

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, DC 20426

OFFICE OF ENERGY MARKET REGULATION

In Reply Refer To:  
California Independent System Operator  
Corporation  
Docket No. ER21-2455-000

Issued: October 1, 2021

California Independent System  
Operator Corporation  
Attn: Roger E. Collanton  
General Counsel  
250 Outcropping Way  
Folsom, CA 95630

Reference: Compliance Filing for Order No. 2222

Dear Mr. Collanton:

On July 19, 2021, the California Independent System Operator Corporation (CAISO) filed tariff revisions<sup>1</sup> to comply with the requirements of Order No. 2222.<sup>2</sup> Please be advised that additional information is necessary to process the filing. Please provide complete responses to the following and include citations to any relevant existing or proposed tariff provisions:<sup>3</sup>

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<sup>1</sup> Unless otherwise noted, capitalized terms not defined herein have the meanings set forth in the CAISO tariff.

<sup>2</sup> *Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 2222, 172 FERC ¶ 61,247 (2020) (Order No. 2222), *order on reh'g*, Order No. 2222-A, 174 FERC ¶ 61,197 (2021) (Order No. 2222-A), *order on reh'g*, Order No. 2222-B, 175 FERC ¶ 61,227 (2021) (Order No. 2222-B).

<sup>3</sup> CAISO may file revised tariff records where appropriate.

## I. Small Utility Opt-In

In Order No. 2222, the Commission added section 35.28(g)(12)(iv) to the Commission's regulations to provide that Regional Transmission Organizations and Independent System Operators (RTOs/ISOs) may not accept bids from distributed energy resource aggregators aggregating customers of small utilities unless the relevant electric retail regulatory authority allows such customers of small utilities to participate in distributed energy resource aggregations (i.e., to opt in).<sup>4</sup> The Commission declined to include a mechanism for all relevant electric retail regulatory authorities to prohibit all distributed energy resources from participating in the RTO/ISO markets through distributed energy resource aggregations (i.e., to opt out). The Commission stated that the participation of demand response in distributed energy resource aggregations is subject to the opt-out and opt-in requirements of Order Nos. 719 and 719-A.<sup>5</sup>

1. CAISO states that it proposes to adapt the small utility opt-in provision in its *pro forma* Demand Response Provider agreement for CAISO's *pro forma* Distributed Energy Resource Provider Agreement, replacing references to demand response with references to Distributed Energy Resources.<sup>6</sup> CAISO's proposed Article 4.1.4 of the Distributed Energy Resource Provider Agreement states in part that a "Distributed Energy Resource Provider that aggregates in utilities that distribute four million MWh or less in the previous fiscal year must certify to the CAISO that its participation is permitted by the Local Regulatory Authority applicable to Distributed Energy Resources, and that it has satisfied all applicable rules and regulations of the Local Regulatory Authority."
  - a. Please explain when and, if applicable, how often, a Distributed Energy Resource Provider must make such certification.

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<sup>4</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 56.

<sup>5</sup> Order No. 2222, 172 FERC ¶ 61,247 at 145; *see* Order No. 2222-B, 175 FERC ¶ 61,227 at P 29.

<sup>6</sup> Transmittal at 7.

- b. Please explain the steps a Distributed Energy Resource Provider must take under the CAISO tariff if the Local Regulatory Authority permits the Distributed Energy Resource Provider's participation at the time of the certification, then decides in the future to prohibit that Distributed Energy Resource Provider's participation.

2. CAISO's proposed Article 4.1.4 of the Distributed Energy Resource Provider Agreement provides that "[a] Distributed Energy Resource Provider that aggregates in utilities that distribute . . . over four million MWh in the previous fiscal year must certify to the CAISO that its participation is not prohibited by the Local Regulatory Authority."

- c. Please explain how this proposed requirement complies with the Commission's decision to decline to include a mechanism for all relevant electric retail regulatory authorities to prohibit all distributed energy resources from participating in the RTO/ISO markets through distributed energy resource aggregations (i.e., to opt out) and the Commission's finding that the participation of demand response in distributed energy resource aggregations is subject to the opt-out and opt-in requirements of Order Nos. 719 and 719-A.

## **II. Definition of Distributed Energy Resource**

In Order No. 2222, the Commission amended section 35.28(b) of the Commission's regulations to define a distributed energy resource as "any resource located on the distribution system, any subsystem thereof or behind a customer meter."<sup>7</sup>

1. CAISO proposes to revise its definition of Distributed Energy Resource as follows: "Any resource located on the distribution system, any subsystem thereof, or behind a customer meter in a Utility Distribution Company or a Metered Subsystem."<sup>8</sup> CAISO states that this proposed revision includes the Commission's clarifications on subsystem and behind-the-meter interconnections while preserving the CAISO's tariff-specific terms for Utility Distribution Company and Metered Subsystem.

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<sup>7</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 114.

<sup>8</sup> Transmittal at 7-8.

- a. Please explain whether, with CAISO's addition of "in a Utility Distribution Company or a Metered Subsystem," the definition of Distributed Energy Resource would include *any* resource connected to the distribution system, any subsystem thereof, or behind a customer meter. If it does not, please describe which distributed energy resources CAISO's definition would exclude.

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

#### **A. Participation Model**

In Order No. 2222, the Commission added section 35.28(g)(12)(i) to the Commission's regulations to require each RTO/ISO to establish distributed energy resource aggregators as a type of market participant and to allow distributed energy resource aggregators to register distributed energy resource aggregations under one or more participation models in the RTO's/ISO's tariff that accommodate the physical and operational characteristics of the distributed energy resource aggregation.<sup>9</sup>

1. CAISO proposes to require that a Distributed Energy Resource Aggregation have at least one Distributed Energy Resource capable of injecting energy.<sup>10</sup> In addition, CAISO proposes to maintain its existing demand response models for homogeneous aggregations that include Demand Response Resources only.
  - a. If a heterogeneous aggregation containing injecting resources and Distributed Curtailment Resources fails to inject energy over a certain interval, i.e. if the aggregation only provides demand response to CAISO, would CAISO require the aggregation to register in one of CAISO's demand response models in order to participate in the CAISO markets? If so, please explain when CAISO would require this change in registration and indicate where this process is documented.

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<sup>9</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 130.

<sup>10</sup> Transmittal at 10.

## **B. Types of Technologies**

To implement section 35.28(g)(12)(ii)(a) of the Commission's regulations, the Commission in Order No. 2222 required that each RTO's/ISO's rules not prohibit any particular type of distributed energy resource technology from participating in distributed energy resource aggregations.<sup>11</sup> In addition, 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>12</sup> The Commission stated that the requirements in Order No. 745 would apply to demand response resources participating in heterogeneous aggregations.<sup>13</sup>

In Order No. 2222-B, the Commission stated that only those reductions that meet the definition of demand response in the Commission's regulations and are used to reduce customer load from a validly established baseline pursuant to Order Nos. 745 and 745-A must be compensated consistent with those orders.<sup>14</sup>

1. CAISO proposes to create a new term, Distributed Curtailment Resource, to describe a Distributed Energy Resource that will curtail demand within a Distributed Energy Resource Aggregation, distinguishing that resource from a Demand Response Resource.<sup>15</sup> In its answer, CAISO states that "allowing [Distributed Energy Resource Aggregations] to consist of demand response resources alone . . . would allow [developers] to choose among different tariff requirements with no underlying difference in resource characteristics."<sup>16</sup>

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<sup>11</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 141.

<sup>12</sup> *Id.* P 142.

<sup>13</sup> *Id.* P 145.

<sup>14</sup> Order No. 2222-B, 175 FERC ¶ 61,227 at P 42.

<sup>15</sup> Transmittal at 10.

<sup>16</sup> CAISO Answer at 19.

- a. Please identify and explain any substantive differences between the tariff requirements that apply to a Demand Response Resource and those that would apply to a Distributed Curtailment Resource.
2. Could a Distributed Curtailment Resource also provide Demand Response Services, or services equivalent to Demand Response Services? What does it mean for a Distributed Curtailment Resource to provide “Demand curtailment” per the definition? CAISO proposes that Scheduling Coordinators for heterogeneous aggregations must bid above the market clearing price established by the net benefits test, which establishes the bid floor for demand response resources under Order No. 745.<sup>17</sup> CAISO indicates that each bid from a heterogeneous Distributed Energy Resource Aggregation must be dispatched and settled as a single resource, and that there is no mechanism for CAISO to apply the net benefits test to only a portion of the Distributed Energy Resource Aggregation.
    - a. Please explain why CAISO must dispatch and settle a bid from a Distributed Energy Resource Aggregation as a single resource.
    - b. Please explain whether CAISO is able to use different bidding parameters to distinguish Demand curtailment bids by a heterogeneous aggregation for the purpose of dispatching and settling them separately from other types of bids provided by that same aggregation?
    - c. Please explain whether CAISO’s proposal to apply the net benefits test to the entire Distributed Energy Resource Aggregation could prevent a Distributed Energy Resource Aggregation that is capable of providing energy injections or

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<sup>17</sup> The net benefits test is used to determine whether the overall benefit of dispatching demand response resources exceeds the cost of dispatching those resources. *See Demand Response Compensation in Organized Wholesale Energy Markets*, Order No. 745, 134 FERC ¶ 61,187, at PP 79-80 *order on reh’g and clarification*, Order No. 745-A, 137 FERC ¶ 61,215 (2011), *reh’g denied*, Order No. 745-B, 138 FERC ¶ 61,148 (2012), *vacated sub nom. Elec. Power Supply Ass’n v. FERC*, 753 F.3d 216 (D.C. Cir. 2014), *rev’d & remanded sub nom. FERC v. Elec. Power Supply Ass’n*, 136 S.Ct. 760 (2016).

withdrawals (i.e., from non-Distributed Curtailment Resources) from economically clearing the market when the net benefits test establishes a market price above \$0/MWh. Please explain why this approach would not present a barrier to the participation of Distributed Energy Resource Aggregations.

**C. Double Counting of Services**

To implement section 35.28(g)(12)(ii)(a) of the Commission's regulations, the Commission in Order No. 2222 allowed RTOs/ISOs to limit the participation of resources in RTO/ISO markets through a distributed energy resource aggregator that are receiving compensation for the same services as part of another program. More specifically, 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 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>18</sup>

1. To address double counting concerns, CAISO proposes to revise its tariff by adding proposed section 4.17.3(h), which states "A Distributed Energy Resource Aggregation may not receive compensation from retail programs for capacity, Energy, or other services it provides the CAISO Markets." CAISO explains that this tariff provision creates a compliance obligation on the Distributed Energy Resource Aggregation and the Distributed Energy Resource Provider to avoid double counting.<sup>19</sup> Additionally, revised section 4.17.4 states that "[t]he Utility Distribution Company or Metered Subsystem will have an opportunity to ... raise concerns with respect to whether the Distributed Energy Resources ... (5) receive compensation from retail programs for capacity, Energy, or other services that would be offered to the CAISO Markets..."
  - a. CAISO's proposed revision suggests that CAISO intends to limit the compensation that a Distributed Energy Resource

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<sup>18</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 160.

<sup>19</sup> Transmittal at 14.

Aggregation may receive from retail programs. Please explain how CAISO plans to ensure that a Distributed Energy Resource Aggregation does not receive retail compensation when providing the same services to the CAISO markets and how CAISO plans to address a Distributed Energy Resource Aggregation's failure to comply with proposed section 4.17.3(h).

2. In its answer, CAISO states that its proposed rule allows for service differentiation, time-of-use differentiation, and capacity differentiation.<sup>20</sup> CAISO explains that “it would be premature to offer a prescriptive list of specific double-counting scenarios” and that “[a]s retail programs allow for multiple use applications, and the CAISO, [Utility Distribution Companies], and developers gain experience with actual double-counting scenarios, the CAISO can enumerate permissible and prohibited practices in its business practice manuals and tariff.”<sup>21</sup>
  - a. Please explain and provide an example of how CAISO plans to assess “service differentiation” to determine whether the service in a retail market or program is the same as a service in the CAISO markets and whether CAISO will specify the criteria by which CAISO will determine what constitutes the same service.

**D. Minimum and Maximum Size of Aggregation**

In Order No. 2222, the Commission added section 35.28(g)(12)(iii) to the Commission's regulations to require each RTO/ISO to implement a minimum size requirement not to exceed 100 kW for all distributed energy resource aggregations.<sup>22</sup> The Commission stated that it will consider any future post-implementation requests to increase the minimum size requirement above 100 kW if the RTO/ISO demonstrates that it is experiencing difficulty calculating efficient market results and there is not a viable

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<sup>20</sup> CAISO Answer at 14.

<sup>21</sup> *Id.* at 13.

<sup>22</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 171.

software solution for improving such calculations.<sup>23</sup>

1. CAISO states that it proposes to lower its minimum capacity requirement for Distributed Energy Resource Aggregations to 100 kW.
  - a. CAISO Tariff Appendix K (Ancillary Service Requirements Protocol) includes a 500 kW minimum size requirement for a non-storage resource providing Regulation, Spinning Reserve, or Non-Spinning Reserve as an ancillary service. Please explain how this provision is consistent with the requirement to implement a minimum size requirement not to exceed 100 kW for all distributed energy resource aggregations.

**E. Minimum and Maximum Capacity Requirements for Distributed Energy Resources Participating in an Aggregation**

To implement section 35.28(g)(12)(ii)(a) of the Commission's regulations, the Commission in Order No. 2222 did not establish a minimum or maximum capacity requirement for individual distributed energy resources to participate in RTO/ISO markets through a distributed energy resource aggregation.<sup>24</sup>

1. CAISO states that it has capped individual Distributed Energy Resource capacity at one MW to participate in a Distributed Energy Resource Aggregation, for the reasons described in Order No. 2222 and because large Distributed Energy Resources participating together in a Distributed Energy Resource Aggregation could pose greater challenges to the Utility Distribution Company.<sup>25</sup>
  - a. Please explain in more detail why CAISO specifically chose a one MW threshold for participation.
2. As support for its proposal, CAISO cites to existing tariff section 4.6.3.2, which states that "A Generator with a Generating Unit directly connected to a Distribution System will be exempt from compliance with this Section 4.6 and Section 10.1.3 in relation to

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<sup>23</sup> *Id.* P 172.

<sup>24</sup> *Id.* P 179.

<sup>25</sup> Transmittal at 16.

that Generating Unit provided that (i) the rated capacity of the Generating Unit is less than one (1) MW, and (ii) the Generator does not use the Generating Unit to participate in the CAISO Markets.”

- a. Please explain how exempting generators under one MW from certain generator requirements amounts to setting a maximum capacity requirement for Distributed Energy Resources at one MW. Could a generator-type Distributed Energy Resource that is greater than one MW participate in a Distributed Energy Resource Aggregation so long as it meets the requirements of sections 4.6 and 10.1.3 of the CAISO tariff (i.e., meets the requirements of the exempted sections)?

#### **IV. Distribution Factors and Bidding Parameters**

In Order No. 2222, the Commission added section 35.28(g)(12)(ii)(c) to the Commission’s regulations to require each RTO/ISO to establish market rules that address distribution factors and bidding parameters for distributed energy resource aggregations.<sup>26</sup> The Commission stated that RTOs/ISOs that allow multi-node aggregations must, at a minimum, propose clear protocols explaining how a distributed energy resource aggregation can provide the required information and update that information when needed.<sup>27</sup>

1. CAISO states that it requires each Distributed Energy Resource Aggregation to provide a net response at its Pricing Node (PNode) or PNodes within its sub-Load Aggregation Point that follows CAISO dispatch instructions and the distribution factors the Distributed Energy Resource Aggregation provided in its bid or as default factors in CAISO’s Master File.<sup>28</sup> In addition, CAISO explains that it requires Distributed Energy Resource Aggregations to register in the Master File or submit as part of its bid the common bid components for supply resources, and bid components specifically needed for Distributed Energy Resource Aggregations, including the distribution factor, ramp rate, minimum and maximum operating limits; energy limit, and contingency flag.

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<sup>26</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 225.

<sup>27</sup> *Id.* P 229.

<sup>28</sup> Transmittal at 18.

- a. Please clarify whether CAISO requires Distributed Energy Resource Aggregations to update distribution factors if they change.
- b. Please describe the protocols explaining how a Distributed Energy Resource Aggregation updates its information in the Master File and where in the tariff or manuals these protocols are located.

## V. Information and Data Requirements

In Order No. 2222, the Commission added section 35.28(g)(12)(ii)(d) to the Commission's regulations to require each RTO/ISO to establish market rules that address information requirements and data requirements for distributed energy resource aggregations.<sup>29</sup> The Commission required each RTO/ISO 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; (2) require distributed energy resource aggregators to provide a list of the individual resources in their aggregations; and (3) establish any necessary information that must be submitted for the individual distributed energy resources. The Commission also required each RTO/ISO to revise its tariff to require distributed energy resource aggregators to provide aggregate settlement data for the distributed energy resource aggregation and to retain performance data for individual distributed energy resources in a distributed energy resource aggregation for auditing purposes.

1. CAISO states that section 4.17 of the CAISO tariff broadly establishes "the information and data that a distributed energy resource aggregation must provide about the physical and operational characteristics of its aggregation."<sup>30</sup>
  - a. Please provide citations to the specific sections of the tariff that describe the information and data that a Distributed Energy Resource Aggregation must provide about the physical and operational characteristics of its aggregation.

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<sup>29</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 236.

<sup>30</sup> Transmittal at 19.

2. CAISO states that the Distributed Energy Resource Provider will provide information, as described in the Business Practice Manual, identifying each of its Distributed Energy Resource Aggregations and information regarding the location, capacity, operating characteristics, and distribution factors as may be reasonably requested from time to time by CAISO.<sup>31</sup>
  - a. Please clarify what information the Distributed Energy Resource Provider must provide pursuant to tariff section 4.17.4 regarding the operating characteristics of its Distributed Energy Resource Aggregation.
  
3. CAISO explains that Article 4.2.1 of the *pro forma* Distributed Energy Resource Provider Agreement provides that the “Distributed Energy Resource Provider has identified the Distributed Energy Resources that it owns, operates, or has a contractual entitlement to as part of a Distributed Energy Resource Aggregation in Schedule 1, as required by Section 4.17 of the CAISO Tariff.”<sup>32</sup> In addition, CAISO states that section 4.17.4 of the CAISO tariff states that, “[e]ach Distributed Energy Resource Provider will provide information, as described in the Business Practice Manual, identifying each of its Distributed Energy Resource Aggregations and such information regarding the location, capacity, operating characteristics and applicable Generation Distribution Factors of its Distributed Energy Resource Aggregation(s) as may be reasonably requested from time to time by the CAISO . . . .”
  - a. Please indicate whether tariff section 4.17.4 or another subsection of section 4.17 requires the Distributed Energy Resource Provider to provide a list of the individual Distributed Energy Resources in its Distributed Energy Resource Aggregation.
  - b. To the extent that CAISO needs additional information beyond the list of individual Distributed Energy Resources participating in a Distributed Energy Resource Aggregation, please identify and explain what additional specific information about the individual Distributed Energy

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<sup>31</sup> *Id.* at 19 (citing CAISO tariff section 4.17.4).

<sup>32</sup> *Id.* at 19.

Resources included in a Distributed Energy Resource Aggregation CAISO needs.

4. CAISO states that, for auditing purposes, tariff section 10.3.2.1.2 requires the Scheduling Coordinator for a Distributed Energy Resource Aggregation to retain the settlement quality meter data of each Distributed Energy Resource comprising a Distributed Energy Resource Aggregation for a period of at least three years, and to provide this information to CAISO as may be reasonably requested by CAISO.<sup>33</sup> CAISO also explains that, because Distributed Energy Resource Aggregations are Scheduling Coordinator Metered Entities, the Scheduling Coordinator is also subject to the inspection, retention, and audit requirements for supply resources.<sup>34</sup>
  - a. Please indicate whether CAISO's requirement that the Scheduling Coordinator retain the settlement quality meter data of each Distributed Energy Resource comprising a Distributed Energy Resource Aggregation for a period of at least three years for auditing purposes is consistent with the auditing data requirements applied to other market participants. If not, please explain why auditing data requirements differ for Distributed Energy Resource Aggregations.

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

In Order No. 2222, the Commission added section 35.28(g)(12)(ii)(f) to the Commission's regulations to require 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>35</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 the necessary metering and telemetry requirements for distributed energy resource aggregations, and required each RTO/ISO to

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<sup>33</sup> *Id.* at 20.

<sup>34</sup> *Id.* at 20 (citing CAISO tariff section 10.3.10).

<sup>35</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 262.

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>36</sup>

The Commission stated that each RTO's/ISO's proposed metering requirements should rely on meter data obtained through compliance with distribution utility or local regulatory authority metering system requirements whenever possible for settlement and auditing purposes.<sup>37</sup> To the extent that the RTO/ISO proposes that such information come from or flow through distribution utilities, the Commission required that RTOs/ISOs coordinate with distribution utilities and relevant electric retail regulatory authorities to establish protocols for sharing metering and telemetry data, and that such protocols minimize costs and other burdens and address concerns raised with respect to privacy and cybersecurity.<sup>38</sup>

1. CAISO states that Distributed Energy Resource Aggregations are Scheduling Coordinator Metered Entities in CAISO, and the Scheduling Coordinator and not the CAISO polls the Distributed Energy Resources' meters; performs the validation, estimation, and editing; and then submits the aggregate settlement quality meter data for the Distributed Energy Resource Aggregation to CAISO.<sup>39</sup> CAISO states that it does not impose its physical metering standards on each Distributed Energy Resource or Distributed Curtailment Resource, and that section 4.17.5.2 of the CAISO tariff states that each Distributed Energy Resource must be directly metered under a meter that complies with the Utility Distribution Company tariff and any standards of the Local Regulatory Authority. If no tariff or local regulatory standards exist, CAISO states that a Distributed Energy Resource must comply with the metering standards in the CAISO's business practice manual for metering.<sup>40</sup>

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<sup>36</sup> *Id.* P 263.

<sup>37</sup> *Id.* P 269.

<sup>38</sup> *Id.* P 270.

<sup>39</sup> Transmittal at 21.

<sup>40</sup> *Id.* at 22.

- a. Please explain whether CAISO will allow Distributed Energy Resource Aggregations to rely on meter data from the relevant Distribution Utility or relevant electric retail regulatory authority.
  - b. Please clarify whether there are circumstances under which metering and telemetry data will come from or flow through distribution utilities. If so, please indicate whether CAISO coordinated with distribution utilities and relevant electric retail regulatory authorities to establish protocols for sharing metering and telemetry data and describe any such protocols.
2. CAISO states that any Distributed Energy Resource Aggregation that is 10 MW or greater or provides ancillary services must provide direct telemetry consistent with CAISO's telemetry standards for supply resources.<sup>41</sup> CAISO also states that it does not require each Distributed Energy Resource in a Distributed Energy Resource Aggregation to provide direct telemetry.
- a. Please explain whether it is possible for CAISO to receive direct telemetry from a Distributed Energy Resource Aggregation if not all Distributed Energy Resources within the Distributed Energy Resource Aggregation have direct telemetry. If so, please provide an example of a possible configuration that would allow CAISO to receive direct telemetry. Please indicate in your response whether an individual Distributed Energy Resource participating in a Distributed Energy Resource Aggregation could provide calculated rather than directly measured metering and telemetry data.

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

### **A. Role of Distribution Utilities**

To implement section 35.28(g)(12)(ii)(g) of the Commission's regulations, the Commission in Order No. 2222 required each RTO/ISO to modify its tariff to incorporate a comprehensive and non-discriminatory process for timely review by a distribution

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<sup>41</sup> *Id.*

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>42</sup>

In Order No. 2222-A, the Commission clarified that, although it is providing each RTO/ISO with the flexibility to develop review procedures and criteria appropriate for its region, the Commission expects that the criteria proposed on compliance will require that an RTO/ISO decision to deny wholesale market access to a distributed energy resource for reliability reasons be supported by a showing that the distributed energy resource presents significant risks to the reliable and safe operation of the distribution system.<sup>43</sup>

1. CAISO states that section 4.17.4 of the CAISO tariff explains the Utility Distribution Company review process.<sup>44</sup> CAISO has proposed to revise section 4.17.4 to provide that Utility Distribution Companies may raise concerns with respect to whether a Distributed Energy Resource may pose a “significant” threat to the safe and reliable operation of the distribution system, if operated as part of a Distributed Energy Resource Aggregation.
  - a. Please explain the criteria, including any specific metrics, by which the Utility Distribution Companies would determine whether the participation of each proposed Distributed Energy Resource in a Distributed Energy Resource Aggregation would pose “significant” risks to the reliable and safe operation of the distribution system.
  - b. Please explain what showing is required from the Utility Distribution Company to support the decision that a Distributed Energy Resource presents significant risks to the reliable and safe operation of the distribution system.
2. Section 4.17.4 of the CAISO tariff states that “[a]s further described in the Business Practice Manual, the CAISO will confer with the applicable

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<sup>42</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 292.

<sup>43</sup> Order No. 2222-A, 174 FERC ¶ 61,197 at P 76 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 292) (referencing the criteria by which the distribution utilities will determine whether a proposed distributed energy resource will pose “significant risks to the reliable and safe operation of the distribution system”).

<sup>44</sup> Transmittal at 23.

Utility Distribution Company or Metered Subsystem regarding information provided about Distributed Energy Resources comprising a Distributed Energy Resource Aggregation(s).”

- a. Please provide more information regarding how CAISO will “confer” with the applicable Utility Distribution Company or Metered Subsystem pursuant to section 4.17.4 of the CAISO tariff.

To support this distribution utility review process, the Commission stated in Order No. 2222 that RTOs/ISOs must share with distribution utilities any necessary information and data about the individual distributed energy resources participating in a distributed energy resource aggregation.<sup>45</sup> In Order No. 2222-A, the Commission clarified 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 should be shared with the distributed energy resource aggregator.<sup>46</sup>

3. CAISO states that, if the Utility Distribution Company raises one of these six concerns described in section 4.17.4 of the CAISO tariff, CAISO will provide the Distributed Energy Resource Provider with the Utility Distribution Company’s written comments, and the Distributed Energy Resource Provider will resolve those concerns with the Utility Distribution Company before CAISO allows the individual Distributed Energy Resource to participate in a Distributed Energy Resource Aggregation.<sup>47</sup>
  - a. Please explain what, if any, information and data collected about the individual Distributed Energy Resources participating in a Distributed Energy Resource Aggregation as part of the distribution utility review process will be included in the written comments of the Utility Distribution Company.

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

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<sup>45</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 292; *see id.* PP 236-40.

<sup>46</sup> Order No. 2222-A, 174 FERC ¶ 61,197 at P 75 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 292).

<sup>47</sup> Transmittal at 24.

review process.<sup>48</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 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>49</sup>

In Order No. 2222, the Commission found that the distribution utility should have the opportunity to request that the RTO/ISO place operational limitations on an aggregation or the removal of a distributed energy resource from an aggregation based on specific significant reliability or safety concerns that the distribution utility clearly demonstrates to the RTO/ISO and distributed energy resource aggregator on a case-by-case basis.<sup>50</sup>

2. CAISO states that section 4.17.4 of the CAISO tariff contains the Utility Distribution Company review process which allows the Utility Distribution Company to raise concerns regarding whether any Distributed Energy Resources may threaten the safe and reliable operation of the distribution system, if operated as part of a Distributed Energy Resource Aggregation.<sup>51</sup>
  - a. Please explain whether the potential impacts on distribution system reliability considered as part of the Utility Distribution Company review process would include any incremental impacts from a Distributed Energy Resource's participation in

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<sup>48</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 297.

<sup>49</sup> Order No. 2222-A, 174 FERC ¶ 61,197 at P 79 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 297).

<sup>50</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 297. For example, the Commission stated that the RTOs/ISOs may consider requiring a signed affidavit or other evidence from the distribution utility that a distributed energy resource's participation in RTO/ISO markets would pose a significant risk to the safe and reliable operation of the distribution system, and processes to contest the distribution utility's recommendation for removal or for operational limitations to be placed on the aggregation. *Id.*

<sup>51</sup> Transmittal at 23-24.

a Distributed Energy Resource Aggregation that were not previously considered by the Utility Distribution Company during the interconnection study process for that Distributed Energy Resource.

- b. Please explain whether the Utility Distribution Company could request that CAISO place operational limitations on a Distributed Energy Resource Aggregation or the removal of a Distributed Energy Resource from Distributed Energy Resource Aggregation based on specific significant reliability or safety concerns on a case-by-case basis.

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>52</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. 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 Federal Power Act section 206<sup>53</sup> at any time.<sup>54</sup>

4. CAISO tariff section 4.17.4 provides that any unresolved concerns in the Utility Distribution Company review process “shall be undertaken with the applicable Governmental Authority for the Utility Distribution Company or Metered Subsystem and shall not be arbitrated or in any way resolved through a CAISO dispute resolution mechanism.”
  - a. Please explain why unresolved concerns in the Utility Distribution Company review process will not be resolved through CAISO's dispute resolution procedures.

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<sup>52</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 299.

<sup>53</sup> 16 U.S.C. § 824e.

<sup>54</sup> Order No. 2222-A, 174 FERC ¶ 61,197 at P 70 (citing Order No. 2222, 172 FERC ¶ 61,247 at P 299).

**B. Ongoing Operational Coordination**

To implement section 35.28(g)(12)(ii)(g) of the Commission's regulations, in Order No. 2222, 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.<sup>55</sup>

1. CAISO states that each Distributed Energy Resource Provider will operate its Distributed Energy Resource Aggregation in a manner that is consistent with limitations or operating orders established by the Utility Distribution Company.<sup>56</sup>
  - a. Please explain which CAISO tariff provision provides coordination protocols and processes for the operating day that allow Utility Distribution Companies 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.
  - b. Please explain how these coordination protocols and processes will be transparent and when a Distributed Energy Resource Provider will be informed of Utility Distribution Company overrides and by whom.

**C. Role of Relevant Electric Retail Regulatory Authorities**

In Order No. 2222, the Commission required each RTO/ISO to specify in its tariff, as part of the market rules on coordination between the RTO/ISO, the distributed energy resource aggregator, and the distribution utility, how each RTO/ISO will accommodate and incorporate voluntary relevant electric retail regulatory authority involvement in coordinating the participation of aggregated distributed energy resources in RTO/ISO

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<sup>55</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 310.

<sup>56</sup> Transmittal at 25-26.

markets.<sup>57</sup>

1. CAISO explains that existing tariff section 4.17.2(b) requires each Distributed Energy Resource Provider to comply with any applicable Local Regulatory Authority requirements, and that tariff section 4.17.4 allows Utility Distribution Companies to raise issues regarding non-compliance with Local Regulatory Authority requirements and requires resolution of Utility Distribution Company issues by the appropriate authority.<sup>58</sup>
  - a. Please explain whether, and, if so, more specifically how, CAISO allows for voluntary relevant electric retail regulatory authority involvement in coordinating the participation of Distributed Energy Resource Aggregations in CAISO's markets, and how CAISO's existing tariff addresses this compliance directive.
  - b. Please specify whether the relevant electric retail regulatory authority will have a role in coordinating the participation of Distributed Energy Resource Aggregations in CAISO's markets by developing interconnection agreements and rules; developing local rules to ensure distribution system safety and reliability, data sharing, and/or metering and telemetry requirements; overseeing Utility Distribution Company review of Distributed Energy Resource participation in Distributed Energy Resource Aggregations; establishing rules for multi-use applications; or resolving disputes between Distributed Energy Resource Aggregators and Utility Distribution Companies over issues such as access to individual Distributed Energy Resource data.

This letter is issued pursuant to 18 C.F.R. § 375.307 (2020) and is interlocutory. This letter is not subject to rehearing under 18 C.F.R. § 385.713.

A response to this letter must be filed within 30 days of the date of this letter in accordance with the Commission's electronic tariff requirements using Type of Filing

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<sup>57</sup> Order No. 2222, 172 FERC ¶ 61,247 at P 322.

<sup>58</sup> Transmittal at 27.

Code 80 – Compliance.

Failure to respond to this letter order within the time period specified may result in a further order rejecting your filing.

Issued by: Steven T. Wellner, Director, Division of Electric Power Regulation – West