interval metering, and even those who do have it may have limitations on time frame to provide the information. The obligation and responsibility remain with the DER Aggregator to provide the interval metering required by the Proposed Tariff.

<sup>59</sup> The Joint Utilities would further note that eventual participation of these resources may require modification of the retail interconnection agreements to address potential wholesale market participation, which would in turn require the participation of the RERRAs and engagement of further State processes. While not addressed directly in its September 2023 DER Implementation Proposal Filing, the software implementation is only one aspect of the lead time required to successfully implement the DER Aggregator Participation Model. A subsequent tariff revision that drives downstream changes to RERRA processes and procedures will also complicate a successful implementation for the DER Aggregator Participation Model. *See* September 2023 DER Implementation Proposal Filing at 6.

its stakeholders to determine what additional detail must be set forth in the Tariff to define the framework that will then be embodied by the rules set forth in PJM Manuals containing the operational details. Thus, the Joint Utilities respectfully urge the Commission to direct PJM to submit a compliance filing to remove the tariff language referencing access to meter or settlement data within one day, prohibit the use of interval data for only a sample group for residential mass market DER Aggregations, and convene its stakeholder process to work towards a more technically feasible and practical solution.

**E. PJM Must Be Directed To Submit a Compliance Filing To Include Communication of EDC Override Decisions to PJM.**

In the PJM DER Aggregation Order, the Commission directed PJM to set forth the protocols and processes governing when an EDC may override PJM's dispatch.<sup>60</sup> Initially, the Joint Utilities would note PJM specifies in its proposed tariff revisions that it "shall not take any actions to interrupt or interfere with the [EDC's] decision to override and will re-dispatch the [DER Aggregation] to reflect its updated bidding parameters."<sup>61</sup> This proposed tariff revision reflects a core tenet of Order No. 2222 that the ultimate safeguards to the distribution system are the EDCs which are statutorily bound by their obligations to the RERRAs. While PJM may propose a DER Aggregation be dispatched, only an EDC has the visibility into distribution system operations to understand whether the DER Resource can be operated or if a constraint will be created.<sup>62</sup> It is, therefore, a critical provision in PJM's Second Compliance Filing that should remain unaltered.

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<sup>60</sup> See PJM DER Aggregation Order at P 354.

<sup>61</sup> See Second Compliance Filing at 57; see also Second Compliance Filing, Proposed Tariff Attachment K-Appendix, section 1.4B(f) and Operating Agreement, Schedule 1, section 1.4B(f).

<sup>62</sup> See PJM Interconnection, L.L.C. Motion for Leave to Answer and Answer, filed on April 26, 2022 at 6. (In response to protestors who believed that the proposed tariff deferred on operational coordination PJM demurred forcefully that "PJM is not in the business of administering retail programs and services, or building, owning, and operating local distribution facilities, and such activities are alien to PJM's Commission-approved governing documents and corporate



However, while PJM generally endorses the need for effective communication and coordination among EDCs, DER Aggregations and PJM to effectively implement the DER Aggregator Participation Model in its Second Compliance Filing, it inexplicably proposes to exclude itself from EDC override notifications, providing instead that the DER Aggregation must work directly with the EDCs to coordinate overrides and afterwards provide the updated bid parameters to then be implemented by PJM.

Indisputably, EDC override decisions involve reliability and safety considerations. They also will often occur on a real-time basis depending on evolving system conditions but may also occur in advance of the PJM market activities. These decisions need to be communicated effectively and timely. To ensure overrides or status of Component DER that are participating in the PJM markets are communicated effectively for redispatch, PJM must directly receive the communications that are provided to DER Aggregators. While more discussion will be needed to define the communication paths between the DER Aggregator, PJM and the EDCs, PJM should be directed to revise its tariff to specify that both the DER Aggregator and PJM will receive communication that an EDC's override has occurred.<sup>63</sup> Given the significant reliability implications inherent in override actions, the Joint Utilities thus respectfully urge the Commission to direct these tariff revisions.<sup>64</sup>

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structure. PJM also does not model the vast majority of the distribution system within the PJM Region, and does not have the technical expertise to make determinations regarding what distribution utility/RERRA operational actions are or are not appropriate.”).

<sup>63</sup> Nothing herein is intended to be construed as – or can – change the historical jurisdiction of the EDC to preserve the safety and reliability of the distribution system for which it is solely responsible.

<sup>64</sup> This is not to suggest that any revised protocols will involve delay in implementing an override – an EDC must be unfettered in exercising its judgment to override a resource. But an automatic notification of an override if being sent to the DER Aggregator, should also be sent to PJM as a matter of course, such that they expect the revised bidding parameters from the DER Aggregator to be re-dispatched. Currently the EDCs have discretion over the overrides and communicating those changes to the resources and to PJM, and nothing in Order No. 2222 requires that there is any alternation to this practice.

## F. PJM's Single Node Aggregation Analysis Is Sound But Its Multi-Nodal Aggregation Proposal Raises Potential Reliability Concerns

Acknowledging PJM's documented concerns with operational challenges presented by multi-nodal aggregations given each node's different and sometimes opposing impacts on transmission constraints, the Commission directed PJM to provide additional information concerning whether multi-nodal energy market DER Aggregations were technically feasible at least for some nodes or groupings of electrical facilities given the scope and structure of PJM's system.<sup>65</sup> Utilizing historical data spanning the past five-year period, PJM analyzed whether an unknown, but expected to be large, number of DER Aggregations operating on a multi-nodal basis in the energy market could be safely dispatched and, if not, their concomitant adverse impacts on system reliability, an analysis supported in the Second Compliance Filing by the affidavit of Donald Bielak.

Based on its further analyses, PJM confirmed single node DER Aggregations are generally required, finding that "[t]he results demonstrated that *virtually all pricing nodes* within the PJM footprint have significant price separation when the nodal LMP is compared to the zonal LMP."<sup>66</sup> Establishing that operating in this fashion is likely to *exacerbate* transmission constraints in some circumstances, PJM highlighted the fact that multi-node aggregations would produce "an unacceptable misalignment between pricing and dispatch to ensure reliable operations" *and* the

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<sup>65</sup> See PJM DER Aggregation Order at P 186 (noting that "while PJM has provided its assessment that allowing Component DER to aggregate across multiple nodes could raise operational or reliability challenges or concerns, PJM has not demonstrated that it is not technically feasible for Component DER to aggregate across a broader geographic area than a single node, at least for some nodes or groupings of electrical facilities, for energy market participation"); see also Second Compliance Filing at 20 (finding that while it was accurate to state that it was not technically feasible to permit large DER Aggregation "at scale" upon further study it was possible to allow a very limited penetration of multi-nodal DER Aggregation). Notably, this issue implicates only the energy markets which are settled on a nodal basis; it, by definition, does not apply to PJM's capacity and ancillary markets given their structure.

<sup>66</sup> See Second Compliance Filing at 22 (emphasis in original) (further noting price separation under a multi-nodal framework represents "a kind of operational 'dissonance'" and emphasizing PJM could not send accurate dispatch instructions thereunder).

results from node to node would be so significantly varied year over year that “the long-term viability (greater than one-year) viability of a defined multi-nodal DER Aggregation Resource is extremely uncertain.”<sup>67</sup>

Notwithstanding its core findings, PJM indicated it believes that it can accommodate multi-nodal aggregation of Component DERs *if* the subject DERs are limited to a capability smaller than 0.1 MW *and* the total of all multi-nodal aggregations across the PJM footprint did not exceed a 167 MW cap.<sup>68</sup> Under its proposed structure, the multi-nodal DER Aggregation must be self-scheduled into PJM’s energy markets; PJM will not dispatch it.<sup>69</sup> Mr. Bielak also emphasizes PJM’s findings that the safety and reliability of the multi-nodal system directly depend on the small size of the Component DER aggregated within a zone, territory and state.<sup>70</sup>

It is important to highlight that while Mr. Bielak possesses a wealth of knowledge and experience, he does not work for an EDC directly responsible for serving load, metering and billing customers. Nor is he in a role that would be responsible for tracking multi-nodal energy activities across a wide range of distributed energy resources. Based on their experience providing distribution service to millions of customers across the PJM footprint, the Joint Utilities believe that PJM’s proposal raises potential operational and reliability risks that the Joint Utilities believe

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<sup>67</sup> *Id.* at 23-24. The Joint Utilities would further note that, *e.g.*, an individual Component DER in a DER Aggregation responding to an LMP dispatch signal could create excessive distribution system line congestion that could cause reliability issues or lead to thermal line overloading. Either situation would require the entire DER Aggregation to be curtailed where, if the DER Aggregation had been established on a single node basis, its action would only have required a more limited curtailment.

<sup>68</sup> *Id.* at 30 (further establishing that at the point in time that these small multi-nodal aggregations have achieved 90% of the 167 MW cap, PJM will commit to re-evaluate the cap and determine whether this limit may be increased). In addition, Mr. Bielak explains that permitting any broader level of DER Aggregations would eliminate PJM’s ability to clearly determine the effects of particular resources on the distribution system, making it impossible to verify congestion prices.

<sup>69</sup> *Id.* at 21.

<sup>70</sup> *Id.*, Attachment C, Affidavit of Donald Bielak at P 9.

require at least additional evaluation of effectiveness in implementation and achievement of desired market outcomes after a one-year period of implementation or when sufficient operational data is available, whichever is sooner.

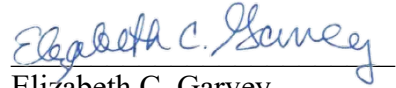
If, however, the Commission determines this limited multi-nodal proposal for the energy market should be implemented notwithstanding its reliability implications, the Joint Utilities emphasize that the self-scheduling requirement as proposed cannot be modified. Nor can PJM be required to dispatch these multi-nodal DER Aggregations. Finally, were these steps to be undertaken, the Joint Utilities urge the Commission to direct PJM to submit a tariff revision in a compliance filing under these circumstances that, at a minimum, incorporates a zonal limit expressly prohibiting any one zone from becoming over-saturated with these multi-nodal DER Aggregations. Further, PJM must be required to evaluate the impacts of the DER Aggregation operating in a multi-nodal fashion in the energy market within one year of its tariff's effectiveness or when sufficient operational data is available to evaluate the multi-nodal impacts.

#### **IV. Conclusion**

For the reasons set forth herein, the Joint Utilities respectfully urge the Commission to issue an order: (i) accepting PJM's proposed tariff revisions to effectuate its DER Aggregator Participation Model, except where, as established *supra*, PJM's proposed revisions must be rejected and PJM must be directed to submit a compliance filing within 60 days setting forth the tariff revisions identified herein; and (ii) adopting PJM's program implementation proposal as set forth

in the September 2023 DER Implementation Proposal thereby making the effective date for the tariff revisions identified in this proceeding subject to PJM's May 1, 2024 submission.

Dated: September 22, 2022  
Albany, New York



Elizabeth C. Garvey  
Jane McLaughlin  
Greenberg Traurig, LLP  
54 State Street, 6<sup>th</sup> Floor  
Albany, NY 12207  
518-689-1401  
[Elizabeth.garvey@gtlaw.com](mailto:Elizabeth.garvey@gtlaw.com)  
[McLaughlinj@gtlaw.com](mailto:McLaughlinj@gtlaw.com)  
Attorneys for the Joint Utilities

/s/ Amanda P. Parker  
Amanda P. Parker  
FERC Attorney  
FirstEnergy Corp.  
76 South Main Street  
Akron, Ohio 44308  
Tel: (330) 384-4592  
[aparker@firstenergycorp.com](mailto:aparker@firstenergycorp.com)

/s/ Lisa B. Luftig  
Lisa B. Luftig  
Assistant General Counsel  
Exelon Corporation  
701 Ninth Street, NW  
Washington, DC 20068  
Telephone: 202-428-1067  
Email: [lisa.luftig@exeloncorp.com](mailto:lisa.luftig@exeloncorp.com)

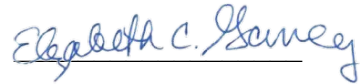
/s/ William M. Rappolt  
William M. Rappolt  
Assistant General Counsel, FERC  
AES US Services LLC  
4300 Wilson Blvd  
Arlington, VA 22203  
Tel: 571-533-9018  
Email: [william.rappolt@aes.com](mailto:william.rappolt@aes.com)

/s/ Steven M. Nadel  
Steven M. Nadel  
Senior Counsel  
PPL Services Corp  
2 N. 9<sup>th</sup> Street  
Allentown, PA 18101  
Tel: (610) 774-4254  
[SMNadel@pplweb.com](mailto:SMNadel@pplweb.com)

## CERTIFICATE OF SERVICE

I hereby certify that I have on this date caused a copy of the foregoing document to be served on each person included on the official service list maintained for this proceeding by the Commission's Secretary, by electronic mail or such other means as a party may have requested, in accordance with Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010. Dated this the 22nd day of September 2023, at Albany, New York.

/s/ Elizabeth Garvey

A handwritten signature in blue ink that reads "Elizabeth C. Garvey". The signature is written in a cursive style and is positioned above a horizontal line.

Elizabeth Garvey  
Greenberg Traurig, LLP  
54 State St. 6<sup>th</sup> Floor  
Albany, NY 12207