

188 FERC ¶ 61,076  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Willie L. Phillips, Chairman;  
Mark C. Christie and David Rosner.

PJM Interconnection, L.L.C.

Docket No. ER22-962-005

ORDER ON COMPLIANCE FILING

(Issued July 25, 2024)

1. In Order No. 2222, the Commission adopted reforms to remove barriers to the participation of distributed energy resource aggregations in the capacity, energy, and ancillary services markets operated by Regional Transmission Organizations and Independent System Operators (RTO/ISO markets).<sup>1</sup> On February 1, 2022, PJM Interconnection, L.L.C. (PJM) filed its initial proposal to comply with the requirements of Order No. 2222 (First Compliance Filing). On March 1, 2023, the Commission accepted PJM's First Compliance Filing, subject to a further compliance filing.<sup>2</sup>

2. On September 1, 2023, PJM submitted further proposed revisions to its Open Access Transmission Tariff (Tariff) and the Amended and Restated Operating Agreement of PJM (Operating Agreement)<sup>3</sup> to comply with the First Compliance Order. In this order, we accept PJM's filing, subject to a further compliance filing to be submitted within 30 days of the date of issuance of this order, as discussed below.

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<sup>1</sup> *Participation of Distributed Energy Res. Aggregations in Mkts. Operated by Reg'l Transmission Orgs. & Indep. Sys. Operators*, Order No. 2222, 172 FERC ¶ 61,247 (2020), *order on reh'g*, Order No. 2222-A, 174 FERC ¶ 61,197, *order on reh'g*, Order No. 2222-B, 175 FERC ¶ 61,227 (2021).

<sup>2</sup> *PJM Interconnection, L.L.C.*, 182 FERC ¶ 61,143 (2023) (First Compliance Order).

<sup>3</sup> Capitalized terms that are not defined in this order have the meaning specified in the Tariff and Operating Agreement.

## **I. Background**

3. In Order No. 2222, the Commission adopted reforms to remove barriers to the participation of distributed energy resource aggregations in the RTO/ISO markets.<sup>4</sup> The Commission modified section 35.28 of its regulations<sup>5</sup> pursuant to its authority under Federal Power Act (FPA) section 206<sup>6</sup> to require each RTO/ISO to revise its tariff to ensure that its market rules facilitate the participation of distributed energy resource aggregations. The Commission found that, by removing barriers to the participation of distributed energy resource aggregations in the RTO/ISO markets, Order No. 2222 will enhance competition and, in turn, help ensure that the RTO/ISO markets produce just and reasonable rates.

## **II. Notice of Filing and Responsive Pleadings**

4. Notice of PJM's filing was published in the *Federal Register*, 88 Fed. Reg. 62,077 (Sept. 8, 2023), with interventions and protests due on or before September 22, 2023. Tesla, Inc. (Tesla) timely filed a motion to intervene. Timely comments and/or protests were filed by the Pennsylvania Public Utility Commission (Pennsylvania Commission), Joint Utilities,<sup>7</sup> American Electric Power Service Corporation (AEP),<sup>8</sup> the Public Utilities Commission of Ohio (Ohio Commission), Advanced Energy United and Solar Energy Industries Association (AEU/SEIA), Advanced Energy Management Alliance (AEMA), and Tesla. On October 26, 2023, PJM filed an answer. The University of Delaware's

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<sup>4</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 1.

<sup>5</sup> 18 C.F.R. § 35.28 (2023).

<sup>6</sup> 16 U.S.C. § 824e.

<sup>7</sup> 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; the Dayton Power and Light Company d/b/a AES Ohio; and PPL Electric Utilities Corporation. Joint Utilities Comments at 2 n.2.

<sup>8</sup> AEP filed comments on behalf of its distribution affiliates, Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, and Wheeling Power Company.

Electric Vehicle Research and Development Group (Delaware EV Group) and Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM (IMM) each filed comments out of time.

### **III. Discussion**

#### **A. Procedural Matters**

5. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2023), the timely, unopposed motion to intervene serves to make Tesla a party to this proceeding.<sup>9</sup>

6. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2023), prohibits an answer to a protest or an answer unless otherwise ordered by the decisional authority. We accept the answer filed by PJM in this proceeding because it has provided information that assisted us in our decision-making process. We also accept the IMM's and Delaware EV Group's out-of-time comments.

#### **B. Substantive Matters**

7. As discussed below, we accept PJM's filing, subject to a further compliance filing.

8. As a preliminary matter, we find that PJM has complied with the directives in the First Compliance Order relating to the following requirements of Order No. 2222 and Order No. 2222-B: (1) explain how it will implement the small utility opt-in;<sup>10</sup> and (2) subject the participation of demand response in a distributed energy resource aggregation to the opt-out and opt-in requirements of Order No. 719 and 719-A.<sup>11</sup> In addition, we note that PJM clarifies that its proposed locational requirements for energy market participation do not require the use of distribution factors, and thus no further compliance

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<sup>9</sup> Entities that filed comments and/or protests but did not file a notice of intervention or motion to intervene are not parties to this proceeding. *See* 18 C.F.R. § 385.211(a)(2) (2023) ("The filing of a protest does not make the protestant a party to the proceeding. The protestant must intervene under Rule 214 to become a party."). Delaware EV Group filed comments but did not file a motion to intervene. Although we do not grant party status to Delaware EV Group, we address their pleading in this order.

<sup>10</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 32. *See* Transmittal at 7.

<sup>11</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 38. *See* Transmittal at 8; *see also* PJM, Intra-PJM Tariffs, attach. K (App.), § 1.4B (0.3.0), § 1.4B(g) (Proposed Tariff); PJM, Intra-PJM Tariffs, Operating Agreement, Schedule 1, § 1.4B (0.3.0), § 1.4B(g) (Proposed Operating Agreement).

is necessary.<sup>12</sup> PJM’s compliance with these requirements is not contested in this proceeding. We address the remaining compliance requirements and corresponding comments and protests below.

1. **Eligibility to Participate in RTO/ISO Markets through a Distributed Energy Resource Aggregator**

a. **Types of Technologies**

9. In Order No. 2222, the Commission required each RTO/ISO to revise its tariff to allow different types of distributed energy resource technologies to participate in a single distributed energy resource aggregation (i.e., allow heterogeneous distributed energy resource aggregations).<sup>13</sup> The Commission explained that requiring that RTOs/ISOs allow heterogeneous aggregations will further enhance competition in RTO/ISO markets by ensuring that complementary resources, including those with different physical and operational characteristics, can meet qualification and performance requirements such as minimum run times, which will help ensure that RTO/ISO markets produce just and reasonable rates.<sup>14</sup>

i. **First Compliance Order**

10. In the First Compliance Order, the Commission found that PJM’s proposal partially complies with Order No. 2222 with respect to types of technologies.<sup>15</sup> The Commission found that PJM’s proposal lacked the necessary detail in the tariff regarding the participation of heterogeneous DER Aggregation Resources to comply with the requirement of Order No. 2222 that each RTO/ISO revise its tariff to allow heterogeneous aggregations.<sup>16</sup> The Commission found that PJM’s proposal “do[es] not

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<sup>12</sup> Transmittal at 32. *See* First Compliance Order, 182 FERC ¶ 61,143 at P 197 (requiring that “[t]o the extent that PJM proposes alternative locational requirements for energy market participation that necessitate the use of distribution factors,” PJM must “revise its tariff as needed to require that distributed energy resource aggregators give to the RTO/ISO the total distributed energy resource aggregation response that would be provided from each pricing node, where applicable, when they initially register their aggregation, and to update these distribution factors if they change.”).

<sup>13</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 142.

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

<sup>15</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 104.

<sup>16</sup> *Id.* P 106; *see* Order No. 2222, 172 FERC ¶ 61,247 at P 142 (requiring “each RTO/ISO to *revise its tariff* to allow different types of distributed energy resource

specify how PJM will account for and settle the energy injecting portion of a heterogeneous DER Aggregation Resource, or how PJM would distinguish the injection and curtailment capability in a heterogeneous DER Aggregation Resource for the purpose of energy market participation.”<sup>17</sup> Accordingly, the Commission directed PJM to file a further compliance filing that specifies market rules in its tariff regarding compensation and settlement of DER Aggregation Resources with both injecting and curtailment capability, including those that can reflect both attributes at a single Component DER site.

**ii. Filing**

11. PJM proposes to modify its tariff to articulate the settlement rules for both the injecting and curtailment capabilities of heterogeneous resources.<sup>18</sup> PJM states that the amended language clarifies that the DER Aggregator will submit data to determine the load reduction and energy injection MWh for each Component DER that has both capabilities. According to PJM, load reductions will be calculated using existing demand response methodologies<sup>19</sup> and all injections, which are determined by a negative load metered value at the points of interconnection to the distribution system, will be measured in accordance with day-ahead energy market and real-time energy market rules.<sup>20</sup> Additionally, PJM states that the MWh energy contribution of a single Component DER will equal the sum of the demand response and injection calculated values. PJM explains that the DER Aggregation Resource will be settled by summing the MWh energy contributions of all underlying Component DER within the DER Aggregation Resource.

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technologies to participate in a single distributed energy resource aggregation (i.e., allow heterogeneous distributed energy resource aggregations”).

<sup>17</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 106.

<sup>18</sup> Transmittal at 10. *See* Proposed Tariff, attach. K (App.), § 1.4B, § 1.4B(m); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(m).

<sup>19</sup> Transmittal at 10 (citing PJM, Intra- PJM Tariffs, attach. K (App.), § 3.3A (14.0.0); PJM, Intra- PJM Tariffs Operating Agreement, Schedule 1, § 3.3A (14.0.0)).

<sup>20</sup> *Id.* Proposed Tariff, attach. K (App.), § 1.4B(m)(ii); Proposed Operating Agreement, Schedule 1, § 1.4B(m)(ii) state that “injection shall be determined in accordance with the Day-ahead Energy Market and Real-time Energy Market rules as specified in Tariff, Attachment K-Appendix, section 3.1A, and Operating Agreement, Schedule 1, section 3.1A.”

### iii. Protests

12. The IMM states that PJM proposes energy market rules for curtailing and injecting Component DER, but does not specify any rules for the other markets.<sup>21</sup> The IMM argues that, if PJM's intention is to allow DER Aggregation Resources that include curtailing and injecting Component DER only in the energy market, then PJM should clearly state that in the PJM tariff. The IMM adds that, if PJM instead expects these resources to participate in the capacity and/or the ancillary services markets, then PJM should propose clear tariff language applicable to such resources and markets. The IMM argues that clarity is required to avoid potential double payment for capacity.

13. The IMM also argues that PJM's proposed tariff language is unclear because it simply references economic load response rules and energy market revenue data for settlements rules.<sup>22</sup> The IMM states that PJM does not propose, for example, a maximum injection MW limit for the resource type, and neither the existing tariff nor the proposed tariff includes rules that would prevent these resources from receiving double compensation for capacity.

14. The Delaware EV Group claims that PJM's use of "only" in its terminology is confusing and requests clarification.<sup>23</sup> The Delaware EV Group also requests that the Commission direct PJM to add a definition for a particular type of DER, "Demand Response with Injection" and accompanying participation rules.<sup>24</sup> Finally, the Delaware EV Group requests that the Commission direct PJM to define how a "Capacity resource" market would be structured for DER storage behind the meter registered as "Demand Response with Injection" and direct PJM to provide an implementation date for such market.<sup>25</sup>

### iv. Determination

15. We find that PJM's proposal complies with the First Compliance Order's directive for PJM to specify market rules in its tariff regarding compensation and settlement of DER Aggregation Resources with both injecting and curtailment capability, including

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<sup>21</sup> IMM Comments at 6.

<sup>22</sup> *Id.*

<sup>23</sup> Delaware EV Group Comments at 7-8 (citing First Compliance Filing, Transmittal at 37).

<sup>24</sup> *Id.* at 9-10.

<sup>25</sup> *Id.* at 11-12.

resources that can reflect both attributes at a single Component DER site.<sup>26</sup> In its filing, PJM proposes to revise its tariff to include settlement rules in the energy market for both the injecting and curtailment capabilities of heterogeneous resources.<sup>27</sup> In response, the IMM and the Delaware EV Group raise comments that extend beyond the compliance directives. We find that the IMM's argument that PJM should provide further specificity in its tariff regarding the capacity and ancillary services markets is beyond the scope of the Commission's compliance directive.<sup>28</sup> We similarly find that the Delaware EV Group's comments about new definitions and participation rules are beyond the scope of the First Compliance Order. The Commission's directive specifically relates to its expressed concern that PJM did not specify "how PJM will account for and settle the energy injecting portion of a heterogeneous DER Aggregation Resource, or how PJM would distinguish the injection and curtailment capability in a heterogeneous DER Aggregation Resource for the purpose of *energy market* participation."<sup>29</sup> Contrary to the IMM's assertion, we find that PJM's proposed energy market rules for DER Aggregation Resources, which cross-reference existing settlement rules applicable to generation resources in section 3.1A of Attachment K-Appendix and, separately, demand resources in sections 1.5A and 3.3A of Attachment K-Appendix, are sufficiently clear and fully address the Commission's directive.<sup>30</sup>

#### **b. Double Counting of Services**

16. In Order No. 2222, the Commission required each RTO/ISO to revise its tariff to: (1) allow distributed energy resources that participate in one or more retail programs to

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<sup>26</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 106.

<sup>27</sup> Proposed Tariff, attach. K (App.), § 1.4B(m); Proposed Operating Agreement, Schedule 1, § 1.4B(m).

<sup>28</sup> See *PJM Interconnection, L.L.C.*, 133 FERC ¶ 61,277, at P 34 (2010) ("Protests to compliance filings are limited to whether the filing meets the Commission's compliance directive...").

<sup>29</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 106 (emphasis added).

<sup>30</sup> PJM, Intra- PJM Tariffs, attach. K (App.), § 3.1 (3.1.0), § 3.1A (3.1.0); PJM, Intra-PJM Tariffs, Operating Agreement, Schedule 1, § 3.1 (3.1.0), § 3.1A. specify that revenue data for settlements are energy quantities used for accounting and billing for generation resources and demand response resources. These tariff sections also describe the specific revenue meter data requirements for injections and withdrawals. Likewise, Tariff, Attachment K-Appendix, sections 1.5A and 3.3A and Operating Agreement, Schedule 1, sections 1.5A and 3.3A specify rules applicable to economic load response participants including rules for metering and market settlements.

participate in its wholesale markets; (2) allow distributed energy resources to provide multiple wholesale services; and (3) include any appropriate restrictions on the distributed energy resources' participation in RTO/ISO markets through distributed energy resource aggregations, if narrowly designed to avoid counting more than once the services provided by distributed energy resources in RTO/ISO markets.<sup>31</sup>

17. The Commission in Order No. 2222 found that it is appropriate for RTOs/ISOs to place narrowly designed restrictions on the RTO/ISO market participation of distributed energy resources through aggregations, if necessary to prevent double counting of services.<sup>32</sup> Thus, the Commission found that it is appropriate for RTOs/ISOs to place restrictions on the RTO/ISO market participation of distributed energy resources through aggregations after determining whether a distributed energy resource that is proposing to participate in a distributed energy resource aggregation is (1) registered to provide the same services either individually or as part of another RTO/ISO market participant,<sup>33</sup> 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>34</sup> The Commission provided RTOs/ISOs with regional flexibility with respect to the restrictions that they propose in their tariffs to minimize market impacts caused by the double counting of services provided by distributed energy resources in RTO/ISO markets.<sup>35</sup>

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<sup>31</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 160.

<sup>32</sup> *Id.* P 161. For instance, the Commission explained that if a distributed energy resource is offered into an RTO/ISO market and is not added back to a utility's or other load serving entity's load profile, then that resource will be double counted as both load reduction and a supply resource. Also, the Commission stated 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. *Id.*

<sup>33</sup> For example, as part of another distributed energy resource aggregation, a demand response resource, and/or a standalone distributed energy resource. *Id.* P 161 n.414.

<sup>34</sup> *Id.* P 161.

<sup>35</sup> *Id.* P 164.



**i. Assessment of Services Provided**

**(a) First Compliance Order**

18. In the First Compliance Order, the Commission found that PJM’s proposal partially complied with the requirement of Order No. 2222 to include appropriate restrictions on the participation of distributed energy resources in PJM’s markets through distributed energy resource aggregations, if narrowly designed to avoid counting more than once the services provided by distributed energy resources in PJM’s markets.<sup>36</sup> The Commission found that PJM’s proposed tariff “requires an assessment of whether the ‘same product is not also credited’ rather than whether, as the Commission discussed in Order No. 2222, the *same service is being provided* by the Component DER.”<sup>37</sup> The Commission explained that it was unclear whether PJM’s proposed tariff fully complies with this requirement. Accordingly, the Commission directed PJM to file a further compliance filing to clarify why the tariff assesses 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.

**(b) Filing**

19. PJM proposes revised tariff language that indicates that the Electric Distribution Company (EDC)<sup>38</sup> will assess, for each Component DER and the associated PJM market(s) in which the Component DER seeks to participate, whether the same service is being provided by that Component DER, rather than credited to the owner of that Component DER through an existing retail program.<sup>39</sup>

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<sup>36</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 135.

<sup>37</sup> *Id.* P 136 (emphasis in original).

<sup>38</sup> PJM proposes to define EDC as “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.” PJM, Intra-PJM Tariffs, § I.1, Definitions E-F (36.0.0); *see infra* PP 147-148.

<sup>39</sup> Transmittal at 11-12; Proposed Tariff, attach. K (App.), § 1.4B(h); Proposed Operating Agreement, Schedule 1, § 1.4B(h).

(c) Comments/Protests

20. Tesla and AEMA support PJM's proposal to amend its tariff to indicate that the EDC's double counting assessment is whether the same service is being *provided* by that Component DER, rather than *credited* to the owner of that Component DER through an existing retail program.<sup>40</sup> Tesla states that PJM's proposed tariff language acknowledges the difference between a retail credit versus the provision of a grid service.<sup>41</sup> AEMA similarly states that there is an economic difference between receiving credit for not using a service at retail and receiving credit for providing a service at wholesale.<sup>42</sup> AEMA contends that because those credits and revenues account for different items, it is not double counting. Tesla further contends that net energy metering credits are determined by regulatory processes rather than markets.<sup>43</sup> As such, Tesla states that these credits have little to no correlation with the value of the contribution of grid reserve services and capacity export products provided by Component DER. Tesla further argues it is unduly discriminatory to block participants from providing ancillary services on the predicate of retail crediting which has no measurable relationship to the value of these services in wholesale markets.<sup>44</sup>

21. Other parties contend that PJM's compliance filing should be rejected because it is inconsistent with the Commission's directive to include an explanation of how its proposed language is consistent with Order No. 2222, or alternatively to revise this language such that it is consistent with Order No. 2222.<sup>45</sup> Specifically, Joint Utilities argue that PJM's proposed language should be rejected because, by specifically referencing only the provision of services, PJM inadvertently allows for the possibility of double compensation.<sup>46</sup> Joint Utilities explain that under some fully bundled retail programs, "an entity may be compensated for *not providing* the PJM service in question,

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<sup>40</sup> AEP Comments at 15.

<sup>41</sup> Tesla Comments at 21.

<sup>42</sup> AEMA Comments at 2.

<sup>43</sup> Tesla Comments at 20.

<sup>44</sup> *Id.* at 21.

<sup>45</sup> Joint Utilities Protest at 14 (citing First Compliance Order, 182 FERC ¶ 61,143 at P 136); Pennsylvania Commission Protest at 4-5; IMM Comments at 3.

<sup>46</sup> Joint Utilities Protest at 15.

i.e., payment is received for *forgoing service*.”<sup>47</sup> For example, Joint Utilities state that, if a DER Aggregation signs up a residential smart thermostat user who has already committed to permit the utility to control electricity usage under retail programs and counts that same reduced usage as part of the DER Aggregator’s total reduction, then the user will be compensated twice for the same reduced energy usage.<sup>48</sup> Joint Utilities aver that, 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.<sup>49</sup> Joint Utilities urge the Commission to direct PJM to submit a compliance filing expressly providing that 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 that EDCs are permitted to raise any concerns regarding double counting to the Office of the Interconnection accordingly.

22. Pennsylvania Commission argues that PJM appears to have mistakenly concluded that the Commission simply ordered PJM to switch “crediting” to “providing,” and adds that PJM fails to explain how this switch is consistent with Order No. 2222.<sup>50</sup>

Pennsylvania Commission maintains that by crediting net metering customers for all costs at the retail level, these customers are being compensated for the savings they are providing to the EDC on a variety of different services, such as ancillary services savings. Thus, Pennsylvania Commission argues that PJM’s switch in the tariff from use of crediting to providing runs afoul of the Order No. 2222 directive against duplicative compensation for resources “that are receiving compensation for the same services as part of another program.”<sup>51</sup> Pennsylvania Commission contends that using “crediting” or

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<sup>47</sup> *Id.* (emphasis in original).

<sup>48</sup> *Id.* at 15-16.

<sup>49</sup> *Id.* at 17.

<sup>50</sup> Pennsylvania Commission Protest at 4-5. Pennsylvania Commission states that resources in Pennsylvania’s net metering program are entitled by state law to receive compensation equal to the full retail value of the energy they inject, even if they do not provide all of the services that factor into calculation of the full retail rate. In addition, Pennsylvania Commission explains that when a net metering resource injects energy, that resource is being reimbursed for the costs the customer would be causing to the EDC if the customer had not been injecting. *Id.* at 5.

<sup>51</sup> Pennsylvania Commission Protest at 5-6 (quoting Order No. 2222, 172 FERC ¶ 61,247 at P 159). Pennsylvania Commission also argues that the rate design on this issue is a state matter and that the Commission should not disturb Congress’ state-based approach by overcompensating net metering resources in wholesale markets above and beyond how a state has chosen to design its rates. *Id.* at 6.

“receiving compensation” would be consistent with Order No. 2222’s goal to “enable efficient outcomes in RTO/ISO markets by capturing the full value of distributed energy resources and enabling efficient resource allocation while also requiring RTOs/ISOs to address double-counting concerns.”<sup>52</sup>

23. The IMM argues that a resource should not be paid for a service unless it provides that service.<sup>53</sup> Otherwise, the IMM contends, the EDC is overpaying the net energy metered resources. The IMM argues that, if a net energy metering rate explicitly states that it includes compensation for wholesale ancillary services, the net energy metering resources should be precluded from participating in the wholesale ancillary services markets because it would result in duplicative payments to the resource.<sup>54</sup> Therefore, the IMM requests that the Commission reject PJM’s proposed definition of double counting and require PJM to base its double counting determination on the services credited in the net metering program.<sup>55</sup> AEP raises similar concerns, arguing that it is appropriate to focus on double compensation because that is what harms customers.<sup>56</sup>

**(d) Determination**

24. We find that PJM’s proposed tariff revisions comply with the directive of the First Compliance Order to clarify its original proposal or revise it such that it is consistent with Order No. 2222. In Order No. 2222, the Commission required each RTO/ISO to revise its tariff to include “any appropriate restrictions on the distributed energy resources’ participation in RTO/ISO markets through distributed energy resource aggregations, if narrowly designed to avoid *counting more than once the services provided* by distributed energy resources in RTO/ISO markets.”<sup>57</sup> We find that PJM’s further proposed tariff revisions comply with this requirement because they clearly state that PJM will only credit a DER Aggregator for the sale of energy, capacity, and/or ancillary services in PJM’s markets if “those same services are not also provided as part of a retail program”

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<sup>52</sup> *Id.* at 6 (quoting Order No. 2222, 172 FERC ¶ 61,247 at P 163).

<sup>53</sup> IMM Comments at 3.

<sup>54</sup> *Id.* at 3-4.

<sup>55</sup> *Id.* at 4.

<sup>56</sup> AEP Comments at 16-17.

<sup>57</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 160 (emphasis added).

or another wholesale sale.<sup>58</sup> We are not persuaded by the arguments that PJM should have retained its original double counting proposal that assessed “products credited” rather than “services provided.” Order No. 2222’s discussion of appropriate double counting restrictions focused on “services provided.”<sup>59</sup> Moreover, we note that the Commission accepted similar proposals from other RTO/ISOs to prohibit the provision of the “same services” as compliant with Order No. 2222.<sup>60</sup>

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<sup>58</sup> Transmittal at 11-12; Proposed Tariff, attach. K (App.), § 1.4B(h); Proposed Operating Agreement, Schedule 1, § 1.4B(h).

<sup>59</sup> Order No 2222, 172 FERC ¶ 61,247 at P 160; *id.* P 161 (“we find that it is appropriate for RTO/ISOs to place restrictions on the RTO/ISO market participation of distributed energy resources through aggregations after determining whether a distributed energy resource that is proposing to participate in a distributed energy resource aggregation is (1) registered to *provide the same services* either individually or as part of another RTO/ISO market participant”) (emphasis added); *id.* P 164 (“we will grant RTO/ISOs regional flexibility with respect to the restrictions they propose in their tariffs to minimize market impacts caused by the *double counting of services provided* by distributed energy resources in the RTO/ISO markets”) (emphasis added); *see id.* P 163 (“there may be instances in which an individual distributed energy resource could technically, reliably, and economically provide multiple, distinct services at wholesale and retail levels, and therefore preventing it from doing so may undermine the final rule by creating a new barrier to participation in RTO/ISO markets, thereby inhibiting competition and decreasing reliability”).

<sup>60</sup> *See, e.g., N.Y. Indep. Sys. Operator, Inc.*, 179 FERC ¶ 61,198, at P 137 (2022) (NYISO Compliance Order) (finding New York Independent System Operator’s (NYISO) proposal is “narrowly designed because it does not broadly prohibit an Aggregation’s participation unless the Aggregation is *providing the same service* in a retail program”) (emphasis added); *Midcontinent Indep. Sys. Operator, Inc.*, 185 FERC ¶ 61,011, at P 98 (2023) (MISO Compliance Order) (finding Midcontinent Independent System Operator’s (MISO) proposal narrowly designed because “it does not broadly prohibit DERA participation in MISO’s markets unless the DER in the aggregation is *providing the same service* as an existing resource or in a retail program”) (emphasis added); *Cal. Indep. Sys. Operator Corp.*, 183 FERC ¶ 61,119, at P 9 (2023) (finding compliant California Independent System Operator’s (CAISO) proposal that a DER aggregation “may not receive compensation for capacity, Energy, or other services it provides in CAISO’s markets if it provides the same services in retail programs”).

25. In response to Joint Utilities, we clarify that an EDC may raise concerns about whether a Component DER that participates in a retail program is registering to provide that same service in PJM markets.<sup>61</sup>

**ii. Ancillary Services**

**(a) First Compliance Order**

26. In the First Compliance Order, the Commission found that PJM’s double counting proposal is unclear with respect to Component DER that wish to provide ancillary services in PJM’s markets.<sup>62</sup> The Commission explained that it appears that a Component DER participating in a net energy metering retail program may be credited for ancillary services as part of a retail rate, and therefore prohibited from being compensated by PJM for ancillary services in its market because PJM proposed to only credit a DER Aggregator for the sale of a product in its markets if “that same product is not also credited as part of a retail program.”<sup>63</sup> However, the Commission explained that PJM also proposed tariff language to allow “Component DER that participate in a net energy metering retail program [to] only participate with grid injections in the PJM ancillary services market,” and thus, PJM appeared “to allow this Component DER to provide ancillary services in its market . . . and without a clear opportunity for an electric distribution company to raise concerns about double counting.”<sup>64</sup> Therefore, the Commission concluded that PJM’s proposal is ambiguous as to whether Component DER can be precluded from providing ancillary services in PJM’s markets and being compensated for doing so on the basis of double counting concerns. Accordingly, and consistent with the separate directive to PJM to address the tariff language involving products credited, the Commission directed PJM to file a further compliance filing that explains whether Component DER can be precluded by either PJM or an electric distribution company from providing ancillary services in PJM markets due to double counting concerns. The Commission also directed PJM to clarify whether an electric distribution company during its review may raise concerns about whether Component

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<sup>61</sup> See Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b)(ii)(a); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b)(ii)(a) (“Component DER . . . may not participate in PJM energy or capacity markets, unless the [EDC] confirms . . . that participation of the Component DER . . . will not violate the restrictions on duplicative compensation. . .”).

<sup>62</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 138.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

DER should be precluded from providing ancillary services in PJM markets to avoid double counting.

(b) **Filing**

27. With regard to ancillary services, PJM explains that, during registration, the EDC may recommend that PJM deny participation of a Component DER in PJM's regulation or reserve market if that Component DER is also providing that service to a retail program.<sup>65</sup> PJM states that while certain net energy metering rates may credit customers for the cost of wholesale ancillary services, it is unaware of any retail program in its territory that allows Component DER to provide ancillary services at this time.<sup>66</sup> PJM also states that, neither PJM nor the EDC may preclude a Component DER from providing ancillary services based on the resource being compensated or credited for ancillary services at the retail level. PJM also proposes to revise its tariff to clarify that Component DER that participate in a net energy metering retail program that also participate with grid injections in the PJM ancillary services markets will be excluded from PJM energy market settlements to prevent any double compensation for energy.<sup>67</sup>

(c) **Comments/Protests**

28. AEP identifies as compliant with the First Compliance Order PJM's clarification that EDCs can raise concerns about whether Component DER should be precluded from providing ancillary services in PJM markets to avoid double counting.<sup>68</sup> However, AEP contends that EDCs should have the opportunity to present challenges based on a Component DER receiving credit or payment via a retail program for ancillary services.<sup>69</sup> AEP adds that if a Component DER wants to demonstrate that it is not actually providing that service to retail customers, then the Component DER can initiate dispute resolution proceedings.<sup>70</sup> AEP also states that PJM's explanation that "[n]either PJM nor the Electric Distribution Company may preclude a Component DER from providing ancillary services based on the resource being compensated or 'credited for' ancillary services at

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<sup>65</sup> Transmittal at 14.

<sup>66</sup> *Id.* at 15.

<sup>67</sup> *Id.* at 15-16; Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b)(ii); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b)(ii).

<sup>68</sup> AEP Protest at 15.

<sup>69</sup> *Id.* at 17.

<sup>70</sup> *Id.* at 18.

the retail level,” prejudices the outcome of the challenge it expressly allows, and is unnecessary to comply with the First Compliance Order.<sup>71</sup> Joint Utilities similarly argue that PJM’s proposal to assess double counting based on services provided could be interpreted as constraining an EDC from identifying concerns about potential double counting where services are merely credited and not physically rendered.<sup>72</sup> Joint Utilities argue that such language inadvertently contravenes a separate directive that PJM must clarify that the EDC has the ability to raise concerns related to credits or payments in a retail program resulting in double compensation. Delaware EV Group states that PJM’s proposed language should be amended to state that grid injections in the PJM Response only markets such as Ancillary Services Response shall be excluded from PJM energy market settlements.<sup>73</sup>

**(d) Determination**

29. We find that PJM complies with the directives of the First Compliance Order. First, PJM clarifies that a Component DER may be precluded from participating in PJM’s regulation or reserve markets due to double counting concerns, if that Component DER is also providing the same service to a retail program.<sup>74</sup> Second, PJM clarifies that an EDC may raise concerns regarding double counting of ancillary services by a Component DER during its review.<sup>75</sup>

30. We find unpersuasive AEP’s and Joint Utilities’ concerns regarding double counting of services. As discussed above, we find that PJM’s proposal to assess double counting based on the provision of the same services complies with the requirements of Order No. 2222.<sup>76</sup> We also find that PJM’s proposed tariff language, which clarifies that

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<sup>71</sup> *Id.* at 15-16 (quoting Transmittal at 15).

<sup>72</sup> Joint Utilities Protest at 16.

<sup>73</sup> Delaware EV Group Comments at 9.

<sup>74</sup> Transmittal at 14; *see* Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b)(ii); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b)(ii) (permitting an EDC to review during registration whether “[p]articipation of the Component DER in an [EDC]’s retail program at the time of registration does not preclude participation of the Component DER in the energy, capacity, and/or ancillary services markets of PJM, and as defined in the PJM Manuals”).

<sup>75</sup> Transmittal at 14; Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b)(ii); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b)(ii).

<sup>76</sup> *See supra* P 24.



Component DER that participate in a net energy metering retail program and also participate with grid injections in the PJM ancillary services market will be excluded from PJM energy market settlements, further addresses the Commission's concerns in the First Compliance Order regarding the ambiguity of PJM's double counting proposal, and appropriately avoids double counting.<sup>77</sup> Thus, it is unnecessary to direct PJM to adopt any further revisions, including those suggested by Delaware EV Group, because PJM has sufficiently complied with the requirements of Order No. 2222.

**iii. Co-located Component DER**

**(a) First Compliance Order**

31. In the First Compliance Order, the Commission found that, while PJM appropriately supported its proposed general exclusion against participation in its energy and capacity markets by Component DERs that are participating in a net energy metering retail program, PJM did not adequately support as narrowly designed its proposal to generally exclude from the PJM energy and capacity markets Component DER that are not participating in a net energy metering retail program but are co-located at a site where at least one resource is participating in a net energy metering retail program.<sup>78</sup> The Commission found that PJM's proposed restriction may unnecessarily limit participation of Component DER in the PJM energy and capacity markets solely based on their location and not based on a double counting concern. The Commission explained that it is unclear why it is appropriate for PJM to apply that same exclusion to Component DER that are *not* participating in a net energy metering retail program merely because they are co-located at a site where at least one resource is participating in such a retail program. Accordingly, the Commission directed PJM to file a further compliance filing to explain how its proposed general exclusion from the energy and capacity market of Component DER that are not participating in net energy metering retail programs but are located at sites where at least one resource is participating in a net energy metering retail program is narrowly designed, and if necessary, to revise its restriction.

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<sup>77</sup> See First Compliance Order, 182 FERC ¶ 61,143 at P 138 (“Therefore, we agree with Indicated Utilities that PJM’s proposal is ambiguous as to whether Component DER can be precluded from providing ancillary services in PJM markets and being compensated for doing so on the basis of double counting concerns.”).

<sup>78</sup> *Id.* P 141.

(b) **Filing**

32. PJM provides further explanation to support its proposal as narrowly designed.<sup>79</sup> As a threshold matter, PJM states that the DER Aggregator Participation Model relies on data from a single point of interconnection on the distribution system, as reflected in a unique EDC account number. PJM states that the Commission declined to direct PJM to permit the use of device-level metering, noting that “PJM has demonstrated that its proposed metering requirements do not pose an unnecessary and undue barrier to distributed energy resources, as Order No. 2222 requires....”<sup>80</sup> Thus, PJM explains that the Commission-approved design necessitates that each location, or Component DER, registered with PJM be associated with a unique EDC account number.

33. With that context, PJM clarifies that Component DER refers to *all* technologies, rather than individual technology, associated with one unique EDC account number.<sup>81</sup> PJM states that if a Component DER was not participating in a net energy metering program, but was co-located with another Component DER that *was* participating in such a program, PJM’s definition of a Component DER would necessitate that this resource be separately metered and associated with a separate EDC account number.<sup>82</sup> PJM clarifies that, as a separately metered resource that is *not* participating in a net energy metering retail program, the Component DER would be able to participate in PJM’s energy and capacity markets, even if this resource was located at a premise where one or more resources *are* participating in a net energy metering program.

34. PJM also explains that enrollment in net energy metering programs is established at the level of the EDC account number and is tied to a single point of interconnection to the distribution system, i.e., all technologies associated with a single account number are either enrolled or not enrolled in net energy metering.<sup>83</sup> Thus, PJM states that it cannot identify a scenario where a unique resource behind the meter is simultaneously co-located at a site where at least one other technology is participating in net energy metering but is not participating in a net energy metering retail program itself.<sup>84</sup> Therefore, PJM

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<sup>79</sup> Transmittal at 17.

<sup>80</sup> *Id.* (quoting First Compliance Order, 182 FERC ¶ 61,143 at P 250).

<sup>81</sup> *Id.*

<sup>82</sup> *Id.* at 17-18.

<sup>83</sup> *Id.* at 18.

<sup>84</sup> PJM adds that the only scenario in which a resource behind a retail meter would be *co-located* with another resource that is participating in a net energy metering program but *would not* be participating in net energy metering itself is if that resource were

contends that its proposal is designed as narrowly as practical because both participation in a net energy metering program and double counting is assessed and established at the level of a single point of interconnection and is associated with a unique EDC account number.

(c) **Comments/Protests**

35. Pennsylvania Commission supports PJM's treatment of co-located Component DER.<sup>85</sup> Pennsylvania Commission maintains that EDCs assess participation in a net energy metering program at the level of a single point of interconnection to the distribution system, associated with a unique EDC account number, and thus, from a practical perspective, disentangling the participation of a resource in PJM's markets from a net metering resource with which it is co-located is not technically feasible without device level metering. Pennsylvania Commission urges the Commission not to mandate device level metering in order to shoehorn participation by co-located resources.<sup>86</sup> Rather, Pennsylvania Commission argues that it is more appropriate for individual states to define interconnection and metering rules on a case-by-case basis, particularly given the complexity of device level metering, which EDCs have noted to the Pennsylvania Commission.

36. Multiple parties argue that PJM's proposal is still not narrowly designed, despite PJM's further explanation.<sup>87</sup> AEU/SEIA express concern that PJM ignores that net energy metering programs and distributed energy resource technologies and capabilities are evolving, and that PJM's proposal guarantees such programs cannot evolve to enable more optimal dual participation of DERs.<sup>88</sup> AEMA disagrees with PJM that there are sites where one resource participates in a net energy metering program and another resource does not, and that PJM's understanding leads to an overly broad exclusion.<sup>89</sup> AEMA argues that PJM's proposal would sweep up non-net metered assets without

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separately metered, with a separate EDC account number. *Id.* PJM clarifies that this scenario is already permitted under the current DER Aggregator Participation Model design.

<sup>85</sup> Pennsylvania Commission Comments at 11.

<sup>86</sup> *Id.* at 12.

<sup>87</sup> AEU/SEIA Comments at 2; AEMA Comments at 2-3; Tesla Protest at 12; Delaware EV Group Comments at 10-11.

<sup>88</sup> AEU/SEIA Comments at 3-4.

<sup>89</sup> AEMA Comments at 3.

recognizing the capabilities of Component DER to distinguish between each resource.<sup>90</sup> AEMA also maintains that Component DERs that are co-located with net energy metering resources can provide capacity in the form of dispatchable energy without double-counting energy from the net energy metering resource that is injected into the grid.<sup>91</sup> AEMA requests that the Commission require PJM to acknowledge the incremental value that is provided by Component DER resources co-located with net energy metering resources. Tesla states that PJM's proposed approach adds additional costly, and potentially unsuitable, metering infrastructure to every co-located Component DER seeking to participate in a device-level aggregation in any wholesale product.<sup>92</sup> Tesla argues that mandating separate utility accounts at a single residential premise is an effective deal-killer for inviting participation in PJM wholesale markets.

37. Multiple parties emphasize device-level metering as a viable option for co-located resources to avoid double counting.<sup>93</sup> Tesla avers that PJM can accept and process device-level meter data, because PJM currently accepts such data for regulation reserves.<sup>94</sup> AEMA explains that several Component DER are now manufactured with embedded metering telemetry technologies and that the Component DER does not need a separate utility account number as the DER Aggregator and PJM can utilize the Component DER's on-board telemetry.<sup>95</sup> Tesla highlights the precision and granularity of response that an aggregation of Component DER can demonstrate with device level metering.<sup>96</sup> Tesla also criticizes PJM's reliance on the findings of the First Compliance Order on sub-metering, stating that there is no substantive linkage between the Commission's declining to direct device-level metering and PJM's independent decision to require each Component DER to have its own EDC account meter to participate in wholesale markets.<sup>97</sup> Tesla maintains that, as a procedural matter, there is a sufficient

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<sup>90</sup> *Id.* at 4.

<sup>91</sup> *Id.* at 6.

<sup>92</sup> Tesla Protest at 13.

<sup>93</sup> AEU/SEIA Comments at 2; Tesla Protest at 8; Delaware EV Group Comments at 10-11.

<sup>94</sup> Tesla Protest at 9 (citing PJM, Manual 11, Energy & Ancillary Services Market Operations (May 24, 2022)).

<sup>95</sup> AEMA Comments at 5.

<sup>96</sup> Tesla Protest at 10

<sup>97</sup> *Id.* at 12.

basis to eliminate the exclusion of device-level metering for co-located resources providing ancillary services.

(d) Answers

38. PJM argues that Component DER located at a premise on a net metering tariff may only participate with grid injections in PJM's ancillary services markets, and may not participate with grid injections in PJM's energy or capacity markets. PJM states that its proposal establishes an appropriately narrow exclusion that is unlikely to restrict market access for many technologies that exist today.<sup>98</sup> First, PJM states that the proposed exclusion is not levied on specific technologies, but rather on the injections of energy into the grid.<sup>99</sup> PJM asserts that, to the extent that demand reductions can be calculated using premise-level metering using existing baseline methodologies, they will be eligible to participate in PJM's markets.<sup>100</sup> PJM adds that, if the Commission finds its proposed treatment of demand response at net energy metered sites unclear, PJM proposes that the Commission direct PJM to revise its tariff as follows:

Component DER that participate in a net energy metering retail program may only participate with grid injections in the PJM ancillary services markets, and may not participate with injections in PJM energy or capacity markets, unless...<sup>101</sup>

39. Additionally, PJM states that the restriction primarily applies to the capacity and energy markets, and generally does not apply to ancillary services, unless an EDC identifies double-counting.<sup>102</sup> PJM states that, if its proposal is approved, an integrated battery energy storage asset would indeed be able to provide synchronized reserves.

40. With respect to the use of battery storage technology, PJM states that batteries (including bi-directional electric vehicles) cannot be compensated under net energy metering tariffs in 13 out of the 14 jurisdictions that are wholly or partially within PJM's

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<sup>98</sup> PJM Answer at 2.

<sup>99</sup> *Id.* at 3.

<sup>100</sup> *Id.* at 3-4.

<sup>101</sup> *Id.* at 4 (quoting Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b)(ii)(a); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b)(ii)(a)).

<sup>102</sup> *Id.*

footprint.<sup>103</sup> PJM reiterates that a battery that serves onsite load only (i.e., not injecting into the grid) can participate in all PJM markets via the DER Aggregator Participation Model as a load reduction-only resource during times of the day when the site is not injecting power into the grid. PJM states that these jurisdictions also physically or contractually prohibit the battery from operating in parallel with the grid (i.e., they are to be used to meet onsite load only). Thus, PJM argues that because most, if not all, of these co-located batteries are already prohibited from injecting under existing retail rates and utility rules and requirements, PJM does not levy a broad exclusion on the participation of batteries in its markets and under its rules for net energy metered premises.

41. Regarding the arguments raised by the parties on device-level metering, PJM argues that its compliance filing is explicitly limited to the Commission's directives in the First Compliance Order, which did not require PJM to submit a proposal on device-level metering.<sup>104</sup> PJM adds that while the Commission declined to require PJM to utilize device-level meter data, it encouraged PJM to "continue to work with its stakeholders to consider additional metering options in the future, including for DER Aggregation Resources to utilize device-level meter data."<sup>105</sup> PJM states that it remains committed to discussing the implementation and future evolution of the DER Aggregator Participation Model within its stakeholder process, and open to further discussions on additional metering options at a future date, as encouraged by the Commission.

42. In reply to AEU/SEIA's argument that PJM's proposal forecloses opportunities for Component DER to participate in PJM as programs evolve, PJM disagrees that the proposed language addressing net energy metering is insufficient.<sup>106</sup> PJM asserts that its proposed language covers all technologies behind the retail meter that are enrolled in a net metering rate. PJM emphasizes that if based on the evolution of existing retail rules, rates, and/or metering technologies, the EDC can establish that there is no double

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<sup>103</sup> *Id.* at 5. PJM notes that batteries are frequently installed at premises with rooftop solar, a technology that often injects energy and can be compensated under net metering. That is, PJM explains that the battery is a technology that is co-located with a net metering technology, but is not itself compensated under the net metering tariff.

<sup>104</sup> *Id.* at 6.

<sup>105</sup> *Id.* (quoting First Compliance Order, 182 FERC ¶ 61,143 at P 250).

<sup>106</sup> *Id.* at 7.

counting with respect to a retail program or tariff, then PJM will permit that resource to participate in any wholesale market for which it otherwise qualifies.<sup>107</sup>

(e) **Determination**

43. We find that PJM partially complies with the requirement of the First Compliance Order to explain how its proposal is narrowly designed, and if necessary, to revise its restriction to generally exclude from the PJM energy and capacity markets “Component DER that are not participating in net energy metering retail programs but are located at sites where at least one resource is participating in a net energy metering retail program.”<sup>108</sup> PJM’s proposal excludes Component DER that are not participating in net energy metering retail programs from providing *injections* in the PJM energy and capacity markets if they are located at a site where at least one other technology is participating in a net energy metering retail program, unless the EDC and PJM determine during registration that their participation would not violate the restriction against double counting.<sup>109</sup> In the First Compliance Order, the Commission expressed concern that PJM’s proposed restriction may unnecessarily limit participation of Component DER in the PJM energy and capacity markets solely based on their location and not based on a double counting concern. PJM’s further explanation clarifies that its proposal is narrowly designed to avoid double counting of services.

44. PJM explains that participation in a net energy metering program and double counting is assessed and established at the level of a single point of interconnection to the distribution system, and is associated with a unique EDC account number.<sup>110</sup> In the First Compliance Order, the Commission approved PJM’s proposal to require meter data from Component DER on an EDC account basis, and declined to require device-level meter data, and no party sought rehearing of that determination.<sup>111</sup> As a result, we do not

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<sup>107</sup> *Id.* at 8.

<sup>108</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 141.

<sup>109</sup> Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b)(ii)(a); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b)(ii)(a).

<sup>110</sup> Transmittal at 18; *see* Pennsylvania Commission Comments at 11 (“Based on discussions with Pennsylvania EDCs, the [Pennsylvania Commission] understands that, generally speaking, EDCs assess participation in a NEM program at the level of a single point of interconnection to the distribution system, associated with a unique EDC account number.”).

<sup>111</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 250 (“We find that PJM has demonstrated that its proposed metering requirements do not pose an unnecessary and undue barrier to distributed energy resources, as Order No. 2222 requires, with the

entertain parties' arguments that PJM must accommodate the use of device-level metering at this stage of the proceeding. Based on PJM's explanation, if a Component DER has multiple technologies associated with the same EDC account number, and at least one technology is providing injections in a net metering program, then it is not feasible to determine, based on the meter data that PJM requires, which technology may have provided injections in a net energy metering program.<sup>112</sup> PJM's restriction is thus necessary to avoid such Component DER providing the same services in the PJM energy and capacity markets that are provided by the technology participating in the retail net energy metering program. PJM's restriction is narrowly designed to avoid double counting of these services, and thus this restriction does not preclude Component DER from providing load reductions at the premise, nor does it preclude Component DER from providing ancillary services with injections. The restriction, as encapsulated in PJM's proposed tariff language, ensures that a particular arrangement does not violate the restriction on double counting, including based on the evolution of existing retail rules, rates, and/or metering technologies.<sup>113</sup> However, to ensure that PJM's restriction is narrowly designed, consistent with Order No. 2222, we find that PJM's tariff proposal requires limited, additional clarification that its restriction applies only to injections and not load reductions, and accordingly, as PJM proposes in its Answer, we direct PJM to file, within 30 days of the date of issuance of this order, a further compliance filing to revise its tariff to specify that Component DER that participate in a net energy metering

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narrow exception discussed further above."); *see* Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(e); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(e) ("A DER Aggregator is responsible for ensuring that Component DER within a DER Aggregation Resource have metering equipment that provides integrated hourly kWh values on an Electric Distribution Company account basis.").

<sup>112</sup> *See* Transmittal at 17 ("As a threshold matter, PJM highlights that the proposed DER Aggregator Participation Model, as approved by the Commission's March 1, 2023 Order, relies on data from a single point of interconnection to the distribution system, as reflected in a unique [EDC] account number."); Pennsylvania Commission Comments at 11 ("From a practical perspective, it is not technically feasible to disentangle the participation of a resource in PJM markets from a net metering resource with which it is co-located. Device level metering would be necessary to accomplish that disentanglement.").

<sup>113</sup> *See* Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b) (generally excluding certain Component DER from PJM energy and capacity market participation unless (1) the Electric Distribution Company confirms to PJM that participation will not violate the restriction on duplicative compensation, and (2) PJM determines participation meets the applicable wholesale participation requirements).



retail program may only participate with grid injections in the PJM ancillary services markets, and may not participate with injections in PJM's energy or capacity markets.<sup>114</sup>

## 2. Locational Requirements

45. In Order No. 2222, the Commission required each RTO/ISO to revise its tariff to establish locational requirements for distributed energy resources to participate in a distributed energy resource aggregation that are as geographically broad as technically feasible.<sup>115</sup> Given the variety of approaches to locational requirements proposed by commenters, the Commission provided each RTO/ISO with flexibility to determine the locational requirements for its region, as long as it demonstrates that those requirements are as geographically broad as technically feasible. The Commission stated that each RTO/ISO must provide a detailed, technical explanation for the geographical scope of its proposed locational requirements.<sup>116</sup> While each RTO/ISO must provide a detailed, technical explanation for the geographical scope of its proposed locational requirements, the Commission provided RTOs/ISOs with a certain degree of flexibility as to the technical aspects of a locational requirement that is as geographically broad as possible.<sup>117</sup>

46. The Commission also found that “RTOs/ISOs have the primary responsibility of administering the regional markets and reliably operating the system, and are therefore in the best position to propose on compliance the appropriate locational requirements, as long as they demonstrate that those requirements are as geographically broad as technically feasible.”<sup>118</sup>

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<sup>114</sup> See PJM Answer at 4 (“In the event that the Commission finds the proposed language regarding the treatment of demand response at net energy metered sites unclear, PJM proposes that the Commission direct PJM to revise Tariff, Attachment K-Appendix, Section 1.4B and Operating Agreement, Schedule 1, Section 1.4B as follows: Component DER that participate in a net energy metering retail program may only participate with grid injections in the PJM ancillary services markets, and may not participate with injections in PJM energy or capacity markets, unless. . . .”) (emphasis in original).

<sup>115</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 204.

<sup>116</sup> *Id.* P 204. The Commission stated that this explanation could include, for example, a discussion of the RTO's/ISO's system topology and regional congestion patterns, or any other factors that necessitate its proposed locational requirements.

<sup>117</sup> *Id.* P 206.

<sup>118</sup> *Id.* P 207.

a. **First Compliance Order**

47. In the First Compliance Order, the Commission found that PJM’s proposal partially complied with the locational requirements of Order No. 2222.<sup>119</sup> Although the Commission found compliant PJM’s proposed multi-node model for capacity and ancillary services-only DER Aggregation Resources, the Commission found that PJM failed to demonstrate that its proposed single-node model for the energy market is as geographically broad as technically feasible.<sup>120</sup> The Commission acknowledged that it may not be feasible for Component DER to aggregate across certain nodes where such nodes have different and opposing impacts on transmission constraints.<sup>121</sup> However, the Commission found 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 had 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. The Commission also noted that PJM did not explain whether broader aggregation could be technically feasible for DER Aggregation Resources participating in the energy market by, for example, identifying, prior to implementation, transmission constraints or examining regions or areas with historically minimal congestion.

48. Accordingly, the Commission directed PJM to submit a further compliance filing “to either: (1) provide a detailed technical explanation as required by Order No. 2222 to demonstrate that it is not technically feasible for any Component DER to aggregate more broadly than a single-node, as proposed, for energy market participation; or (2) propose alternative locational requirements for energy market participation that are as geographically broad as technically feasible, as well as a detailed technical explanation for the geographical scope of these alternative locational requirements.”<sup>122</sup>

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<sup>119</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 183.

<sup>120</sup> *Id.* PP 184-185.

<sup>121</sup> *Id.* P 186.

<sup>122</sup> The Commission also noted that several RTOs/ISOs have adopted geographically broader locational requirements for distributed energy resource aggregations participating in energy markets. *Id.* (citing NYISO Compliance Order, 179 FERC ¶ 61,198 at PP 141, 152; *Cal. Indep. Sys. Operator Corp.*, 179 FERC ¶ 61,197, at PP 132, 137-139 (2022); *ISO New England Inc. and New England Power Pool Participants Committee*, 182 FERC ¶ 61,137, at P 16 & n.20 (2023)).

**b. Filing**

49. PJM states that the nodal energy market participation framework is the only technically feasible option for DER Aggregation Resources containing *large* Component DER at any point in PJM’s implementation of the DER Aggregator Participation Model.<sup>123</sup> PJM further states that it is the only technically feasible option for *all* Component DER integrated into PJM markets *at scale*—*i.e.*, at a future operationally-significant penetration. PJM provides additional analysis to support its conclusions, and also proposes a new, multi-nodal energy market participation model for smaller Component DER.

50. PJM provides additional analysis to support its conclusion that a nodal energy market participation framework is the only technically feasible option for DER Aggregation Resources containing *large* Component DER, as well as for all DER Aggregation Resources integrated into PJM markets *at scale*.<sup>124</sup> PJM states that it performed several thorough analyses of its system topology and operational dynamics in order to assess the feasibility of accommodating DER Aggregation Resources at three levels: (1) the transmission zone; (2) the substation; and (3) specifically-defined groupings of pricing nodes.

51. PJM states that for all analyses it chose to focus on price separation—that is, the difference between locational marginal price (LMP) at different nodes or zones on the system.<sup>125</sup> PJM states that, in order for a multi-nodal energy market participation framework to be technically feasible in PJM, an analysis would need to show little to no price separation.<sup>126</sup> PJM explains that, when there is price separation, PJM is unable to send accurate dispatch instructions—which are based on LMP (a nodal, location-based framework)—to multi-nodal DER Aggregation Resources.<sup>127</sup> PJM explains that this produces an operational situation in which a multi-nodal DER Aggregation Resource is instructed to move in a direction that is unlikely to relieve a constraint, and in some circumstances may actually *exacerbate* the constraint.<sup>128</sup> PJM states that in its analyses it chose to focus on the “maximum” price separation because these intervals represent the

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<sup>123</sup> Transmittal at 20.

<sup>124</sup> *Id.* at 21-22.

<sup>125</sup> *Id.* at 22, 26, 27.

<sup>126</sup> *Id.* at 23.

<sup>127</sup> *Id.* at 22.

<sup>128</sup> *Id.* at 22-23.

periods of time when PJM operations requires the greatest flexibility in terms of dispatching resources for constraint control.<sup>129</sup>

52. PJM states that for the transmission zone and substation analyses it considered over 11,000 pricing nodes, 446 million hours of real-time LMP data, and examined a 5-year period from 2018 to 2023.<sup>130</sup> With respect to aggregation at the transmission zone level, PJM states that the results of its analysis demonstrate that virtually all pricing nodes have significant price separation when the nodal LMP is compared to the zonal LMP, and therefore aggregation of DER across such nodes could impede PJM's ability to control constraints. PJM states that at the substation level its analysis compared the LMP of individual nodes to other available nodes at a single substation, finding that only a small number of PJM load nodes could materially benefit from a substation-type aggregation model given the limited number of nodes associated with a given substation.<sup>131</sup> Moreover, PJM states that its analysis demonstrates that as the number of nodes at a substation increases, the observed maximum price separation increases as well.<sup>132</sup> PJM explains that, for substations that would meaningfully broaden the geographic potential of an aggregation (i.e., substations with many individual nodes), the observed price separation is too large to be technically feasible for PJM operations. PJM states that this aggregation approach would require continual review and potential adjustment to the groups of nodes that can be aggregated, which would be challenging to accomplish given that the transmission grid is constantly evolving and new connections lead to new congestion patterns.

53. PJM explains that it also performed an analysis to examine multi-nodal aggregations using a more customized pricing node pairing strategy.<sup>133</sup> PJM states that using the Delmarva Power & Light Co. (DPL) zone as a representative sample, PJM identified groupings of similar nodes, or nodes with a maximum difference in LMP of between \$1 and \$5. PJM states that it chose DPL because of its geographic isolation from system transfers, which makes it the best possible case among PJM zones for an

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<sup>129</sup> *Id.* at 23.

<sup>130</sup> *Id.* at 22.

<sup>131</sup> *Id.* at 25-26. For example, PJM states that 23% of load nodes did not qualify for substation aggregation, with only one node at the given substation; 54% were located at substations with a maximum of two nodes; 70% were located at stations with a maximum of 3 nodes; and 83% were located at stations with a maximum of 4 nodes. *Id.* at 26.

<sup>132</sup> *Id.* at 27.

<sup>133</sup> *Id.* at 27.

electrically broader DER Aggregation Resource and the possible pairings would be optimistic compared to other, more interconnected, transmission zones.<sup>134</sup> Under this analysis, PJM states that if PJM were required to create sub-zones inside DPL, without including nodes with dissimilar historical LMPs, PJM would require 172 distinct sub-zones in DPL alone. PJM states that, attempting to define custom sub-zones when these would be subject to changes based on observed congestion and price separation would introduce a large administrative burden to PJM, EDCs, and DER Aggregators, and would introduce regulatory uncertainty in terms of whether Component DER within the multi-nodal aggregation would be able to participate from one year to the next.<sup>135</sup>

54. PJM states that a multi-nodal energy market participation model for smaller Component DER could arguably be technically feasible so long as the participation of these multi-nodal DER Aggregation Resources does not raise operational and price signal concerns.<sup>136</sup> As such, PJM proposes a limited multi-nodal aggregation participation option, where resources may be able to aggregate between nodes if the following conditions are met: (1) the multi-nodal DER Aggregation Resource may be comprised of one or more Component DER with capability smaller than 0.1 MW; (2) Component DER at a single primary node with capability greater than 0.1 MW will be excluded from participation in the multi-nodal DER Aggregation Resource unless the total capability of all other Component DER in an aggregation is below the 0.1 MW participation threshold, as further described in the PJM Manuals; (3) the multi-nodal aggregation must self-schedule into PJM's energy market and must not be dispatchable; and (4) the total capability of all multi-nodal aggregations across PJM's footprint does not exceed 167 MW.

55. PJM explains that the first two conditions broadly ensure that Component DER that can participate in PJM's energy market at a single pricing node are required to participate nodally.<sup>137</sup> PJM states that the third condition limits the ability of multi-nodal aggregations to set the market price, and the fourth condition caps the multi-nodal aggregation option to a size that is not expected to impact PJM's ability to effectively exercise constraint control.<sup>138</sup> PJM states that it derived the 167 MW cap by taking 0.1%

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<sup>134</sup> *Id.* at 27-28; *see id.* at 28 (stating that DPL had the ability to minimize nodal pricing impact and observed price separation between nodes, from constraints that were geographically and electrically distant).

<sup>135</sup> *Id.* at 28.

<sup>136</sup> *Id.* at 29.

<sup>137</sup> *Id.* at 29.

<sup>138</sup> *Id.* at 29-30.

of the estimated summer peak load across the RTO in 2026<sup>139</sup> multiplied by the Forecast Pool Requirement.<sup>140</sup> PJM proposes to assess the multi-nodal aggregation option and, if appropriate, propose any changes to the total MW cap, once the penetration of DER Aggregation Resources participating in the multi-nodal aggregation option exceeds 90% of the total cap value. PJM states that it would seek Commission approval of any changes to the multi-nodal aggregation option in a future filing.

**c. Comments/Protests**

**i. Concerns with PJM's Analyses**

56. Several parties raise concerns with PJM's analyses of the feasibility of accommodating multi-nodal aggregation. AEU/SEIA contend that PJM's overly broad analyses focusing on maximum price separation fail to consider the impact of allowing multi-nodal aggregation on actual operational constraints, or to provide insight into the trade-offs between the benefits of facilitating increased DER participation and potentially rare and relatively inconsequential inefficiencies in dispatch.<sup>141</sup> AEU/SEIA assert that PJM's analyses show that the median price separation between nodal and zonal prices is relatively minimal for many zones over the course of the entire 5-year lookback period it considered. AEU/SEIA assert that the Commission should direct PJM to conduct further analysis that directly evaluates the impact of multi-nodal aggregation on reliable operation, rather than relying on overly broad and generalized historical pricing data.<sup>142</sup> AEMA likewise contends that PJM conflates technically feasible aggregation with maximally efficient constraint control, and argues that PJM has not explained why maximum deviations should be the sole determining factor for a qualified aggregation area.<sup>143</sup> AEMA argues that PJM concedes that some limited multi-nodal aggregation can be accommodated, suggesting that it is indeed technically feasible, though there may be

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<sup>139</sup> PJM states that the estimated summer peak load for the PJM RTO in 2026 is 152,736 MW. *Id.* at n.33 (citing PJM Load Forecast Report, Table B-1, 35 (January 2023), <https://www.pjm.com/-/media/library/reports-notice/load-forecast/2023-load-report.ashx>).

<sup>140</sup> PJM states that the Forecast Pool Requirement for the 2026/2027 Delivery Year is 1.0918. *Id.* at 30, n.34 (citing PJM Reserve Requirement Study, 8 (Oct. 4, 2022), <https://www.pjm.com/-/media/planning/res-adeq/2022-pjm-reserve-requirement-study.ashx>).

<sup>141</sup> AEU/SEIA Comments at 5-6.

<sup>142</sup> *Id.* at 6-7.

<sup>143</sup> AEMA Comments at 6, 11.

some tradeoffs in efficient management of constraint control.<sup>144</sup> Tesla states that PJM is requiring a level of precision that may be required when the market achieves “scale,” but for aggregations, the market is not at and will never get to “scale” if PJM erects unnecessary constraints at the outset.<sup>145</sup>

57. AEMA further argues PJM’s explanation for why multi-nodal energy market participation is not technically feasible fails to clearly assess several factors.<sup>146</sup> AEMA states that PJM’s reference to “accurate dispatch instruction” appears to mean optimal dispatch, and further implies, without justification, that any less than “accurate” dispatch is unlikely to relieve a constraint.<sup>147</sup> AEMA contends that PJM’s price separation analyses demonstrates only that constraints and constraint driven distribution factors (DFAX) considerations can result in at least one hour of price separation between most nodes if enough sample hours are examined.

58. AEMA avers that each of PJM’s price separation analyses are inherently flawed.<sup>148</sup> As to PJM’s transmission zone analysis, AEMA argues that PJM has not explained why infrequent price separation from zonal averages cannot be accommodated within a multi-nodal construct, nor why maximum deviations should be the sole determining factor for a qualified aggregation area.<sup>149</sup> AEMA claims that PJM does not assess whether price differences are a result of constraints or DFAX and makes no attempt to evaluate or separate known or frequent constraints. AEMA believes that acceptance of less than optimally efficient dispatch of a multi-nodal aggregation on the ‘right’ side of a constraint is a reasonable compromise to enable DER integration into wholesale markets and is also consistent with the Commission’s direction to seek the broadest technically feasible aggregation regions. AEMA also argues that PJM’s substation analysis suffers the same flaws as the transmission zone analysis.<sup>150</sup>

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<sup>144</sup> *Id.* at 7.

<sup>145</sup> Tesla Comments at 16.

<sup>146</sup> AEMA Comments at 8.

<sup>147</sup> *Id.* at 9.

<sup>148</sup> *Id.* at 10.

<sup>149</sup> *Id.* at 11.

<sup>150</sup> *Id.* at 13-14.

59. AEMA contends that PJM's analysis examining custom sub-zone aggregations in DPL suffers the same flaws as the other analyses.<sup>151</sup> Moreover, AEMA argues PJM's DPL example seems cherry-picked to be a worst-case scenario rather than a best-case multi-nodal approach because DPL has the greatest mean deviation of nodal prices from zonal averages among zones shown in Figure 1 of PJM's filing.<sup>152</sup>

60. AEMA also notes that PJM already accommodates zonal dispatch of demand response resources.<sup>153</sup> AEMA states that PJM offers no explanation of why it cannot accommodate any dispatch of zonally aggregated Component DER while it can accommodate dispatchable demand response in amounts far larger than the non-dispatchable Component DER it proposes for aggregation. AEMA also notes that PJM has proven adept at establishing subzones for dispatch of demand response capacity resources when necessary for system reliability. AEMA argues that the ability to accommodate zonal dispatch of demand resources calls into question PJM's reliance on price separation as criterion for technical feasibility.<sup>154</sup>

**ii. Concerns with Multi-Nodal Model**

61. Several parties raise concerns that PJM's proposed limited multi-nodal option is too expansive. For example, AEP, Joint Utilities, and the IMM argue that multi-nodal participation (even under PJM's 167 MW cap) may aggravate congestion and cause reliability concerns.<sup>155</sup> AEP also contends that PJM's proposal to limit DER Aggregation Resources across PJM's footprint to 167 MW is arbitrary and it is unclear whether this cap will mitigate reliability concerns of the electric distribution utilities.<sup>156</sup> AEP also avers that a small multi-nodal aggregation can still exacerbate congestion.<sup>157</sup> Joint Utilities state that Mr. Bielak, PJM's supporting witness, neither works for an EDC nor

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<sup>151</sup> *Id.* at 11-12.

<sup>152</sup> *Id.* at 12.

<sup>153</sup> *Id.* at 9.

<sup>154</sup> *Id.* at 10.

<sup>155</sup> AEP Comments at 23; Joint Utilities Comments at 29-30; *see* IMM Comments at 4-5.

<sup>156</sup> AEP Protest at 24.

<sup>157</sup> *Id.* at 23-24.



tracks multi-nodal energy activities across a wide range of DERs.<sup>158</sup> The IMM contends that the proposal would diminish PJM's ability to effectively control constraints and maintain a reliable, well-functioning market, and would distort price signals.<sup>159</sup>

62. AEP states that, should the Commission accept PJM's multi-nodal proposal, additional safeguards are necessary to remedy reliability concerns and alleviate impacts of price separation.<sup>160</sup> For example, AEP argues that a DER Aggregation Resource should not include Component DER at different pricing nodes that have experienced price separation in the 12 months preceding PJM's receipt of its registration; and if a multi-node aggregation experiences price separation between two nodes at any time, the resource must immediately disaggregate and cease participation.<sup>161</sup> AEP also recommends that PJM limit aggregations electrically to two or three pricing nodes in close proximity to enhance load flow modeling and tracking.<sup>162</sup> Further, in the context of DER Aggregation Resources that only provide ancillary services and are less than or equal to five MW, AEP argues that PJM should clarify the restriction that Component DER may interface with multiple primary pricing nodes, so long as those primary pricing nodes are in the same state, EDC service territory, and transmission zone. AEP instead recommends that, because the price of ancillary service products is not determined at pricing nodes (but rather, the price is the same across the entire footprint), PJM should restrict interfacing with pricing nodes to those located within a defined zone or sub-zonal Locational Deliverability Area, which is the restriction PJM uses for DER Capacity Aggregation Resources participating in the capacity market.<sup>163</sup> In addition, AEP argues that PJM should define and clarify the term "primary pricing node" as the term is not defined but is repeatedly used in the tariff.<sup>164</sup> AEP recommends that PJM be required to

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<sup>158</sup> Joint Utilities Comments at 29.

<sup>159</sup> IMM Comments at 4-5. The IMM also states that it is impossible to define a "rarely" constrained area in which multi-nodal aggregation could be allowed and that constraints are dynamic and often simultaneous and have changed dramatically in PJM over the last 10 years. *Id.* at 4. The IMM adds that growing participation of DERs will make defining such an area even more difficult because it will increase uncertainty in predicting congestion.

<sup>160</sup> AEP Comments at 25.

<sup>161</sup> AEP Protest at 25.

<sup>162</sup> *Id.* at 26.

<sup>163</sup> *Id.* at 26-27.

<sup>164</sup> *Id.* at 27.

review all aspects of the multi-nodal aggregation program after an implementation period to review its effectiveness and make changes, if necessary, to address safety or reliability issues.<sup>165</sup> AEP contends that this review should be conducted at the end of two years of implementation or at the same time as PJM evaluates the 167 MW cap, whichever is earlier.<sup>166</sup>

63. Similarly, Joint Utilities state that, if the multi-nodal approach is accepted, the self-scheduling requirement as proposed by PJM should not be modified, nor can PJM be required to dispatch multi-nodal DER Aggregation Resources.<sup>167</sup> Moreover, Joint Utilities argue that PJM should be required to incorporate a zonal limit to prohibit oversaturation of multi-nodal DER Aggregations in a single zone and be required to evaluate the model within a year or when sufficient data is available.

64. On the other hand, some parties assert that PJM's proposed criteria for its new multi-nodal energy market participation option needlessly limit the scope of the proposal. Tesla recommends that the Commission direct PJM to allow zonal settlements for DER aggregations, and states that, as the DER market is growing, PJM can assess the impact on its congestion management programs and energy markets.<sup>168</sup> Tesla urges that PJM only place limits based on actual data and when there is sufficient scale in penetration behind the node in question.<sup>169</sup> AEU/SEIA assert that PJM's first two criteria limit the usefulness of the option for smaller DER that may otherwise struggle to aggregate to achieve 100 kW at a single-node, because it may require them to shift from multi- to single-nodal participation as a given aggregation grows.<sup>170</sup>

65. AEU/SEIA assert that PJM has not supported 0.1 MW as the correct threshold for avoiding constraints under the multi-nodal approach, and that limiting total capability of all multi-nodal aggregations across PJM's footprint to 167 MW without appropriate

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<sup>165</sup> *Id.* at 4; 28.

<sup>166</sup> *Id.* at 28.

<sup>167</sup> Joint Utilities Comments at 30.

<sup>168</sup> Tesla Comments at 19. Tesla claims that nodal settlement of aggregations as a whole would not be appropriate while the energy purchases of residential customers are settled zonally, and asserts this could lead to uneconomic arbitrage. *Id.* at 16.

<sup>169</sup> *Id.* at 15.

<sup>170</sup> AEU/SEIA Comments at 7.

analysis is arbitrary.<sup>171</sup> AEU/SEIA claim that an RTO-wide cap does not address the need for constraint control, which is PJM's primary justification for restricting multi-nodal aggregations in the first place.<sup>172</sup> AEU/SEIA state that the notion of a cap is not rooted in Order No. 2222 and PJM does not explain why it requires an RTO-wide cap when other RTOs do not. Tesla similarly states that the 167 MW cap is overly restrictive, as it equates to less than 1/10th of 1% of PJM's total load and would reflect an average aggregation size of 0.0167 MW (16.7 kW) per node.<sup>173</sup> AEU/SEIA argues that PJM's proposal to consider changes to the cap in the future does not address concerns with imposing an arbitrary cap in the first place.<sup>174</sup> AEU/SEIA also argues that PJM's proposal is short-sighted because it is limiting the resources it can call upon for reliability during summer peak hours when DERs may still be generating power.

66. Additionally, AEMA contends that PJM's requirement that resources be self-scheduled precludes PJM's use of multi-nodal aggregations for constraint management, including by demand response and storage-based Component DER (e.g., electric vehicles, home-based batteries, or other storage-based resource types that are dispatchable).<sup>175</sup> AEMA argues that this would prevent PJM from accessing flexible resources that will become more valuable as the system evolves.

**d. Answers**

67. PJM defends the limited option for multi-nodal resources, claiming that it is as broad as technically feasible.<sup>176</sup> PJM states that it largely agrees with parties that caution against permitting broadly-defined aggregations for *all* Component DER that inject into the power grid, due to the potential impacts of such aggregations on reliable operations of the bulk electric system. PJM maintains that Component DER that can participate nodally (i.e., are large enough to meet the 100 kW participation threshold) should be required to do so in order to uphold the integrity of locational price formation and

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<sup>171</sup> *Id.* at 7-8.

<sup>172</sup> *Id.* at 8.

<sup>173</sup> Tesla Comments at 18.

<sup>174</sup> AEU/SEIA Comments at 9.

<sup>175</sup> AEMA Comments at 8.

<sup>176</sup> PJM Answer at 8.

effective constraint control, as well as to preserve the fair market treatment of all generation resources, who must similarly participate nodally.<sup>177</sup>

68. PJM states that parties expressed “diametrically opposing” views on PJM’s proposal, which suggests that PJM’s proposed approach likely strikes a middle ground that effectively balances the need to retain effective constraint control and the desire to provide a pathway for small Component DER to enter PJM’s markets.<sup>178</sup> In response to comments that the proposal is unnecessarily strict, PJM states that its criteria limit the use of the multi-nodal option *by design* in order to preserve operational flexibility while providing a pathway for market entry only to those resources that truly cannot participate nodally. In response to comments that the proposal is not stringent enough, PJM states that it disagrees that additional limitations are necessary to further reduce possible adverse impacts on reliability because they will impose larger administrative costs for a very marginal improvement in operational flexibility.<sup>179</sup> PJM asserts that its criteria ensure that the impact on price formation or PJM’s ability to control constraints stays small by requiring that Component DER that can participate nodally do so.

69. PJM also argues that its technical analysis of maximum price separation over a 5-year period is appropriate.<sup>180</sup> PJM states that it could not have excluded the highest 0.01% (1 hour/yr) of data points, as is suggested by AEMA, because the analysis would then ignore precisely the time periods when optimally effective constraint control would be required.<sup>181</sup> PJM contends that this would lead to an improper valuation of the risk associated with broad multi-nodal aggregations. PJM also asserts that AEMA’s comparison to demand response is inapposite, as Component DER and demand response have different capabilities.<sup>182</sup>

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<sup>177</sup> *Id.* at 9.

<sup>178</sup> *Id.* at 10.

<sup>179</sup> *Id.* at 10-11.

<sup>180</sup> *Id.* at 11.

<sup>181</sup> *Id.* at 11-12. PJM states that this would be akin to determining the capacity market requirement by excluding the top 0.01% hours of expected peak demand.

<sup>182</sup> *Id.* at n.22 (stating that imprecise dispatch of demand response cannot realistically worsen a constraint).

e. **Determination**

70. With respect to DER Aggregation Resources containing large Component DER, as well as for all DER Aggregation Resources integrated into PJM markets at scale, we find that PJM complies with the directive of the First Compliance Order to “provide a detailed technical explanation as required by Order No. 2222 to demonstrate that it is not technically feasible for any Component DER to aggregate more broadly than a single-node, as proposed, for energy market participation.”<sup>183</sup> Underlying its detailed technical explanation, PJM conducted a thorough examination of its system topology and operational dynamics to assess the feasibility of accommodating multi-nodal aggregations at three levels.<sup>184</sup> PJM’s explanation includes a technical evaluation of the feasibility of accommodating multi-nodal aggregations that considered over 11,000 pricing nodes and 446 million hours of real-time LMP data over a 5-year period from 2018 to 2023.<sup>185</sup> We find that PJM’s technical explanation demonstrates that a nodal energy market participation framework is the geographically broadest option that is technically feasible, at this time, for DER Aggregation Resources containing large Component DER in PJM, as well as for all DER Aggregation Resources integrated into PJM markets at scale.<sup>186</sup>

71. We disagree with protesters’ arguments that PJM’s technical analysis is flawed or otherwise inappropriate under Order No. 2222. As an initial matter, we note that Order No. 2222 provides RTOs/ISOs with “a certain degree of flexibility as to the technical aspects of a locational requirement” and recognizes that, because RTOs/ISOs “have the primary responsibility for administering regional markets and reliably operating the system,” they are “in the best position to propose on compliance the appropriate locational requirements, as long as they demonstrate that those requirements are as

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<sup>183</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 186.

<sup>184</sup> Transmittal at 22-28.

<sup>185</sup> *Id.* at 22.

<sup>186</sup> *Id.* (concluding, based on the first analysis, that “[t]he results demonstrate that virtually all pricing nodes within the PJM footprint have significant price separation when the nodal LMP is compared to the zonal LMP”); *id.* at 27 (concluding, based on the second analysis, that “[a]t substations that would meaningfully broaden the geographic potential of an aggregation (i.e., substations with many individual nodes), the observed price separation is too large for this solution to be technically feasible for PJM operations”); *see id.* at 28 (“If PJM were required to create sub-zones inside DPL, without including nodes with dissimilar historical LMPs, PJM would require 172 distinct sub-zones in DPL alone.”).

geographically broad as technically feasible.”<sup>187</sup> Order No. 2222 does not prescribe specific criteria or risk tolerance thresholds that an RTO/ISO must use in evaluating the technical feasibility of its proposed locational requirements approach.<sup>188</sup> To assess the feasibility of aggregation at the transmission zone, substation, and custom sub-zone levels, PJM examined the price separation between nodes in its analyses. PJM explains that significant price separation between nodes indicates that PJM would be unable to send accurate dispatch instructions—which are based on nodal LMP—to multi-nodal DER Aggregation Resources, and thus would be unable to effectively control constraints.<sup>189</sup> Thus, recognizing the flexibility afforded to RTOs/ISOs in Order No. 2222 to propose appropriate locational requirements, we find that price separation analyses can be used to assess the technical feasibility of multi-node aggregation. We disagree with AEMA that PJM’s ability to accommodate zonal dispatch of demand resources calls into question PJM’s reliance on price separation as a criterion for assessing the technical feasibility of multi-nodal DER Aggregation Resources because, as PJM notes, Component DERs and demand response have different capabilities and different impacts on constraints.<sup>190</sup>

72. We disagree with parties’ assertions that PJM: (1) should be required to consider some less than optimally efficient constraint control as a tradeoff for facilitating DER aggregation;<sup>191</sup> (2) must conduct further analysis of other factors beyond maximum price separation to justify its conclusion; (3) must further assess whether price differences are a result of constraints or DFAX; or (4) must further evaluate other zones than DPL to

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<sup>187</sup> Order No. 2222, 172 FERC ¶ 61,247 at PP 206-207.

<sup>188</sup> *Id.* P 204 (“To comply with this rule, each RTO/ISO must provide a detailed, technical explanation for the geographical scope of its proposed locational requirements. This explanation could include, for example, a discussion of the RTO/ISO’s system topology and regional congestion patterns, or any other factors that necessitate its proposed locational requirements.”).

<sup>189</sup> Transmittal at 22-23; *see* Bielak Aff. 2 (“An essential operational practice PJM performs to maintain reliability under [NERC and regional] standards is generation re-dispatch for constraint control. As previously discussed, resources are only effective for constraint control when PJM has visibility and dispatchability of these resources through setting appropriate congestion cost which is reflected in a nodal Locational Marginal Price (“LMP”).”).

<sup>190</sup> *See* PJM Answer at n.22 (“imprecise dispatch of demand response cannot realistically worsen a constraint on the system and certainly not to the same degree that an injecting resource can.”).

<sup>191</sup> AEU/SEIA Comments at 5-6.

support PJM's conclusions.<sup>192</sup> As to the technical explanation required by Order No. 2222, the Commission did not prescribe a singular method for making the appropriate showing. Rather, the Commission required PJM to provide a detailed technical explanation to demonstrate that it is not technically feasible for any Component DER to aggregate more broadly than a single node for energy market participation.<sup>193</sup> We find that PJM did so, particularly in light of the flexibility afforded to RTOs/ISOs on the technical aspects of their locational requirements, and thus, we find PJM need not conduct additional or alternative analyses.

73. With respect to DER Aggregation Resources generally comprised of small Component DERs, we also find that PJM complies with the directive of the First Compliance Order to propose alternative locational requirements for energy market participation that are as geographically broad as technically feasible, as well as a detailed technical explanation for their geographical scope.<sup>194</sup> We find that PJM's proposed limited, multi-nodal energy market framework reasonably balances PJM's need to efficiently control constraints against allowing broader aggregation of Component DER between nodes.<sup>195</sup>

74. We are not persuaded by protesters' arguments regarding PJM's proposed criteria for its limited, multi-nodal energy market framework. With respect to the first and second criteria, we disagree with AEU/SEIA's assertion that the 0.1 MW threshold will limit the usefulness of the proposed multi-nodal option by requiring smaller Component DER to shift from multi- to single-nodal participation as a given aggregation grows, and that PJM has not supported 0.1 MW as the correct threshold for avoiding constraints. PJM's proposed criteria are based on the principle that DER Aggregation Resources that are capable of participating as a single-node aggregation should do so,<sup>196</sup> while those that

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<sup>192</sup>AEMA Comments at 11-12.

<sup>193</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 186.

<sup>194</sup> *Id.*

<sup>195</sup> See PJM Answer at 10 ("Such opposing responses [to the criteria for the multi-nodal model] suggest that PJM's proposed approach likely strikes a middle ground that effectively balances the need to retain effective constraint control and the desire to provide a pathway for small DER to enter PJM's markets.").

<sup>196</sup> The minimum offer size for a DER Aggregation Resource is 0.1 MW. See Tariff, Definitions – C-D (31.0.1) ("A DER Aggregation Resource is capable of satisfying a minimum energy and/or ancillary services market offer of 100 kW.").

cannot be permitted to aggregate between nodes.<sup>197</sup> We find that this approach is consistent with PJM's assessment that multi-nodal aggregation is not technically feasible for aggregations containing large Component DERs in PJM.

75. We are also unpersuaded by concerns regarding PJM's third criterion, which requires aggregations to self-schedule into PJM's energy market and prohibits them from being dispatchable. AEMA contends that PJM's requirement that resources be self-scheduled precludes PJM's use of multi-nodal aggregations for constraint management. But as PJM explains, PJM intentionally precludes use of multi-nodal aggregations for constraint management in order to avoid such resources aggravating constraints due to their dynamic nature.<sup>198</sup> Therefore, we find that this limitation assures the technical feasibility of multi-nodal DER aggregation under PJM's proposal.

76. We are also unpersuaded by protests that the 167 MW cap is arbitrary and overly restrictive. We find that PJM has adequately supported its proposal, stating that 167 MW represents 0.1% of its expected peak load, and in its judgment represents the threshold where permitting multi-nodal aggregations would not significantly impact LMP formation or PJM's ability to control constraints.<sup>199</sup> We also note that PJM has committed in its tariff to evaluate whether this limit may be raised when penetration of DER Aggregation Resources participating in the multi-nodal aggregation option exceeds

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<sup>197</sup> See PJM Answer at 9 (maintaining that "Component DER that can participate nodally should be required to do so in order to uphold the integrity of locational price formation and effective constraint control"); Bielak Aff. at 5 ("As multi-nodal DER Aggregation Resources are established and their Component DER are nodally mapped to the transmission grid, Component DER will shift into nodal DER Aggregation Resources due to the 'nodal when possible' philosophy and in turn create additional space under the cap for new Component DER entry to the market.").

<sup>198</sup> See Bielak Aff. at 5 (explaining that multi-nodal aggregations cannot be effectively dispatched because they are unable to respond to nodal LMP, and that the non-dispatchable requirement safeguards against the resource responding "to a dispatch signal that can aggravate a given constraint").

<sup>199</sup> Bielak Aff. at 4 ("PJM operations has the flexibility to permit broader aggregations for the purposes of testing new models of market participation at a size that would not significantly impact LMP formation or PJM's ability to control constraints. PJM has determined that 0.1% of peak load effectively represents this threshold and that permitting multi-nodal aggregations up to this quantity would pose no challenges to grid operations and constraint control. In short, keeping the multi-nodal participation within a 0.1% penetration level can provide confidence that PJM will be able to rely on other PJM generation to maintain compliance with NERC standards.").



ninety percent of the total cap value.<sup>200</sup> At that point, we expect PJM to have sufficient experience to determine whether increasing the 167 MW cap is technically feasible.

77. We are also unpersuaded that PJM's limited multi-nodal proposal would diminish PJM's ability to maintain a reliable, well-functioning market, or that PJM should be required to incorporate additional safeguards such as limits to prevent oversaturation of multi-nodal DER Aggregation Resources in a single zone, or prohibitions on multi-nodal participation where there is price separation. We agree with PJM that its proposed criteria, which limit the size of Component DER as well as the total capability of all multi-nodal aggregations across PJM's footprint, and require such resources to be self-scheduled, sufficiently reduce possible adverse impacts on reliability,<sup>201</sup> and that additional safeguards are not necessary for compliance with Order No. 2222.

78. We disagree with AEP that PJM should clarify the restriction on interfacing with multiple primary pricing nodes for DER aggregations of *ancillary services*. This argument is outside the scope of the compliance directive in the First Compliance Order, which is solely concerned with locational requirements for resources in the *energy market*.

### **3. Information and Data Requirements**

79. In Order No. 2222, the Commission required each RTO/ISO to revise its tariff to include any requirements for distributed energy resource aggregators that establish the information and data that a distributed energy resource aggregator must provide about the physical and operational characteristics of its aggregation.<sup>202</sup> The Commission required each RTO/ISO to revise its tariff to establish any necessary physical parameters that distributed energy resource aggregators must submit as part of their registration process only to the extent these parameters are not already represented in general registration

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<sup>200</sup> Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(c); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(c).

<sup>201</sup> Bielak Aff. 3 (“Restricting the size of the Component DER that are able to participate in a multi-nodal aggregation is a core component of the technical feasibility of this approach. Specifically, it ensures that PJM operations have complete dispatchability of Component DER that are most likely to impact a constraint and can therefore rely on them to respond to nodal LMP.”).

<sup>202</sup> Order No. 2222, 172 FERC ¶ 61,247 at 236.

requirements or bidding parameters applicable to distributed energy resource aggregations.<sup>203</sup>

80. The Commission also required each RTO/ISO to revise its tariff to establish any necessary information that must be submitted for the individual distributed energy resources.<sup>204</sup>

**a. First Compliance Order**

81. In the First Compliance Order, the Commission found that PJM partially complied with the requirements of Order No. 2222 to revise its tariff to: (1) include any requirements for distributed energy resource aggregators that establish the information and data that a distributed energy resource aggregator must provide about the physical and operational characteristics of its aggregation; and (2) establish any necessary information that must be submitted for the individual distributed energy resources.<sup>205</sup>

82. The Commission found that, although PJM revised its tariff to require DER Aggregators to provide certain information (e.g., the electric distribution company customer account number), PJM had not sufficiently identified and explained the specific information that it proposed to require the DER Aggregator to provide about the individual distributed resources within an aggregation, as Order No. 2222 requires.<sup>206</sup>

83. First, the Commission found that, as to PJM's proposal to require "[e]vidence of approval to interconnect, including but not limited to a finalized interconnection agreement, with the applicable Component DER," the phrase "not limited to" introduces ambiguity as to what evidence PJM is requiring.<sup>207</sup> The Commission found that PJM should explain whether the required interconnection agreement should be between the electric distribution company and the Component DER, or the electric distribution company and the DER Aggregator.

84. Second, the Commission found that PJM's proposed tariff language requiring the DER Aggregator to provide "associated physical and transmission system electrical

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<sup>203</sup> *Id.* P 237.

<sup>204</sup> *Id.* P 236.

<sup>205</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 219 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 236).

<sup>206</sup> *Id.* P 220 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 238).

<sup>207</sup> *Id.* P 221.

location information of the applicable Component DER” is unclear.<sup>208</sup> The Commission found that, while PJM had generally explained the need for this electrical location information (i.e., to enable PJM to map Component DER to an individual node), PJM had not identified the specific information a DER Aggregator is required to provide.

85. Third, the Commission found that PJM had not identified or explained the specific information that the DER Aggregator is required to obtain and verify in coordination with the electric distribution company regarding “compliance with applicable PJM and electric distribution company metering and telemetry requirements.”<sup>209</sup> The Commission also noted that electric distribution companies are not responsible for evaluating PJM’s metering and telemetry requirements for DER Aggregation Resources, and that electric distribution company’s metering and telemetry requirements may not all be the same.

86. Accordingly, the Commission directed PJM to make a further compliance filing identifying and explaining the proposed information requirements for the individual distributed energy resources with respect to: (1) evidence of approval to interconnect, and (2) associated physical and transmission system electrical location information of the applicable Component DER, including compliance with applicable PJM and electric distribution company metering and telemetry requirements.<sup>210</sup>

**b. Filing**

87. PJM proposes to fully remove references from the tariff to the informational requirements proposed in the First Compliance Filing.<sup>211</sup> PJM explains that, as originally proposed, its tariff language was meant to demonstrate the *type* of information and data components that would be required, not provide an exhaustive list of such requirements. PJM states that, because the original language was not exhaustive and created ambiguity, PJM proposes to remove the illustrative examples from the tariff entirely. PJM states that, in light of the fact that the Commission did not mandate that each RTO/ISO revise its tariff to require distributed energy resource aggregators to provide the RTO/ISO with specific information about each of the distributed energy resources,<sup>212</sup> PJM believes that

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<sup>208</sup> *Id.* P 222 (citing Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b)(i); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b)(i)).

<sup>209</sup> *Id.* P 233.

<sup>210</sup> *Id.* P 224.

<sup>211</sup> Transmittal at 33.

<sup>212</sup> *Id.* at 34.

its proposal to fully remove references to the informational requirements is appropriate under the requirements of Order No. 2222.

88. Although PJM proposes to remove the references to these informational requirements, PJM clarifies that the DER Aggregator will be required to obtain, verify, and provide a variety of information during registration about each Component DER.<sup>213</sup> PJM also explains that the specific information and data required of each Component DER during registration will be fully enumerated and described in the relevant PJM Manuals, as is currently the case for demand response participating in PJM's energy, capacity, and ancillary services markets.

**c. Comments**

89. AEP notes that PJM proposes to define the relevant location and data components that represent each Component DER in the PJM Manuals.<sup>214</sup> AEP states that, to enable the EDC to complete the necessary verifications and data review, the PJM Manuals will need to be specific, detailed, and granular, and include verified owners of the distribution and transmission equipment, impacted by the aggregation. AEP asserts that a lack of granular Component DER data could lead to misinterpretations of requirements, inefficient reviews, or recommendations by EDCs to disapprove a Component DER based on incomplete or erroneous information.<sup>215</sup> AEP urges PJM to conduct a robust and expeditious stakeholder process to ensure that the PJM Manuals contain the appropriate specificity by the implementation date of PJM's DER aggregation proposal. AEP also states that PJM should include in the PJM Manuals a requirement that a complete registration for participation in the PJM markets must include documentation that each Component DER to be included in the DER Aggregation Resource has an interconnection agreement or similar contract that meets current EDC and state interconnection requirements.<sup>216</sup> AEP argues that such a requirement is consistent with PJM's expressed expectation that Component DER will be required to satisfy state or local-jurisdictional requirements and retail distribution utility requirements to interconnect.<sup>217</sup> AEP argues that the requirement for a Component DER to have the

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<sup>213</sup> *Id.* at 33.

<sup>214</sup> AEP Comments at 11.

<sup>215</sup> *Id.* at 12.

<sup>216</sup> *Id.* at 12-13.

<sup>217</sup> *Id.* at 13 (citing First Compliance Order, 182 FERC ¶ 61,143 at P 45).

proper interconnection agreement or equivalent ensures that the scope of the EDC's reliability review is implemented appropriately.

**d. Determination**

90. We find that PJM's proposal does not comply with the directives of the First Compliance Order. In response to the directive to identify and explain the information requirements for Component DER that PJM proposed in its tariff, PJM proposes to remove references in its tariff to all information and data requirements, and to instead describe such information in the relevant PJM Manuals. PJM's proposal is not compliant for two reasons. First, PJM does not identify and explain the information requirements that the Commission found ambiguous and unclear.<sup>218</sup> Second, because PJM states that the DER Aggregator must provide information about each Component DER, and because the tariff does not state the information requirements, PJM fails to comply with the requirement of Order No. 2222 that each RTO/ISO "revise its tariff" to establish any necessary information that must be submitted for the individual distributed energy resources.<sup>219</sup>

91. With regard to this issue, we are not persuaded by PJM's reading of Order No. 2222. The Commission in Order No. 2222 did not mandate that each RTO/ISO revise its tariff to require distributed energy resource aggregators to provide the RTO/ISO with specific information about each of the distributed energy resources.<sup>220</sup> If the RTO/ISO needs information about the individual distributed energy resources, however, then the RTO/ISO must first establish those information requirements in its tariff.<sup>221</sup> Further

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<sup>218</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 224.

<sup>219</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 236 ("Specifically, we require each RTO/ISO to *revise its tariff* to . . . establish any necessary information that must be submitted for the individual distributed energy resources." (emphasis added)).

<sup>220</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 238.

<sup>221</sup> *Id.* P 236 ("Specifically, we require each RTO/ISO to *revise its tariff* to . . . establish any necessary information that must be submitted for the individual distributed energy resources."); see MISO Compliance Order, 185 FERC ¶ 61,011 at P 173 (requiring MISO to revise its tariff if MISO requires additional information from individual DERs); NYISO Compliance Order, 179 FERC ¶ 61,198 at P 171 (finding that NYISO's proposed approach to include all of its information requirements in various registration materials, business practice manuals, and user guides does not comply with Order No. 2222).

details regarding such information requirements may be included in the relevant PJM Manuals.

92. Accordingly, we direct PJM to file, within 30 days of the date of issuance of this order, a further compliance filing revising its tariff to establish any necessary information that must be submitted for the individual Component DER and identifying and explaining the proposed information requirements for the individual distributed energy resources as directed in the First Compliance Order.

#### **4. Metering and Telemetry System Requirements**

93. In Order No. 2222, the Commission required each RTO/ISO to revise its tariff to establish market rules that address metering and telemetry hardware and software requirements necessary for distributed energy resource aggregations to participate in RTO/ISO markets.<sup>222</sup> The Commission stated that it would not prescribe the specific metering and telemetry requirements that each RTO/ISO must adopt; rather, the Commission provided the RTOs/ISOs with flexibility to establish necessary metering and telemetry requirements, and required each RTO/ISO to explain in its compliance filing why such requirements are just and reasonable and do not pose an unnecessary and undue barrier to individual distributed energy resources joining a distributed energy resource aggregation.<sup>223</sup>

94. The Commission found that metering and telemetry requirements significantly affect the terms and conditions of the participation of distributed energy resource aggregations in RTO/ISO markets and, therefore, must be included in the RTO/ISO tariffs.<sup>224</sup> The Commission found that the RTO/ISO tariffs should include a basic description of the metering and telemetry practices for distributed energy resource aggregations as well as references to specific documents that will contain further technical details.

##### **a. First Compliance Order**

95. In the First Compliance Order, the Commission found that PJM's proposal partially complied with the requirement to revise its tariff to establish market rules that address metering requirements necessary for distributed energy resource aggregations to participate in RTO/ISO markets and to explain why its proposed metering requirements are just and reasonable and do not pose an unnecessary and undue barrier to individual

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<sup>222</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 262.

<sup>223</sup> *Id.* P 263.

<sup>224</sup> *Id.* P 271.

distributed energy resources joining a distributed energy resource aggregation.<sup>225</sup> In the First Compliance Order, the Commission found that PJM's basic description of its metering practices for DER Aggregation Resources in its tariff is incomplete because it lacks the deadline for meter data submission for settlements.<sup>226</sup> The Commission found that the meter data submission deadline is a key component of metering practices for DER Aggregators and therefore should be included in the tariff. Accordingly, the Commission directed PJM to make a further compliance filing to revise PJM's tariff to include the meter data submission deadline for settlement.

96. With respect to telemetry, the Commission found that PJM partially complied with the requirement to revise its tariff to establish market rules that address telemetry requirements necessary for distributed energy resource aggregations to participate in RTO/ISO markets and to explain why its proposed telemetry requirements for distributed energy resource aggregations are just and reasonable and do not pose an unnecessary and undue barrier to individual distributed energy resources joining a distributed energy resource aggregation.<sup>227</sup> The Commission found that PJM's basic description of its telemetry practices in its tariff is incomplete because it does not indicate that a DER Aggregation Resource under 10 MW that is only participating in the energy market is exempted from telemetry requirements, whereas PJM so indicated in its transmittal and data request response. Accordingly, the Commission directed PJM to make a further compliance filing to revise PJM's tariff to clarify that exemption, consistent with PJM's representations.

**b. Filing**

97. PJM proposes to modify its tariff to clarify that in order to settle the DER Aggregation Resource, all meter data must be submitted to PJM within one business day.<sup>228</sup> PJM states that this requirement mirrors the deadline currently in place for generation resources in PJM's territory, as detailed in the Power Meter and InSchedule submission deadlines.<sup>229</sup> PJM also proposes to modify its tariff to state that a DER Aggregation Resource that is less than 10 MW and that solely participates in PJM's

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<sup>225</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 249.

<sup>226</sup> *Id.* (citing NYISO Compliance Order, 179 FERC ¶ 61,198 at P 205).

<sup>227</sup> *Id.* P 251.

<sup>228</sup> Transmittal at 35.

<sup>229</sup> *Id.* (citing PJM, Current Power Meter and InSchedule Submission Deadlines (June 1, 2015), <https://www.pjm.com/-/media/etools/power-meter/power-meter-and-inschedule-submission-deadlines.ashx>).

energy market is exempt from PJM's telemetry requirements, unless otherwise specified in the PJM Manuals.<sup>230</sup> PJM clarifies, though, that individual generators, or Component DER in the DER Aggregator Participation Model, may be required to provide real-time telemetry under a specific set of circumstances, which are detailed in in PJM Manual 14D, section 4.2.2 and 4.2.3.<sup>231</sup>

**c. Comments/Protests**

98. Joint Utilities raise concerns about PJM's proposed meter data submission deadline.<sup>232</sup> Joint Utilities state that, while such requirement may be used for larger generation resources, it may not be appropriate for smaller DER or aggregated resources. Joint Utilities state that, if PJM intends to allow DER Aggregators to use EDC interval metering to provide this data, 24 hours will not suffice.<sup>233</sup> They explain that EDC meter data is generally not 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 process and will not be available to the EDCs within the 24-hour period.<sup>234</sup> Joint Utilities further state that it may not be feasible or practical for electric distribution utilities to obtain meter data for net energy metering customers even within 30 days.<sup>235</sup> Joint Utilities also state that it is unclear whether the DER Aggregator would be able to provide the settlement data to PJM via their own metering in one day.

99. Joint Utilities raise concerns about PJM allowing DER Aggregation Resources to gauge the load reductions or energy injections obtained from multiple device types per premise or to extrapolate usage to other premises that do not utilize interval metering given the wide variety of new DER types and unique usage patterns.<sup>236</sup> Additionally, Joint Utilities argue that it is irrational to base payments on an assumption of load reduction or energy injections at a given location if interval metering is in place.

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<sup>230</sup> *Id.* at 37.

<sup>231</sup> *Id.* at 37-38. *See* PJM, Manual 14D: Generator Operational Requirements, § 4.2.2 (rev. 62, Dec. 21, 2022).

<sup>232</sup> Joint Utilities Protest at 26.

<sup>233</sup> *Id.* at 24.

<sup>234</sup> *Id.* at n.56.

<sup>235</sup> *Id.* at 24.

<sup>236</sup> *Id.* at 25-26.



100. Joint Utilities state that it is vital that EDCs retain the ability to properly verify that applicable metering and telemetry requirements are met by each Component DER.<sup>237</sup> Moreover, Joint Utilities argue that PJM must review more complex use cases with its stakeholders to determine what additional detail must be set forth in the tariff and manuals.<sup>238</sup> Joint Utilities urge the Commission to direct PJM to convene its stakeholder process to work towards a more technically feasible and practical solution.

**d. Determination**

101. We find that PJM's proposal partially complies with the directives of the First Compliance Order. We find that PJM complies with the directive to clarify in its tariff that a DER Aggregation Resource under 10 MW that is only participating in the energy market is exempted from telemetry requirements.<sup>239</sup> However, as to metering, we find that PJM has partially complied with the directives of the First Compliance Order. PJM proposes to revise its tariff to state that "[m]eter data shall be submitted to the Office of Interconnection within one business day," and notes that the proposed deadline mirrors the deadline for generation resources in PJM's territory.<sup>240</sup> However, we find that PJM does not adequately explain why the requirement to submit meter data within one business day is just and reasonable and does not pose an unnecessary and undue barrier to individual distributed energy resources joining a distributed energy resource aggregation.<sup>241</sup> For instance, we note that PJM has not addressed Joint Utilities' assertion that EDC meter data may not be readily available and, therefore, it may not be feasible for DER Aggregators in PJM to meet this deadline. Accordingly, we direct PJM to file a

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<sup>237</sup> *Id.* at 25.

<sup>238</sup> *Id.* at 25-26.

<sup>239</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 251; Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(e); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(e) ("This telemetry requirement shall not apply to a DER Aggregation Resource exclusively participating in the energy market that is less than 10 MW, notwithstanding the technical specifications described in the PJM Manuals.").

<sup>240</sup> Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(e); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(e).

<sup>241</sup> *See* First Compliance Order, 182 FERC ¶ 61,143 at P 249 (finding that PJM partially complied with the requirement to revise its tariff to establish market rules that address metering requirements for distributed energy resource aggregations and to explain why its proposed metering requirements are just and reasonable and do not pose an unnecessary and undue barrier to individual distributed energy resources joining a distributed energy resource aggregation).

further compliance filing, within 30 days of the date of issuance of this order, to further explain why its proposed metering requirement is just and reasonable and does not pose an unnecessary and undue barrier to individual distributed energy resources joining a distributed energy resource aggregation or to propose alternative tariff language that complies with this requirement of Order No. 2222.

102. We decline to require PJM to impose additional restrictions on how PJM gauges the load reductions or energy injections obtained from Component DER or to require PJM to convene a stakeholder process, as Joint Utilities request. We find that those requests are outside the scope of the metering and telemetry compliance directives in the First Compliance Order, which are focused on the meter data submission deadline and clarification of the circumstances under which a DER Aggregation Resource is exempt from PJM's telemetry requirements.

**5. Coordination between the RTO/ISO, Aggregator, and Distribution Utility**

**a. Role of Distribution Utilities**

**i. Pre-Registration and Registration Process**

103. In Order No. 2222, the Commission required each RTO/ISO to modify its tariff to incorporate a comprehensive and non-discriminatory process for timely review by a distribution utility of the individual distributed energy resources that comprise a distributed energy resource aggregation, which is triggered by initial registration of the distributed energy resource aggregation or incremental changes to a distributed energy resource aggregation already participating in the markets.<sup>242</sup> The Commission required each RTO/ISO to demonstrate on compliance that its proposed distribution utility review process is transparent, provides specific review criteria that the distribution utilities should use, and provides adequate and reasonable time for distribution utility review.<sup>243</sup>

104. More specifically, the Commission stated that each RTO/ISO must coordinate with distribution utilities to develop a distribution utility review process that includes criteria by which the distribution utilities would determine whether (1) each proposed distributed energy resource is capable of participation in a distributed energy resource aggregation; and (2) the participation of each proposed distributed energy resource in a distributed energy resource aggregation will not pose significant risks to the reliable and

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<sup>242</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 292.

<sup>243</sup> *Id.* P 293.

safe operation of the distribution system.<sup>244</sup> In Order No. 2222-A, the Commission clarified that only the distribution utility hosting a distributed energy resource (i.e., the utility that owns and/or operates the distribution system to which the resource is interconnected) should be given an opportunity to review the addition of that resource to a distributed energy resource aggregation.<sup>245</sup>

105. The Commission also required each RTO/ISO to revise its tariff to specify the time that a distribution utility has to identify any concerns regarding a distributed energy resource seeking to participate in the RTO/ISO markets through an aggregation.<sup>246</sup> The Commission stated that each RTO/ISO should propose a timeline that reflects its regional needs.<sup>247</sup> In Order No. 2222-A, the Commission limited the length of distribution utility review to no more than 60 days.<sup>248</sup> The Commission stated that, if an RTO/ISO believes unusual circumstances could give rise to the need for additional distribution utility review time, the RTO/ISO may propose provisions for certain exceptional circumstances that may justify additional review time.<sup>249</sup> The Commission encouraged shorter review periods for smaller aggregations and resources to the maximum extent practicable, and reiterated that any proposed review period must be shown to be reasonable based on what is being reviewed.<sup>250</sup>

106. In Order No. 2222, the Commission stated that the RTOs/ISOs must include potential impacts on distribution system reliability as a criterion in the distribution utility review process.<sup>251</sup> The Commission clarified in Order No. 2222-A that, when the Commission found that RTOs/ISOs must include potential impacts on distribution system reliability as a criterion in the distribution utility review process, the Commission was

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<sup>244</sup> *Id.* P 292.

<sup>245</sup> Order No. 2222-A, 174 FERC ¶ 61,197 at P 70.

<sup>246</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 295.

<sup>247</sup> *Id.* The Commission stated that any distribution utility review must be completed within a limited but reasonable amount of time and that it expects a reasonable amount of time may vary among RTOs/ISOs but should not exceed 60 days.

<sup>248</sup> Order No. 2222-A, 174 FERC ¶ 61,197 at P 72 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 295).

<sup>249</sup> *Id.*

<sup>250</sup> *Id.*

<sup>251</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 297.

referring specifically to any incremental impacts from a resource's participation in a distributed energy resource aggregation that were not previously considered by the distribution utility during the interconnection study process for that resource.<sup>252</sup>

(a) **First Compliance Order**

107. In the First Compliance Order, the Commission found that PJM's proposed registration review period partially complies with the requirement to provide adequate and reasonable time for distribution utility review that does not exceed 60 days.<sup>253</sup> The Commission found that, because PJM's proposed pre-registration process involving coordination by the electric distribution company and DER Aggregator to verify certain information is mandatory but contains no deadline or obligation for timely coordination and review by the electric distribution company, an electric distribution company could unduly delay or erect barriers to distributed energy resource aggregation participation in the wholesale markets by failing to verify the necessary information in a timely manner or simply through inaction. The Commission found that, as a result, the unbounded timeframe may create undue barriers to entry for distributed energy resource aggregations, in contravention of Order No. 2222.<sup>254</sup> Accordingly, the Commission directed PJM to file a further compliance filing that revises its distribution utility review process to comply with the requirement to provide adequate and reasonable time for distribution utility review that does not exceed 60 days, and that incorporates any distribution utility verification into the 60-day process.

108. In the First Compliance Order, the Commission also found that PJM's proposed triggering event for distribution utility review with respect to incremental changes to a DER Aggregation Resource (i.e., the DER Aggregator's notice to PJM) does not comply with Order No. 2222 because it could result in the 60-day review period commencing before the electric distribution company has received the data necessary to perform its assessment.<sup>255</sup> Accordingly, the Commission required PJM to make a further compliance

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<sup>252</sup> Order No. 2222-A, 174 FERC ¶ 61,197 at P 79 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 297).

<sup>253</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 300. The Commission also found that PJM partially complies with the requirements of Order No. 2222 that address modifications to the list of resources in a distributed energy resource aggregation, noting the Commission's directive that PJM revise its pre-registration process, which applies to modifications as well as initial registrations. First Compliance Order, 182 FERC ¶ 61,143 at P 386 n.742.

<sup>254</sup> *Id.* (citing Order No. 2222, 172 FERC ¶ 61,247 at P 279).

<sup>255</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 298.

filing that revises its distribution utility review process such that the 60-day distribution utility review period for incremental changes occurs upon PJM transmitting the necessary information to the electric distribution company.<sup>256</sup> The Commission also directed PJM to make a further compliance filing that revises its tariff to clarify that only the distribution utility hosting a Component DER has the opportunity to review the addition of that resource to a DER Aggregation Resource, as required by Order No. 2222-A.<sup>257</sup>

109. The Commission also found that PJM's proposal to allow the RERRA to assign authority to physically operate and/or dispatch Component DER during the registration process does not appear to comply with the plain language of Order No. 2222, which states that the "distributed energy resource aggregator would be responsible for . . . dispatching . . . the individual distributed energy resources in its aggregation."<sup>258</sup> Accordingly, the Commission directed PJM to submit a further compliance filing that revises its tariff to designate the DER Aggregator as responsible for dispatching the Component DER in its aggregation or to explain how its proposed tariff language is consistent with this requirement.<sup>259</sup>

110. The Commission also found that PJM's proposal does not comply with the requirement of Order No. 2222 that the specific information regarding a distributed energy resource that is provided by a distribution utility to an RTO/ISO as part of the distribution utility review process be shared with the distributed energy resource aggregator.<sup>260</sup> Accordingly, the Commission directed PJM to make a further compliance filing that requires PJM to share with the DER Aggregator any information regarding a

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<sup>256</sup> The Commission also found that PJM partially complies with the requirements of Order No. 2222 that address modifications to the list of resources in a distributed energy resource aggregation, noting the Commission's directive that PJM revise its distribution utility review process for incremental changes so that the review period is triggered once PJM transmits the necessary information to the electric distribution company. First Compliance Order, 182 FERC ¶ 61,143 at P 386.

<sup>257</sup> *Id.* P 299; Order No. 2222-A, 174 FERC ¶ 61,197 at P 70.

<sup>258</sup> First Compliance Order, 182 FERC ¶ 61,143 at 302 (quoting Order No. 2222, 172 FERC ¶ 61,247 at P 239).

<sup>259</sup> *Id.* The Commission also found that PJM partially complied with the Order No. 2222 requirements regarding the role of RERRAs and noted that the Commission required further compliance regarding PJM's proposed role for the RERRA with respect to dispatch authority during the registration process. *Id.* P 372.

<sup>260</sup> *Id.* P 303 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 292; Order No. 2222-A, 174 FERC ¶ 61,197 at P 75).

Component DER that is provided by a distribution utility to PJM as part of the distribution utility review process.

(b) **Filing**

111. In response to the Commission's directive pertaining to the registration review process, PJM proposes to separate the distribution utility review into two distinct periods.<sup>261</sup> The first is a 15-calendar day period to be triggered once the EDC is notified that a DER Aggregator has successfully registered a Component DER in the applicable PJM system. During this initial review period, PJM explains that the 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. Additionally, during this 15-calendar day period, the EDC will need to provide the primary electrical node associated with the Component DER.<sup>262</sup> PJM states that, at the conclusion of this initial review period, or earlier if practical, the EDC may recommend that PJM approve the Component DER.<sup>263</sup>

112. PJM states that, following that 15-day review period, the DER Aggregator will be able to designate DER Aggregation Resources comprising one or more of the approved Component DER.<sup>264</sup> PJM states that the second review period will be triggered by this designation. PJM states that the second review period will be 45-calendar days during which the EDC may perform any reliability assessments necessary to determine that the participation of the DER Aggregation Resource in the PJM energy, capacity, and/or ancillary services markets does not pose a threat to the reliable and safe operation of the distribution system, the public, or distribution utility personnel. At the conclusion of the second review period, or earlier if practical, the EDC may recommend that PJM approve or deny the participation of the DER Aggregation Resource.

113. PJM states that its proposed bifurcation of the review period effectively balances DER Aggregators' need for a reasonably quick review of the basic data and information components pertaining to an individual Component DER with the desire of EDCs to have sufficient time to conduct a thorough reliability assessment of any potential incremental impacts caused by the DER Aggregation Resource that were not considered during the

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<sup>261</sup> Transmittal at 41.

<sup>262</sup> *Id.* at 41-42.

<sup>263</sup> *Id.* at 42.

<sup>264</sup> *Id.* at 42.

interconnection of the Component DER.<sup>265</sup> Moreover, PJM states that the proposed time limits ensure that, in total, the review does not exceed 60 days.<sup>266</sup>

114. Moreover, PJM proposes to modify its tariff to specify that the distribution utility review period commences upon the EDC's receipt of notification of any proposed update, including all applicable information and data.<sup>267</sup> PJM also proposes to modify its tariff to specify that the EDC hosting the Component DER is the entity responsible for reviewing the addition of that resource to a DER Aggregation.<sup>268</sup>

115. PJM also proposes to modify its tariff to state that a DER Aggregator is responsible for dispatching the Component DER in accordance with PJM's dispatch instructions for the DER Aggregation Resource, unless the DER Aggregator elects to designate another entity to dispatch the Component DER.<sup>269</sup> PJM states that a DER Aggregator—as is the case for all resources within PJM—may elect to designate another entity to interface with PJM and receive and respond to PJM dispatch instructions.<sup>270</sup> PJM notes that this role of interfacing with PJM operations does not change or remove the DER Aggregator's responsibility to dispatch the Component DER in response to the DER Aggregation Resource's dispatch signal(s).

116. PJM also proposes to modify its tariff to specify that the DER Aggregator will be able to access any information pertaining to a Component DER that has been provided by the EDC to PJM.<sup>271</sup>

**(c) Comments/Protests**

117. Joint Utilities and AEP each raise concerns with the time periods associated with EDC review of DER Aggregation Resources. Joint Utilities state that the proposed tariff revisions are silent as to the rules that will be applied in cases where an EDC identifies inaccurate, incomplete, or missing data upon commencing its initial 15-day and/or 45-day

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<sup>265</sup> *Id.*

<sup>266</sup> *Id.* at 42-43.

<sup>267</sup> *Id.* at 39.

<sup>268</sup> *Id.* at 40.

<sup>269</sup> *Id.* at 45-46.

<sup>270</sup> *Id.* at 45.

<sup>271</sup> *Id.* at 47.

review or upon subsequent DER Aggregation list change requests.<sup>272</sup> Joint Utilities therefore urge the Commission to direct PJM to specify 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.<sup>273</sup> AEP further argues that PJM should revise its tariff to permit more than 45-calendar days for the reliability review if the EDC completes its initial Component DER review and verification in fewer than 15 calendar days.<sup>274</sup> AEP contends that this clarification would preserve the full 60-calendar day period for the EDC to complete its review. Joint Utilities further argue that, because of significant revisions to the registration process, PJM should add an exceptional circumstances provision to its tariff to address circumstances where an EDC acting in good faith may require an extension to the 60-day review period, consistent with Order No. 2222-A.<sup>275</sup>

118. AEP further seeks clarification of, and suggests modifications to, the proposed bifurcated EDC review process.<sup>276</sup> AEP argues that PJM should make clear in the tariff that, if the EDC is unable to verify the Component DER and associated information within the 15-calendar day review period, then the EDC may disapprove of the Component DER and such Component DER would be ineligible for inclusion in a DER Aggregation Resource.<sup>277</sup> AEP contends that this clarification would comport with PJM's statement in its transmittal letter that an EDC may recommend that PJM deny a Component DER's participation on grounds that it would result in double counting.<sup>278</sup>

119. AEP states that PJM's proposal to allow the DER Aggregator to designate which of the approved Component DER to include in its DER Aggregation Resource after the 15-calendar day review period is a new decision point that was not included in PJM's

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<sup>272</sup> Joint Utilities Protest at 18-19.

<sup>273</sup> *Id.* at 20-21.

<sup>274</sup> AEP Protest at 10.

<sup>275</sup> Joint Utilities Protest at 21-23 (citing Order No. 2222-A, 174 FERC ¶ 61,197 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>276</sup> AEP Protest at 3.

<sup>277</sup> *Id.* at 8-9.

<sup>278</sup> *Id.* at 9 (citing Second Compliance Filing at 14).



First Compliance Filing nor discussed through the PJM stakeholder process.<sup>279</sup> AEP recommends that PJM amend its tariff to specify that (1) following the approval by the EDC and PJM of the Component DER after the 15-calendar day period, the DER Aggregator will have 5-business days either to designate the DER Aggregation Resource, which must include all of the approved Component DER, or notify PJM that it will not go forward with the DER Aggregation Resource; and (2) the 5-business day time period for the DER Aggregator's designation decision will be outside of the 60-calendar day period for EDC review.<sup>280</sup> AEP argues that requiring designation of all approved Component DER would promote efficiency and discourage speculative registrations.<sup>281</sup> AEP also argues that an EDC's reliability review should not be cut short because of the timing of the DER Aggregator's designation decision.<sup>282</sup>

120. AEP also argues that PJM should be required to reevaluate the bifurcated review proposal after a period of implementation.<sup>283</sup> AEP contends that EDCs will need to develop new internal processes to efficiently and effectively meet the deadlines prescribed in PJM's proposal and only after gaining experience implementing the proposal will it be evident whether the bifurcation structure is successful.<sup>284</sup> AEP recommends that PJM should be required to revisit the bifurcated review process in its entirety after two years of implementation or at the same time it evaluates the 167 MW cap for participation of small multi-nodal aggregations, whichever is earlier. Moreover, AEP argues that PJM should be required to file a report with the Commission, and if necessary, begin a stakeholder process to develop any changes necessary to address any issues.

121. Ohio Commission believes that some additional clarification may be beneficial to PJM's proposed changes to the registration provisions.<sup>285</sup> Ohio Commission states that it appears that PJM's proposed changes shift the focus from registration of a DER Aggregator to registration of Component DER. For example, Ohio Commission notes that PJM's compliance filing contains numerous references to "a complete registration

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<sup>279</sup> *Id.* at 18.

<sup>280</sup> *Id.* at 18-19.

<sup>281</sup> *Id.* at 19.

<sup>282</sup> *Id.* at 20.

<sup>283</sup> *Id.*

<sup>284</sup> *Id.* at 21.

<sup>285</sup> Ohio Commission Comments at 4.

from the DER Aggregator,” and “the registration process.”<sup>286</sup> But Ohio Commission argues that it is unclear whether the registration process refers to a registration for the DER Aggregator itself, or a registration of the aggregated Component DER, or a combination. Ohio Commission states that, because the registration process includes important verifications and other elements that should support reliability, it would be helpful for state regulatory agencies to have a clearer understanding of how the process will involve both DER Aggregators and Component DER.

122. Additionally, Ohio Commission states that PJM’s First Compliance Filing contained a definition of “DER Aggregator,” which provided in part that a DER Aggregator is an entity that has an executed DER Aggregator Participation Service Agreement (DAPSA).<sup>287</sup> Ohio Commission adds that the DAPSA stipulates that the DER Aggregator satisfy “all requisite qualification and eligibility criteria for receiving DER Aggregator Participation Service from PJM, ... comply with all operational and safety directives of PJM, and ... comply with all applicable provisions of the PJM Tariff, Attachment K-Appendix, Operating Agreement, Schedule 1, and the PJM Manuals.”<sup>288</sup> Accordingly, Ohio Commission states that it may help to clarify whether the provisions in this compliance filing regarding registration impacted the DAPSA; and whether the definition of a DER Aggregator (and associated DAPSA) will take effect in 2026.<sup>289</sup> Ohio Commission also requests that PJM add language to its tariff to clarify that PJM will be the entity that notifies the EDC of any proposed updates to the Component DER within a DER Aggregation Resource.<sup>290</sup>

**(d) Determination**

123. As an initial matter, we find that PJM complies with the directives of the First Compliance Order to: (1) revise its tariff to designate the DER Aggregator as responsible

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<sup>286</sup> *Id.* (citing Second Compliance Filing, attach. A, at 16, 17, 20).

<sup>287</sup> Ohio Commission Comments at 4-5 (citing First Compliance Filing at 28).

<sup>288</sup> *Id.* at 5 (quoting First Compliance Filing at 90).

<sup>289</sup> *Id.* Ohio Commission explains that the first set of tariff changes, originally to take effect in 2023, as filed in the First Compliance Filing and refiled in Docket No. ER23-2841 on September 14, 2023, employ the term “DER Aggregator” without a definition. Ohio Commission notes that the portion of the 2026 tariff containing the definition of a DER Aggregator was not included in the Second Compliance Filing.

<sup>290</sup> *Id.* at 7.

for dispatching the Component DER in its aggregation;<sup>291</sup> (2) share with the DER Aggregator any information regarding a Component DER that is provided by a distribution utility to PJM as part of the distribution utility review process;<sup>292</sup> (3) clarify that only the distribution utility hosting a Component DER has the opportunity to review the addition of that resource to a DER Aggregation Resource;<sup>293</sup> (4) revise its tariff to clarify that the scope of the distribution utility review of distribution system reliability impacts is limited to any incremental impacts from a resource's participation in a distributed energy resource aggregation that were not previously considered by the distribution utility during the interconnection study process for that resource;<sup>294</sup> and (5) include criteria in its tariff by which the distribution utilities will determine whether each proposed distributed energy resource is capable of participating in a distributed energy resource aggregation.<sup>295</sup> PJM's compliance with these requirements is not contested in this proceeding. We address the remainder of PJM's registration proposal below and we direct PJM to submit a limited further compliance filing.

124. We find that PJM partially complies with the directive of the First Compliance Order to revise its tariff to provide adequate and reasonable time for distribution utility review that does not exceed 60 days, and that incorporates any distribution utility verification into the 60-day process.<sup>296</sup> PJM proposes a review process comprising an initial 15-calendar day review period followed by a subsequent 45-calendar day review

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<sup>291</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 302; Transmittal at 45; Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(e); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(e).

<sup>292</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 303; Transmittal at 47; Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(b).

<sup>293</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 299; Transmittal at 40; Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b).

<sup>294</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 314. *See* Transmittal at 52. *See also* Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(b).

<sup>295</sup> First Compliance Order, 182 FERC ¶ 61,143 at PP 306-307. *See* Transmittal at 48-50; *see also* Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b)(i, iii); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b)(i, iii).

<sup>296</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 300.

period, which in total does not exceed 60 days.<sup>297</sup> With one exception, as discussed below, we find that PJM’s proposal complies with the Commission’s directive in the First Compliance Order. PJM’s proposal balances the DER Aggregators’ need for a reasonably quick review of the basic data and information components pertaining to an individual Component DER with the desire of EDCs to have sufficient time to conduct a thorough reliability assessment. As discussed below, we are not persuaded by Joint Utilities’ and AEP’s concerns with the time periods associated with PJM’s proposed review process.

125. We disagree with Joint Utilities’ and AEP’s suggestion that PJM’s tariff is ambiguous as to the ability of an EDC to disapprove a Component DER in the 15-calendar day review period. PJM’s proposed tariff states that if the EDC identifies concerns during the EDC review, and if the EDC’s concerns are not resolved, the EDC may recommend that PJM reject the location and/or registration.<sup>298</sup> Similarly, the 45-day calendar day review period commences only “[f]ollowing approval of the Component DER by the [EDC] and [PJM] ...” within the 15-calendar day review period.<sup>299</sup> To the extent there is potentially inaccurate information that the EDC cannot verify during the 15-calendar day review period, or if an EDC lacks information necessary to determine whether a Component DER meets the capability criteria set forth in Tariff, Attachment K-Appendix, section 1.4B(b)(i)-(iv), the EDC may decide not to approve a Component DER.

126. Additionally, we note that, before the EDC commences its 15-calendar day review period, PJM must first review the registration and data components for completeness and verify that the DER Aggregator meets the eligibility criteria for participation in the DER Aggregator Participation Model.<sup>300</sup> Therefore, the EDC will be reviewing information and data that has already been screened for completeness and eligibility. Nevertheless, to the extent incomplete or invalid information is provided, we recognize the importance of having an established means of communication whereby the EDC and the DER Aggregator can exchange information to timely resolve issues, as emphasized by the

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<sup>297</sup> Transmittal at 41-43; Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b) (“The Electric Distribution Company review process shall consist of two periods, in sum not to exceed sixty calendar days.”).

<sup>298</sup> Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b).

<sup>299</sup> *Id.*

<sup>300</sup> *Id.*

Joint Utilities.<sup>301</sup> As we noted in the First Compliance Order, PJM has indicated that it will construct a software program to facilitate coordination and communication between PJM, the DER Aggregator, and the EDC.<sup>302</sup>

127. We decline to require PJM to adopt AEP's recommended change to the tariff that would allow an EDC to have additional time beyond the 45-calendar day period to conduct the second phase of its review in the event that the EDC completes its initial review in less than 15 calendar days. We find that PJM's proposal is sufficient to comply with Order No. 2222 because it provides adequate and reasonable time for distribution utility review that does not exceed 60 days.

128. We also decline to require PJM to adopt AEP's recommended change to the tariff that would impose an additional five-business day period—between the 15-calendar day and 45-calendar day review periods—during which the DER Aggregator must decide whether to include *all* of the approved Component DER in its designated DER Aggregation Resource or withdraw its application. We find reasonable PJM's proposal to allow the DER Aggregator to designate the DER Aggregation Resources comprising “one or more” of the approved Component DER before the 45-calendar day period commences.<sup>303</sup> PJM's proposal provides the DER Aggregator with the flexibility to arrange and configure its DER Aggregation Resource based on any EDC feedback provided in the initial 15-calendar day review process. AEP's all-or-nothing proposal would mean that, if the DER Aggregator notified PJM that it would not go forward with all the Component DERs within its DER Aggregation Resource and later wanted to re-register with a subset of those Component DERs, the DER Aggregator would have to go back through that same review process for all Component DER that have already had their information reviewed and verified by the EDC and PJM. As such, we are not persuaded by AEP's argument that its proposal would promote efficiency and discourage speculative registrations. Moreover, in Order No. 2222, the Commission did not require, as part of distribution utility review, that RTOs/ISOs establish a provision like what AEP requests.

129. We are also not persuaded by AEP's contention that an EDC's reliability review may be cut short because of the timing of a DER Aggregator's designation decision. PJM's tariff is clear that the 45-calendar day review period commences only “upon such

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<sup>301</sup> Joint Utilities Protest at 19. The Joint Utilities state that the PJM DER Hub tool could be utilized for this purpose.

<sup>302</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 303.

<sup>303</sup> See Order No. 2222, 172 FERC ¶ 61,247 at P 293 (“We also find that allowing an RTO/ISO to design this new [distribution utility review] process allows regional flexibility in developing review procedures appropriate for each particular RTO/ISO.”).

designation by the DER Aggregator.” Any delay in a DER Aggregator’s designation decision would only delay the start of the 45-calendar day review process; it would not cut that review process short. Nevertheless, we find that PJM’s proposed tariff is not clear with respect to the timing of the commencement of the EDC’s 45-calendar day review. Under PJM’s proposed tariff, the 45-calendar day review period commences “upon such designation by the DER Aggregator,” which could allow the 45-calendar day review period to commence before the EDC receives the designation. This triggering event is in contrast to the 15-calendar day review period, which “commence[s] upon receipt by the [EDC]” of notice from PJM. Accordingly, we direct PJM to file, within 30 days of the date of issuance of this order, a further compliance filing that explains why PJM’s proposal to trigger the 45-calendar day review on the DER Aggregator’s designation decision, as opposed to the EDC’s receipt of such designation, provides adequate and reasonable time for distribution utility review, consistent with Order No. 2222,<sup>304</sup> or to propose alternative tariff language that complies with this requirement of Order No. 2222.

130. We also decline to require that PJM add a provision to its tariff to allow for additional EDC review time under exceptional circumstances, as suggested by the Joint Utilities. Such a provision is not a requirement of Order No. 2222.<sup>305</sup> Moreover, PJM does not propose any extended review period in its compliance filing, and Joint Utilities have not persuaded us that exceptional circumstances warrant additional review time.<sup>306</sup> We therefore decline to require that PJM add an exceptional circumstances provision to

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<sup>304</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 293 (requiring that the RTO’s/ISO’s distribution utility review process “provides adequate and reasonable time for distribution utility review”).

<sup>305</sup> Order No. 2222-A, 174 FERC ¶ 61,197 at P 72 (“We expect that 60 days should be the maximum time needed for most distribution utility reviews. 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.” (emphasis added)); First Compliance Order, 182 FERC ¶ 61,143 at P 386 (“While FirstEnergy expresses concern that PJM does not provide additional review time beyond 60 days, we note that the Commission did not require that RTOs/ISOs provide such an opportunity.”).

<sup>306</sup> The sole issue in this proceeding is whether PJM’s filing complies with the directives of the First Compliance Order. *PJM Interconnection, L.L.C.*, 133 FERC ¶ 61,277, at P 34 (2010) (“Protests to compliance filings are limited to whether the filing meets the Commission’s compliance directive and cannot properly function as late rehearings of the initial order, relitigating matters that are now final and non-appealable.”)

its tariff. We similarly decline to require PJM to reevaluate its bifurcated EDC review process and file a report with the Commission regarding implementation, as recommended by AEP. Although we recognize that EDCs and PJM will need to develop new internal procedures to efficiently and effectively process DER Aggregator registrations, AEP has not demonstrated that additional reviews, reports, and stakeholder processes are warranted in order for PJM's bifurcated EDC review process to comply with the requirements of Order No. 2222.

131. Ohio Commission raises several concerns regarding the clarity of PJM's proposal, such as whether the registration process refers to the DER Aggregator itself, or the registration of Component DER, or a combination. We find that PJM's proposal is sufficiently clear. PJM's proposed tariff states that "a DER Aggregator shall register each DER Aggregation Resource and DER Capacity Aggregation Resource with the Office of the Interconnection...."<sup>307</sup> A DER Aggregation Resource is comprised of "one or more Component DER."<sup>308</sup> The entity registering the DER Aggregation Resource will be the DER Aggregator, which is defined as a market participant that uses one or more DER Aggregation Resources to participate in the energy, capacity, and/or ancillary services markets and has a fully-executed DER Aggregator Participation Service Agreement (DAPSA).<sup>309</sup> Under the proposed tariff language, upon receipt of a DER Aggregator's registration of a DER Aggregation Resource, the Office of the Interconnection will "review the registration and data submitted therein for completeness, and verify that the DER Aggregator meets the eligibility criteria for participation in the DER Aggregator Participation Model...."<sup>310</sup> PJM will then notify the EDC of the DER Aggregator's registration, which commences the 15-calendar day review period, followed by the 45-calendar day review period. In sum, PJM's proposal involves a DER Aggregator submitting a registration package for its DER Aggregation Resource, which is comprised of Component DER. That registration package is reviewed by PJM for completeness and eligibility verification, consistent with the tariff and Manuals, and then PJM notifies the EDC of the registration package which commences the EDC review process.

132. Ohio Commission also states that it would be beneficial to clarify whether PJM's compliance filing impacts the DAPSA, and whether the definition of DER Aggregator

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<sup>307</sup> Proposed Tariff, attach. K (App.), § 1.4B, § 1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b).

<sup>308</sup> PJM, Tariff, Definitions, C-D.

<sup>309</sup> *Id.*

<sup>310</sup> Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(b).

(and the associated DAPSA) will take effect in 2026. Subsequent to the Ohio Commission's comments in this proceeding, the Commission accepted a limited, further Order No. 2222 compliance filing from PJM which included redated and reorganized eTariff records with capacity market mitigation rules and necessary definitions under its Distributed Energy Resource Aggregator Participation Model in compliance with the directives in a November 13, 2023 Commission order.<sup>311</sup> That compliance filing, which was accepted effective July 1, 2024, includes the definition of DER Aggregator, which is defined as a market participant that, among other things, has a fully-executed DAPSA.<sup>312</sup> As such, these provisions, effective July 1, 2024, will be in place for pre-auction activities related to the 2026/2027 Delivery Year BRA.<sup>313</sup> Therefore, this request for clarification has been addressed.

133. We find that PJM complies with the directive of First Compliance Order to revise its distribution utility review process such that the 60-day distribution utility review period for incremental changes occurs upon PJM transmitting the necessary information to review such incremental changes to the electric distribution company.<sup>314</sup> In the First Compliance Order, the Commission found that PJM's proposed triggering event does not comply with Order No. 2222 because the electric distribution company's 60-day review period could commence before it has been provided the information required. On compliance, PJM's proposed tariff language states: "Upon the [EDC's] receipt of notification of any proposed update, including all applicable information or data, the host [EDC] shall have an opportunity to conduct a review . . . ."<sup>315</sup> We find that PJM's proposal complies with the directive of the First Compliance Order by ensuring that the review period does not commence until the EDC has been provided with all applicable information and data. We decline to adopt Ohio Commission's request that PJM add language to its tariff explicitly stating that PJM will be the entity that will notify the EDC

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<sup>311</sup> *PJM Interconnection, L.L.C.*, Docket No. ER22-962-006 (Mar. 4, 2024) (delegated order); *PJM Interconnection, L.L.C.*, 185 FERC ¶ 61,112 (2023).

<sup>312</sup> First Compliance Order, 182 FERC ¶ 61,143 at PP 21, 372 (finding that PJM complied with the requirement of Order No. 2222 to establish market rules that address market participation agreements and noting that PJM's DAPSA includes an explicit attestation that the DER Aggregator is currently, and will remain, in full compliance the rules and regulations of any RERRA).

<sup>313</sup> We note that the effective dates of these tariff records are the subject of a pending proceeding in Docket No. ER24-1803-000.

<sup>314</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 298.

<sup>315</sup> Proposed Tariff, attach. K (App.), § 1.4B, § 1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(b).



of any proposed update, as the mechanism of notifying the EDC is more appropriately addressed as an implementation detail.<sup>316</sup>

**ii. Dispute Resolution**

134. In Order No. 2222, the Commission required each RTO/ISO to revise its tariff to incorporate dispute resolution provisions as part of its proposed distribution utility review process.<sup>317</sup> The Commission stated that each RTO/ISO should describe how existing dispute resolution procedures are sufficient or, alternatively, propose amendments to its procedures or new dispute resolution procedures specific to this subject.<sup>318</sup> In Order No. 2222-A, the Commission stated that disputes regarding the distribution utility review process—including those between non-host distribution utilities and a host distribution utility or the RTO/ISO—may be resolved through the RTO’s/ISO’s dispute resolution process, the Commission’s Dispute Resolution Service, or complaints filed pursuant to FPA section 206 at any time.<sup>319</sup>

**(a) First Compliance Order**

135. In the First Compliance Order, the Commission found that PJM’s proposal to prohibit the use of PJM’s dispute resolution procedures during the registration process if any such disputes arose under “any applicable tariffs, agreements, and operating procedures of the electric distribution company, and/or the rules and regulations of any [RERRA]” is inconsistent with the requirements of Order No. 2222 because it does not provide a formal mechanism for interested parties to attempt to resolve issues related to the distribution utility review process with PJM, where appropriate, as required by Order No. 2222.<sup>320</sup> The Commission explained that, for example, some disputes may fall within PJM’s authority, such as timing of review, the transparency of the process, or incorporation of electric distribution company review results into the registration

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<sup>316</sup> See *Hecate Energy Greene Cnty. 3 LLC v. FERC*, 72 F.4th 1307, 1312 (D.C. Cir. 2023) (“The tariff need not include mere implementation details.”).

<sup>317</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 299.

<sup>318</sup> *Id.*

<sup>319</sup> Order No. 2222-A, 174 FERC ¶ 61,197 at P 70 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 299).

<sup>320</sup> First Compliance Order, 182 FERC ¶ 61,143 at 322 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 299).

process.<sup>321</sup> The Commission also stated that Order No. 2222-A noted specifically that there could be disputes about information sharing during distribution utility review that could be appropriately resolved using RTO/ISO dispute resolution procedures.<sup>322</sup> In the First Compliance Order, the Commission found that PJM’s tariff appears to focus on resolution of concerns based on the electric distribution company’s review criteria and does not address instances where PJM’s dispute resolution procedures may be appropriate.

136. In the First Compliance Order, the Commission also found that PJM’s proposal—which would prohibit the use of dispute resolution procedures for disputes “*arising* under any applicable tariffs, agreements, and operating procedures of the electric distribution company, and/or the rules and regulations of any [RERRA]”—is an overly broad and vague carve out that unreasonably restricts a DER Aggregator’s use of PJM’s dispute resolution procedures when those procedures may be appropriate.<sup>323</sup> The Commission directed PJM to submit a further compliance filing that addresses how PJM will resolve disputes that it determines are within its authority and subject to its tariff.<sup>324</sup>

**(b) Filing**

137. Recognizing that the phrase “arising under” may be inappropriately broad, PJM proposes tariff revisions to replace the phrase “disputes arising under” applicable tariffs,

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<sup>321</sup> *Id.* (citing Order No. 2222, 172 FERC ¶ 61,247 at PP 292 & 295; Order No. 2222-A, 174 FERC ¶ 61,197 at P 75).

<sup>322</sup> *Id.* (citing Order No. 2222-A, 174 FERC ¶ 61,197 at P 75).

<sup>323</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 323; *see PJM Interconnection, L.L.C.*, 184 FERC ¶ 61,019, at P 9 (2023) (continuing to find, in response to a request for rehearing, that PJM’s proposal is overly broad and unreasonably restricts a DER Aggregator’s use of PJM’s dispute resolution procedures). The Commission recognized in the First Compliance Order that, while state commissions may adjudicate disputes appropriately within their authority, the Commission was concerned that PJM’s proposed phrase “disputes arising under” electric distribution company or RERRA rules is so broad that it may allow for disputes to be inappropriately brought to a state or local regulator when PJM should resolve them. First Compliance Order, 182 FERC ¶ 61,143 at P 323.

<sup>324</sup> The Commission also found that PJM partially complied with the Order No. 2222 requirements regarding the role of RERRAs and noted that the Commission required further compliance regarding PJM’s proposed role for the RERRA with respect to resolution of disputes during the registration process. First Compliance Order, 182 FERC ¶ 61,143 at P 372.

agreements, and operating procedures, with the phrase “[i]ssues within disputes that [PJM] determines solely concern the application of” applicable tariffs, agreements, and operating procedures.<sup>325</sup> PJM states that this change preserves the original intent of its proposal, which was to leave to the jurisdiction of the distribution utility and/or RERRA the resolution of issues within disputes that deal *exclusively* with the rules and regulations of these entities. PJM also states that some issues within disputes may fall within its own purview. Accordingly, PJM proposes to add language to its tariff specifying that issues within disputes that concern the provisions of the PJM Governing Agreements may be arbitrated under the dispute resolution processes described in Operating Agreement, Schedule 5.<sup>326</sup>

**(c) Comments/Protests**

138. According to Pennsylvania Commission, PJM’s proposal for dispute resolution is deficient because it continues to intrude on matters reserved to state law and RERRA jurisdiction.<sup>327</sup> Pennsylvania Commission states that PJM’s proposal sets up a dichotomy that implies that issues that concern provisions of PJM rules, which is a broad category, could encompass issues that concern EDC tariffs and/or RERRA rules and regulations.<sup>328</sup> Under PJM’s proposed language, Pennsylvania Commission maintains that PJM would resolve issues that, in part, concern state-jurisdictional matters that the RERRA would traditionally resolve itself.<sup>329</sup> Pennsylvania Commission requests that the Commission direct PJM to revise its tariff such that any issue that concerns EDC procedures or RERRA rules and that is arbitrated under PJM’s processes must be resolved consistent with any applicable RERRA rules. Additionally, Pennsylvania Commission avers that PJM’s Order No. 2222 tariff provisions should explicitly incorporate mechanisms for RERRAs to be built into PJM’s process.<sup>330</sup> Pennsylvania Commission points out that, under Order No. 2222, any role for RERRAs must be clearly stated in the tariff.<sup>331</sup>

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<sup>325</sup> Transmittal at 53.

<sup>326</sup> *Id.* at 53-54.

<sup>327</sup> Pennsylvania Commission Protest at 8.

<sup>328</sup> *Id.* at 8-9.

<sup>329</sup> *Id.* at 9.

<sup>330</sup> *Id.* at 9-10.

<sup>331</sup> *Id.* at 10 (citing Order No. 2222, 172 FERC ¶ 61,247 at PP 322-324).

139. Ohio Commission argues that it may help to clarify in PJM's proposal that PJM's determination that a disputed issue should be resolved at the state or local level applies only to disputes brought directly to PJM and not first to the RERRA. Ohio Commission notes that the tariff permits EDCs and DER Aggregators to attempt to resolve concerns with the state before going to PJM.<sup>332</sup> Ohio Commission also recommends that PJM add language to its tariff to stipulate that, to the extent a dispute involves both state and federal matters, PJM and the RERRA may confer jointly to determine a course of action.

**(d) Determination**

140. We find that PJM complies with the directive of the First Compliance Order to address how PJM will resolve disputes that it determines are within its authority and subject to its tariff. In the context of EDC review during registration, PJM proposes tariff language stating that issues within disputes that PJM determines concern the provisions of the PJM Governing Agreements may be arbitrated under the dispute resolution processes under Operating Agreement, Schedule 5. We find that PJM's proposal provides a formal mechanism for interested parties to attempt to resolve issues related to the distribution utility review process with PJM, where appropriate, as required by Order No. 2222.<sup>333</sup>

141. We are not persuaded by Pennsylvania Commission's contention that PJM's proposal intrudes on matters reserved to state law and RERRA jurisdiction. PJM's proposal recognizes that disputes may involve a variety of issues, some of which are appropriately addressed in accordance with applicable state and local law, and others which *may* be arbitrated under PJM's dispute resolution provisions. On one hand, the tariff is clear that issues within disputes that solely concern the application of any applicable tariffs, agreements, and operating procedures of an EDC and/or the rules and regulations of any RERRA, "*shall be* addressed in accordance with applicable state or local law," and correspondingly, "*shall not be* arbitrated or in any way resolved [by PJM]."<sup>334</sup> On the other hand, to the extent an issue concerns the provisions of the PJM Governing Agreements, it "*may be* arbitrated under the dispute resolution processes

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<sup>332</sup> Ohio Commission Comments at 6 (citing Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(b) (“[The EDC] and the DER Aggregator may first attempt to resolve those concerns bilaterally, or in accordance with applicable state or local law, prior to seeking initiation of the dispute resolution process described in Operating Agreement, Schedule 5.”)).

<sup>333</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 299.

<sup>334</sup> Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(b) (emphasis added).

under Operating Agreement, Schedule 5.”<sup>335</sup> As recognized by Ohio and Pennsylvania Commissions, there may be disputes that concern both state and federal matters, or issues within disputes that concern the PJM Governing Agreements and the application of tariffs, agreements, or operating procedures of an EDC and/or RERRA. As the Ohio Commission acknowledges, it is unlikely that the tariff can capture every dispute scenario. We note that PJM’s proposal does not require PJM to resolve such disputes and that PJM and the RERRA are free to confer and determine a course of action that is consistent with the tariff and the roles and responsibilities of PJM and the RERRA. We decline to prescribe specific procedures for the resolution of each and every type of dispute; rather, the tariff proposal allows for the resolution of disputes on a case-by-case basis. Under PJM’s tariff proposal, PJM would determine whether an issue within a dispute solely concerns the rules and regulations of a RERRA only if parties bring the dispute to PJM. PJM would make no such determination if, under the proposed tariff language, the EDC and DER Aggregator decide to resolve the dispute bilaterally or in accordance with state or local law.

142. To the extent a dispute concerns issues under the PJM Governing Agreements that *also* concern the application of tariffs, agreements, or operating procedures of an EDC and/or RERRA, and to the extent those issues cannot be resolved separately in their respective forums, those issues can be arbitrated under Operating Agreement, Schedule 5 without impeding on state law and RERRA jurisdiction. As an initial matter, PJM’s tariff provides that, before PJM’s dispute resolution process is initiated, the EDC and DER Aggregator “may first attempt to resolve ... concerns bilaterally, or in accordance with applicable state or local law, prior to seeking initiation of [PJM’s dispute resolution process].”<sup>336</sup> To the extent the parties to a dispute decide to proceed under PJM’s dispute resolution process, those parties retain the opportunity to seek redress before the applicable state authority. It is thus unnecessary to revise the tariff, as Pennsylvania Commission requests. Specifically, PJM’s dispute resolution procedures recognize that the arbitrator “shall issue a written decision” based on “applicable ... state law.”<sup>337</sup> Moreover, not all disputes arbitrated under Operating Agreement, Schedule 5 are binding.<sup>338</sup> In the case of non-binding arbitration, a party dissatisfied with the arbitrator’s

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<sup>335</sup> *Id.*

<sup>336</sup> Proposed Tariff, attach. K (App.), § 1.4B, § 1.4B(b); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(b).

<sup>337</sup> Operating Agreement, Schedule 5, § 4.12 (0.0.0).

<sup>338</sup> The resolution of a dispute by arbitration is not binding unless it is (i) governed by one of the Related PJM Agreements that has not been resolved through the mediation procedures specified in the Operating Agreement, (ii) involves a claim that one or more

resolution may pursue other available dispute resolution methods under state law and RERRA jurisdiction. To the extent the decision is binding, any party affected by the arbitrator’s decision “may request ... any ... state, regulatory, or judicial authority having jurisdiction to vacate, modify, or take such other action as may be appropriate with respect to any arbitral decision that is based upon an error of law, or is contrary to the statutes, rules, or regulations administered or applied by such authority.”<sup>339</sup>

### iii. Role of Electric Distribution Company

143. The Commission required each RTO/ISO to demonstrate on compliance that its proposed distribution utility review process is transparent, provides specific review criteria that the distribution utilities should use, and provides adequate and reasonable time for distribution utility review.<sup>340</sup> The Commission also found that coordination requirements should not create undue barriers to entry for distributed energy resource aggregations.<sup>341</sup> The Commission also found that allowing an RTO/ISO to design its distribution utility review process allows for regional flexibility in developing review procedures appropriate for each particular RTO/ISO.<sup>342</sup>

#### (a) First Compliance Order

144. In the First Compliance Order, the Commission found that PJM’s lack of a definition of electric distribution company does not comply with the requirements of Order No. 2222 that coordination requirements should not create undue barriers to entry for distributed energy resource aggregations or that the distribution utility review process be transparent.<sup>343</sup> The Commission agreed with commenters that the lack of a 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. Accordingly, the

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of the parties owes or is owed a sum of money, and (iii) the amount in controversy is less than \$1,000,000.00. Operating Agreement, Schedule 5, §§ 4.1 (0.0.0), 4.2 (1.0.0).

<sup>339</sup> *Id.* § 4.14 (0.0.0).

<sup>340</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 293.

<sup>341</sup> *Id.* P 279.

<sup>342</sup> *Id.* P 293.

<sup>343</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 333 (citing Order No. 2222, 172 FERC ¶ 61,247 at PP 279 & 293).

Commission directed PJM to make a further compliance filing to revise its tariff to include a definition of electric distribution company.

**(b) Filing**

145. PJM proposes to add the following definition of 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>344</sup>

146. PJM states that this definition is designed to ensure that an applicable distribution utility participating in the DER Aggregator Participation Model is either a PJM Member, or represented by a PJM Member, as is the case for some entities within the PJM Region.<sup>345</sup> PJM states that it views this requirement as important for the protection of customers and other market participants because all PJM Members sign the PJM Operating Agreement and are subject to the rights and obligations therein.

**(c) Comments/Protests**

147. Joint Utilities protest PJM’s proposed definition.<sup>346</sup> Specifically, Joint Utilities argue that PJM’s proposed definition makes PJM membership the gating factor, but Order No. 2222 did not mandate that such a definition contain RTO/ISO membership requirements.<sup>347</sup> Joint Utilities also argue that the membership requirement will place EDCs in the untenable position of potentially being accountable to PJM, not their respective RERRAs, with respect to administration of the DER Aggregator Participation

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<sup>344</sup> Transmittal at 54-55.

<sup>345</sup> *Id.* at 55.

<sup>346</sup> Joint Utilities Protest at 9.

<sup>347</sup> *Id.* at 11.

Model.<sup>348</sup> Joint Utilities also argue that, by tying 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.<sup>349</sup> Joint Utilities further assert that PJM's proposed definition does not adequately clarify which PJM members are obligated to perform distribution-related activities under the DER Aggregator Participation Model.<sup>350</sup>

148. Joint Utilities argue that the Commission should require PJM to use the definition previously proposed by the Joint Utilities, which they argue is concise, clear, and expressly developed so that it would not impermissibly assign any jurisdictional role to PJM that lies with the RERRAs.<sup>351</sup> The Joint Utilities proposed definition of EDC is as follows:

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>352</sup>

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<sup>348</sup> *Id.* at 11-12.

<sup>349</sup> *Id.* at 12.

<sup>350</sup> The Joint Utilities state that, "[f]or 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)." *Id.* at n.31.

<sup>351</sup> *Id.* at 13.

<sup>352</sup> *Id.* at 9 (citing Indicated Utilities, Docket No. ER22-962-000, Comments, at 16 (filed Apr. 1, 2022)). The Joint Utilities state that the Commission approved a definition similar to their proposed definition as a part of the NYISO Order No. 2222 compliance proceeding. Joint Utilities Protest at 9 n.24 (citing New York Independent System Operator, Inc., Docket No. ER21-2460-000, Compliance Filing, 171 (July 19, 2021) ("For the purposes of Services Tariff Section 4.1.10, *et seq.*, 'Distribution Utility' is



149. Ohio Commission believes that the definition of EDC may benefit from clarification.<sup>353</sup> Ohio Commission states that this definition outlines that an EDC may fall into one of two categories: (1) a PJM Member; or (2) an entity represented by a PJM Member.<sup>354</sup> According to Ohio Commission, PJM should clarify whether the operative modifier in the definition applies to the PJM member, the represented entity, or both.<sup>355</sup>

**(d) Answer**

150. PJM states that its proposed definition appropriately captures the roles and responsibilities of an EDC.<sup>356</sup> PJM states that its proposed definition is designed to ensure that an applicable distribution utility participating in the DER Aggregator Participation Model is either a PJM Member, or represented by a PJM Member, as is the case for some entities within the PJM Region. PJM states that this requirement is important for the protection of customers and other market participants given that all PJM members sign the PJM Operating Agreement. PJM further states that all individual companies that comprise the Joint Utilities are already PJM members, so it is unclear how the inclusion of the term “member” in the definition places any additional requirements on these entities, burdens on their customers, or changes the dynamics of their relationship with PJM and/or the RERRA in any way.<sup>357</sup> PJM notes that two RERRAs commented on the instant compliance filing and neither indicated that use of the term “member” in the definition of EDC causes confusion about jurisdiction.

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defined 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)). The Joint Utilities note that NYISO’s definition did not require membership.

<sup>353</sup> Ohio Commission Comments at 6-7.

<sup>354</sup> *Id.* at 7.

<sup>355</sup> *Id.* (stating that the operative modifier is the portion of the definition which reads: “... 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>356</sup> PJM Answer at 12.

<sup>357</sup> *Id.* at 13.

151. PJM responds to the Joint Utilities' critique that the definition does not adequately clarify which PJM members are obligated to perform distribution-related activities.<sup>358</sup> PJM contends that the definition clearly articulates the type of member that can function as the EDC—an entity 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...” PJM points out that this portion of its proposed definition is very similar to the version that Joint Utilities proposed in this proceeding.<sup>359</sup>

**(e) Determination**

152. We find that PJM's proposed definition of EDC complies with the directive of the First Compliance Order to revise its tariff to include a definition of EDC. PJM's proposed definition clarifies the entity responsible for the significant roles ascribed to an EDC in PJM's coordination process in the DER Aggregator Participation Model.

153. Although the Joint Utilities are correct that Order No. 2222 does not mandate that an EDC definition contain RTO/ISO membership requirements, we find that PJM's proposal to do so is consistent with the regional flexibility afforded to RTOs/ISOs in Order No. 2222 in developing distribution utility review procedures that are transparent and to avoid creating potential barriers to distributed energy resource aggregations,<sup>360</sup> as all PJM members sign the PJM Operating Agreement and are subject to the rights and obligations therein.<sup>361</sup> Joint Utilities do not explain how PJM membership would conflict with an EDC's responsibilities to its respective RERRA, or how PJM's proposed definition would impermissibly assign a jurisdictional role of the RERRA to PJM.

154. We are also unpersuaded by Joint Utilities' concern that the definition does not adequately clarify which PJM members are obligated to perform distribution-related activities. As PJM states in its answer, the definition of EDC clearly articulates that type of member as an entity 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

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<sup>358</sup> *Id.*

<sup>359</sup> *Id.* at 13-14.

<sup>360</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 293 (“We also find that allowing an RTO/ISO to design this new [distribution utility review] process allows regional flexibility in developing review procedures appropriate for each particular RTO/ISO.”).

<sup>361</sup> *See, e.g.*, Operating Agreement, §11.3 (5.0.0).

[RERRA].”<sup>362</sup> Likewise, this clause in the proposed definition shows, contrary to Joint Utilities’ claim, that PJM adequately accounts for the EDCs’ continued obligation to provide necessary electric distribution services. In response to the Ohio Commission’s request for clarification, we find that this clause applies to both the PJM Member and an entity represented by a PJM Member.

**b. Ongoing Operational Coordination**

155. In Order No. 2222, the Commission required each RTO/ISO to, among other things, revise its tariff to establish a process for ongoing coordination, including operational coordination, that addresses data flows and communication among itself, the distributed energy resource aggregator, and the distribution utility.<sup>363</sup> In addition, the Commission required each RTO/ISO to revise its tariff to include coordination protocols and processes for the operating day that allow distribution utilities to override RTO/ISO dispatch of a distributed energy resource aggregation in circumstances where such override is needed to maintain the reliable and safe operation of the distribution system.

156. The Commission also required each RTO/ISO to revise its tariff to apply any existing resource non-performance penalties to a distributed energy resource aggregation when the aggregation does not perform because a distribution utility overrides the RTO’s/ISO’s dispatch.<sup>364</sup>

**i. First Compliance Order**

157. In the First Compliance Order, the Commission found that PJM’s tariff did not contain the required coordination protocols and processes for the operating day that allow distribution utilities to override PJM’s dispatch, as required by Order No. 2222.<sup>365</sup> The Commission noted that PJM proposed only to incorporate by reference in its proposed tariff language the means through which a distribution utility may initiate override as provided in the applicable tariffs, agreements, and operating procedures of the electric distribution company and/or the rules and regulations of any RERRA. The Commission found that, while these protocols and processes need not specify the scenarios under which a distribution utility may override PJM’s dispatch, PJM’s tariff should include further details on PJM’s approach to ongoing operational coordination with respect to

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<sup>362</sup> PJM Answer at 13-14 (quoting PJM, Tariff, Definitions E – F).

<sup>363</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 310.

<sup>364</sup> *Id.* P 312.

<sup>365</sup> First Compliance Order 182 FERC ¶ 61,143 at P 354 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 310).

overrides to ensure the protocols and processes are non-discriminatory and transparent, similar to how PJM describes other operational coordination protocols and processes in Tariff, Attachment K-Appendix, section 1.4B(f); Operating Agreement, Schedule 1, section 1.4B(f). Accordingly, the Commission directed PJM to make a further compliance filing to revise its tariff to include the coordination protocols and processes for the operating day that allow distribution utilities to override PJM's dispatch.

158. The Commission also found that PJM partially complied with the requirement of Order No. 2222 to revise its tariff to apply existing resource non-performance penalties to a distributed energy resource aggregation when the aggregation does not perform because a distribution utility overrides RTO/ISO dispatch.<sup>366</sup> The Commission found that, although PJM explained in its transmittal that PJM will not excuse penalties or deviations for the DER Aggregation Resource for not meeting its market commitment due to a utility override if a DER Aggregation Resource cannot perform due to a utility override for safety and reliability, PJM did not include this requirement in its tariff and lacked specificity regarding the existing resource non-performance penalties that would apply to a DER Aggregation Resource when an electric distribution company overrides PJM's dispatch. Accordingly, the Commission directed PJM to make a further compliance filing that revises its tariff to specify the existing non-performance penalties that will apply to a DER Aggregation Resource when the DER Aggregation Resource does not perform because an electric distribution utility overrides PJM's dispatch.

159. The Commission also found that PJM's proposal partially complied with the requirement of Order No. 2222 to revise its tariff to establish a process for ongoing coordination, including operational coordination, that addresses data flows and communication among itself, the distributed energy resource aggregator, and the distribution utility.<sup>367</sup> The Commission found that PJM's proposal did not sufficiently address ongoing coordination, including operational coordination, such as data flows and communication, between PJM and the distribution utility.<sup>368</sup> Moreover, the Commission found that, while PJM discussed data flows and communication between the distribution utility and the DER Aggregator with respect to overriding DER Aggregation Resources or underlying Component DER under PJM dispatch in its filing, PJM did not include this process in its tariff, as required by Order No. 2222. Accordingly, the Commission directed PJM to file a further compliance filing that revises its tariff to establish a process for ongoing coordination, including operational coordination, that addresses data flows and communication between: (1) the distribution utility and the DER Aggregator, with

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<sup>366</sup> *Id.* P 357.

<sup>367</sup> *Id.* P 358 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 310).

<sup>368</sup> *Id.* P 359 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 310).

respect to overrides during the Operating Day; and (2) PJM and the distribution utility in both day-ahead and real-time markets.

**ii. Filing**

160. PJM proposes to modify its tariff to more clearly outline the proposed approach to ongoing operational coordination with respect to EDC overrides of PJM dispatch instructions.<sup>369</sup> PJM states that the decision to override PJM dispatch may be communicated by the EDC directly to the DER Aggregator as soon as practicable without interruption or interference from PJM. PJM states that, when the DER Aggregator is notified of an override, the DER Aggregator must revise the bidding parameters of the affected DER Aggregation Resource in PJM's system to reflect the override. PJM states that it will subsequently re-dispatch the aggregation in a manner consistent with the updated bidding parameters.

161. PJM also proposes to modify its tariff to specify that an EDC's override does not excuse the DER Aggregator from any financial obligations under the PJM Governing Agreements that may arise due to a DER Aggregation Resource's failure to perform in response to PJM dispatch instructions.<sup>370</sup> PJM states that the term "financial obligation" appropriately covers the diversity of consequences for non-performance that exists under the PJM Governing Agreements, but may not specifically be described in the Governing Agreements as a "penalty."<sup>371</sup> PJM contends that this approach addresses the Commission's requirement in Order No. 2222 "to revise its tariff to apply *any* existing resource non-performance penalties to a distributed energy resource aggregation when the aggregation does not perform because a distribution utility overrides the RTO's/ISO's dispatch."<sup>372</sup>

162. With respect to operational coordination between the EDC and the DER Aggregator, PJM proposes tariff modifications related to operational coordination during

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<sup>369</sup> Transmittal at 56; Proposed Tariff, attach. K (App.), § 1.4B, 1.4B(f); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(f).

<sup>370</sup> Transmittal at 58; Proposed Tariff, attach. K (App.), § 1.4B, §1.4B(f); Proposed Operating Agreement, Schedule 1, § 1.4B, §1.4B(f).

<sup>371</sup> Transmittal at 58 (explaining, for example, that, if an EDC were to override the dispatch of a DER Aggregation Resource, that resource would earn a decreased "accuracy" or "performance" score in the PJM regulation market in accordance with Tariff, attach. K (App.), § 3.2, §3.2.2(k)).

<sup>372</sup> *Id.* (quoting Order No. 2222, 172 FERC ¶ 61,247 at P 312 (emphasis added)).

overrides in the manner described above.<sup>373</sup> With respect to operational coordination between PJM and the EDC in the day-ahead and real-time markets, PJM states that it anticipates all communications will flow to and through the DER Aggregator.<sup>374</sup> PJM states that it will make available directly to the DER Aggregator all day-ahead schedules and real-time dispatch instructions and the DER Aggregator will be responsible for following all PJM instructions and/or updating its bidding parameters in PJM's system as appropriate. PJM further states that all decisions to override PJM dispatch will likewise be communicated directly to the DER Aggregator and the DER Aggregator will be responsible for reflecting overrides by updating the relevant bidding parameters in PJM's system. PJM states that, while PJM and the EDC will maintain informal communications as necessary, PJM is not establishing a formal role in the tariff related to operational coordination between itself and the EDC.

### iii. Comments/Protests

163. AEP fully supports PJM's proposed tariff provisions that make clear PJM will not interfere with an EDC's decision to override a DER Aggregator's dispatch instructions.<sup>375</sup> Joint Utilities also support PJM's proposed tariff provisions clarifying that PJM will not interfere with the EDC's override decisions.<sup>376</sup> However, Joint Utilities argue that the Commission should direct PJM to specify that both the DER Aggregator and PJM will receive a direct communication of an executed override.<sup>377</sup> Joint Utilities argue that such a directive will ensure overrides of Component DER are communicated effectively for redispatch.

164. AEP states that PJM should enhance communications with EDCs to improve data sharing.<sup>378</sup> AEP maintains that improved data sharing will enhance distribution operations and planning. AEP also states that PJM should consider how to bolster coordination and communication with EDCs, DER Aggregators, and transmission owners during registration and reliability review.<sup>379</sup> While recognizing that EDC review is

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<sup>373</sup> See *supra* P 165.

<sup>374</sup> Transmittal at 60.

<sup>375</sup> AEP Comments at 29.

<sup>376</sup> Joint Utilities Protest at 26.

<sup>377</sup> *Id.* at 27.

<sup>378</sup> AEP Comments at 29.

<sup>379</sup> *Id.* at 30.

limited to the distribution system, AEP states that DER aggregations may impact the transmission system and should be studied accordingly.

165. The IMM avers that dispatch overrides by EDCs present a situation where EDCs may exercise market power by controlling the output of their competitors.<sup>380</sup> The IMM argues that PJM's proposal to "not take any actions to interrupt or interfere" with an EDC override does not satisfy the directive in the First Compliance Order to ensure the override protocols and processes are non-discriminatory and transparent. The IMM argues that PJM's proposal may prevent PJM and the IMM from mitigating a potential exercise of market power by an EDC.

166. The IMM further states that PJM may not even know whether a change in a DER Aggregator's offer is the result of an EDC override or the DER Aggregator's decision.<sup>381</sup> The IMM argues that it has a responsibility to follow up on any market offer behavior that may indicate market manipulation or an exercise of market power and, therefore, it will need to know about an override so that it can monitor potential market manipulation and compliance with the tariff rules regarding market power mitigation of energy offers and parameters.<sup>382</sup> Additionally, the IMM states that the need to collect information from EDCs, DER Aggregators, and Component DER is not limited to override dispatch only; rather, a variety of decisions may occur by entities operating at the distribution system level that will impact the competitiveness of the PJM market with the introduction of DER Aggregations.<sup>383</sup> The IMM requests that the Commission require PJM to include in PJM Market Monitoring Plan (OATT Attachment M) provisions clarifying that the IMM's role includes the collection of information and explanations from EDCs and DER Aggregators for actions taken on the distribution system affecting the PJM market.<sup>384</sup>

#### iv. Determination

167. We find that PJM partially complies with the directive in the First Compliance Order that PJM revise its tariff to include the coordination protocols and processes for the operating day that allow distribution utilities to override PJM's dispatch.<sup>385</sup> PJM's

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<sup>380</sup> IMM Protest at 7.

<sup>381</sup> *Id.*

<sup>382</sup> *Id.* at 7-8.

<sup>383</sup> *Id.* at 8.

<sup>384</sup> *Id.* at 2-3, 8.

<sup>385</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 354.

proposed tariff language provides the circumstances under which an EDC may exercise its ability to override the physical operation of a DER Aggregation Resource, the process by which such decision is communicated to the DER Aggregator, and the action that the DER Aggregator must take to reflect that override, i.e., updating the applicable bidding parameters.<sup>386</sup> Moreover, PJM's tariff language clarifies that PJM's role is to re-dispatch the DER Aggregation Resource to reflect those updated bidding parameters, and not to interfere with the EDC's override decision. However, we find that additional clarity is required to ensure the override process is non-discriminatory and transparent.<sup>387</sup> Although PJM states in its transmittal that "the decision to override PJM dispatch should be communicated by the Electric Distribution Company directly to the DER Aggregator as soon as practicable," the proposed tariff language states only that the EDC "may communicate" the override decision to the DER Aggregator.<sup>388</sup> Accordingly, we direct PJM to file, within 30 days of the date of issuance of this order, a further compliance filing to clarify why its proposal is non-discriminatory and transparent, or alternatively to revise the tariff language to require the EDC to communicate overrides to the DER Aggregator.

168. We are not persuaded by Joint Utilities that PJM's tariff must state that PJM—in addition to the DER Aggregator—should receive a direct communication of an override from an EDC to ensure effective communication of overrides for redispatch. Order No. 2222 does not require that the coordination protocols and processes in the tariff that allow distribution utilities to override RTO/ISO dispatch of a distributed energy resource aggregation specify that the RTO/ISO receive direct communication of an override.<sup>389</sup> Moreover, Joint Utilities do not articulate why PJM's proposal may not ensure that

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<sup>386</sup> Proposed Tariff, attach. K (App.), § 1.4B, § 1.4B(f); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(f).

<sup>387</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 310 ("These processes that allow distribution utilities to override RTO/ISO dispatch must be contained in the tariff and must be non-discriminatory and transparent but still address distribution utility reliability and safety concerns.").

<sup>388</sup> Compare PJM Transmittal at 56, with Proposed Tariff, attach. K (App.), § 1.4B, § 1.4B(f); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(f).

<sup>389</sup> See Order No. 2222, 172 FERC ¶ 61,247 at P 311 ("To account for different regional approaches and to provide flexibility, we are not prescribing specific protocols or processes for the RTOs/ISOs to adopt as part of the operational coordination requirements, but rather we will allow each RTO/ISO to develop an approach to ongoing operational coordination in compliance with this final rule.").



overrides are communicated and effectuated properly. Nevertheless, nothing prohibits the EDC from providing such notice to PJM in addition to the DER Aggregator.

169. We are also not persuaded by the IMM's contention that PJM's proposal to "not take any actions to interrupt or interfere" with an EDC override may prevent PJM and the IMM from mitigating a potential exercise of market power by an EDC, and thus fail to ensure the override protocols and processes are non-discriminatory and transparent. To the extent that an EDC's override actions are discriminatory or involve the exercise of market power such behavior would violate the terms of PJM's tariff, which allows overrides only for the purpose of maintaining safe and reliable operation of distribution facilities.<sup>390</sup> Moreover, such actions can be monitored and addressed through existing mechanisms. The IMM has several existing channels to obtain information and data necessary to fulfill its role of monitoring, investigating, evaluating, and reporting on the PJM markets.<sup>391</sup> For example, Attachment M provides that information gathered by PJM in connection with its scheduling and dispatch functions "shall be provided to the Market Monitoring Unit as soon as practicable, including, but not limited to, real-time access to scheduling, dispatch and other operational data."<sup>392</sup> Moreover, if other information is required from a market participant, the IMM "may make reasonable requests of the entities possessing such information,"<sup>393</sup> and the recipient "shall provide the Market Monitoring Unit with all information that is reasonably requested."<sup>394</sup> For the reasons discussed above, we do not find it necessary for PJM to revise Attachment M in order to comply with the directives of the First Compliance Order.

170. We also find that PJM's proposal only partially complies with the directive of the First Compliance Order to revise its Tariff to specify the existing resource non-performance penalties that will apply to a distributed energy resource aggregation when the aggregation does not perform because a distribution utility overrides RTO/ISO dispatch.<sup>395</sup> In the First Compliance Order, the Commission stated that PJM's proposal "lacks specificity regarding the existing resource non-performance penalties that would

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<sup>390</sup> Tariff, attach. K (App.), § 1.4B, §1.4B(f); Proposed Operating Agreement, Schedule 1, § 1.4B, § 1.4B(f).

<sup>391</sup> PJM Intra-PJM Tariffs, attach. M (5.0.0), § I.

<sup>392</sup> PJM Intra-PJM Tariffs, attach. M, § V(A).

<sup>393</sup> PJM Intra-PJM Tariffs, attach. M, § V(B)(1).

<sup>394</sup> PJM Intra-PJM Tariffs, attach. M, § V(B)(2).

<sup>395</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 357; *see* Order No. 2222, 172 FERC ¶ 61,247 at P 312.

apply.”<sup>396</sup> PJM’s proposed tariff states that “[a]n [EDC’s] override shall not excuse a DER Aggregator from any financial obligations under the PJM Governing Agreements....” We find that PJM’s proposed tariff revisions lack specificity regarding the financial obligations that would apply to a DER Aggregator when an EDC overrides PJM’s dispatch.<sup>397</sup> Accordingly, we direct PJM to file, within 30 days of the date of issuance of this order, a further compliance filing that revises the tariff to specify the financial obligations that will apply when a DER Aggregation Resource does not perform due to a utility override.

171. We find that PJM does not comply with the directive of the First Compliance Order to revise its tariff to establish a process for ongoing coordination, including operational coordination, that addresses data flows and communication between: (1) the distribution utility and the DER Aggregator, with respect to overrides during the Operating Day; and (2) PJM and the distribution utility in both day-ahead and real-time markets.<sup>398</sup> As to coordination between the distribution utility and the DER Aggregator, with respect to overrides during the Operating Day, we note that, as discussed above, we direct PJM to submit a further compliance filing to clarify the inconsistency between its transmittal and its proposed tariff language. As to coordination between PJM and the distribution utility, PJM’s statement that PJM and the EDC will maintain informal communications does not comply with the directive of the First Compliance Order. Order No. 2222 requires a process in the tariff for communication between the RTO/ISO and the distribution utility.<sup>399</sup> Accordingly, we direct PJM to file, within 30 days of the date of issuance of this order, a further compliance filing that revises its tariff to establish a process for ongoing coordination, including operational coordination, that addresses data flows and communication between PJM and the EDC.

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<sup>396</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 357.

<sup>397</sup> See NYISO Compliance Order, 179 FERC ¶ 61,198 at P 292 (“While NYISO’s tariff indicates that ‘[a]ggregations that are unable to operate to achieve [NY]ISO’s dispatch due to the direction of the Distribution Utility will remain subject to any charges or penalties that may apply,’ NYISO does not specify what penalties apply.”); *see also* ISO-NE Compliance Order, 182 FERC ¶ 61,137 at P 229 (“ISO-NE does not specify what penalties apply”).

<sup>398</sup> First Compliance Order, 182 FERC ¶ 61,143 at P 359; *see* Order No. 2222, 172 FERC ¶ 61,247 at P 310.

<sup>399</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 310; *see* MISO Compliance Order, 185 FERC ¶ 61,011 at P 339 (“We note also that it appears that MISO proposes to send EDCs information related to cleared Resources, including cleared DEARs, but MISO does not include this in its Tariff as part of the process for operational coordination.”).

The Commission orders:

(A) PJM's compliance filing is hereby accepted, subject to a further compliance filing, as discussed in the body of this order.

(B) PJM is hereby directed to submit a further compliance filing, within 30 days of the date of issuance of this order, as discussed in the body of this order.

By the Commission. Commissioner See is not participating.

Commissioner Chang is not participating.

( S E A L )

Debbie-Anne A. Reese,  
Acting Secretary.