

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

California Independent System Operator Corporation	)	Docket No. ER21-2455-000
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**COMMENTS AND PROTEST OF ADVANCED ENERGY ECONOMY AND THE  
SUSTAINABLE FERC PROJECT**

Pursuant to Rules 210 and 211 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (“Commission” or “FERC”),<sup>1</sup> Advanced Energy Economy (“AEE”) and the Sustainable FERC Project (“SFP”) respectfully submit these comments and protest regarding California Independent System Operator, Inc.’s (“CAISO”) filing in the above-captioned docket of tariff revisions in compliance with Order No. 2222.<sup>2</sup>

**I. INTRODUCTION AND EXECUTIVE SUMMARY**

In its compliance filing, CAISO asserts that its tariff “already complies with the vast majority of the mandates in Order No. 2222” because it was “the first RTO/ISO to establish a [Distributed Energy Resource Aggregation (“DERA”)] model.”<sup>3</sup> To be sure, California and the CAISO have been leaders in deploying advanced energy technologies, including distributed energy resources (“DERs”), for the benefit of consumers. However, being first does not equate to compliance with Order No. 2222. As discussed in greater detail below, AEE and SFP have identified several aspects of CAISO’s existing tariff and its compliance filing that are not fully

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<sup>1</sup> 18 C.F.R. §§ 385.210 and 385.211.

<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 on reh’g*, Order No. 2222-A, 174 FERC ¶ 61,197 (2021), *order on reh’g*, Order No. 2222-B, 175 FERC ¶ 61,227 (2021).

<sup>3</sup> CAISO Transmittal Letter at 2.

compliant with Order No. 2222, and where changes and/or further direction are needed to ensure that aggregations of DERs can fully participate in the CAISO markets and provide all of services that they are technically capable of providing. As the Commission found in Order No. 2222, resolving these deficiencies is necessary to ensure that CAISO's wholesale markets remain just and reasonable.<sup>4</sup>

In particular, CAISO's compliance filing relies heavily (almost exclusively) on its existing Distributed Energy Provider Model ("DERP"). While the DERP was first established in 2016, only seven entities have registered as DERP participants and none of those eligible participants are utilizing DERP to operate in CAISO markets due to significant market participation barriers associated with the model.<sup>5</sup> The barriers associated with the DERP model that prevent DER aggregations from providing all of the services they are capable of providing, as Order No. 2222 requires, are varied and discussed in more detail below, but at a high level they include:

- A requirement that DERP resources be settled at wholesale prices for every hour of every day effectively requires them to commit to CAISO 24 hours a day, seven days a week, limiting their ability to also provide services at the customer site or in retail programs;
- Unexplained and unjustified telemetry requirements applied to DERs in aggregations;

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<sup>4</sup> Order No. 2222 at P 29.

<sup>5</sup> This information comes from AEE members who are active in the CAISO markets. In 2018, authors Justin Gundlach and Romany Webb reported that the DERP model had attracted only four participants, none of which were operating at the time. See Justin Gundlach and Romany Webb, "Distributed Energy Resource Participation in Wholesale Markets: Lessons from the California ISO", *ENERGY LAW JOURNAL* (2018), available at <http://columbiaclimatelaw.com/files/2018/05/Gundlach-and-Webb-2018-05-DER-in-Wholesale-Markets.pdf>.

- High friction enrollment processes that require access to utility meter data and that limit the ability of aggregations of residential demand resources to participate in the markets;
- Lack of qualifying capacity methodology for DER aggregations to provide capacity as Resource Adequacy (RA) resources, and the continued exclusion of DER aggregations utilizing the DERP model from the California Public Utilities Commission (CPUC) RA program; and
- The broad prohibition on participation in the wholesale markets by DERs that participate in retail net energy metering programs.

Rather than resolve these existing barriers within the DERP model in compliance with Order No. 2222, CAISO's compliance filing exacerbates them. CAISO proposes in its compliance filing to add an overly broad prohibition on participation of DERs that also "receive compensation from retail programs for capacity, Energy, or other services it provides the CAISO market."<sup>6</sup> The expansive wording of this prohibition (and the ill-defined term "other services") risks an overly broad exclusion from CAISO participation of DERs that are also participating in retail programs, and CAISO does not provide an adequate explanation for why it is necessary to avoid double counting or otherwise comply with Order No. 2222.

In addition, CAISO's proposal that it determine, in conjunction with *only* the utility distribution company ("UDC") (which are serving less and less retail load over time due to the growth of Community Choice Aggregation) whether or not a DER proposed for inclusion in an aggregation is receiving compensation from a retail program services it provides to the CAISO

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<sup>6</sup> CAISO Transmittal Letter at 14.

markets does not comply with Order No. 2222. This provision is unworkable in practice and risks undue discrimination.<sup>7</sup>

For these reasons, AEE and SFP contend that CAISO's filing does not fully comply with Order No. 2222. In that landmark order, the Commission required that each RTO/ISO allow aggregations of DERs to provide all of the wholesale services they are technically capable of providing. As the Commission found in Order No. 2222, failing to ensure that aggregations of DERs are able to participate in wholesale markets diminishes competition in the wholesale markets, causing unjust and unreasonable rates.<sup>8</sup> To fully comply with Order No. 2222 and ensure that its markets are just and reasonable, then, CAISO must ensure that all DERs can join aggregations, and that such DER aggregations have a viable pathway to participate and compete in the wholesale market to provide all the services they are technically capable of providing. Because the current DERP model, with the additional limitations on the participation of DERs in wholesale aggregations added by CAISO in the instant filing, does not provide a viable participation model for all DERs to provide all wholesale services as part of an aggregation of DERs, we ask the Commission to accept CAISO's compliance filing in part, reject it in part, and direct CAISO to resolve the barriers to participation identified herein.

Failing to fully comply with the objectives of Order No. 2222 not only denies DER owners and operators the opportunity to participate in wholesale markets and receive revenues; it also denies customers the significant cost benefits that can come from greater utilization of DERs to provide multiple services in both the wholesale markets and retail programs and markets.<sup>9</sup> In

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<sup>7</sup> *Id.* at 14-15.

<sup>8</sup> Order No. 2222 at P 29.

<sup>9</sup> See Advanced Energy Economy, "FERC Order No. 2222 and the Use Cases it Can Unlock" (June 2021), available at <https://info.aee.net/ferc-order-no.-2222-and-the-use-cases-it-can-unlock>; Advanced Energy Economy, "Putting Distributed Energy Resources to Work in Wholesale Electricity Markets" (September 2019), available at <https://info.aee.net/der-in-wholesale-electricity-markets>.

addition, ensuring that CAISO's existing DER aggregation participation model fully complies with Order No. 2222 is becoming more urgent as CAISO and the Western Interconnection face increasing reliability and resilience challenges stemming from extreme weather events and wildfires.<sup>10</sup> Real world experience demonstrates that aggregations of DERs can provide valuable resources to support the reliability and resilience of the CAISO system,<sup>11</sup> but face barriers to full participation in the market that are leaving these critical resources on the table today.

Finally, we note that CAISO did not conduct a stakeholder process before making its compliance filing. It is unclear whether some of the compliance issues we identify here could have been clarified through such a process. The lack of a full stakeholder process further underscores the need for the Commission to direct CAISO to remedy the shortcomings of its current DER aggregation participation opportunities to ensure that they comply with Order No. 2222.

## **II. COMMENTS**

### **A. The existing DERP model fails to provide a pathway to allow aggregations of DERs to provide all the services they are technically capable of providing, and thus does not comply with Order No. 2222.**

In Order No. 2222, FERC gave RTOs/ISOs the option to modify existing participation models to comply with the requirement that they allow DER aggregations to participate in their markets.<sup>12</sup> Choosing this option, CAISO relies heavily on the existing DERP model to demonstrate compliance, with a few modifications. The small modifications CAISO offers do not, however, remove any of the barriers to participation that have prevented DER aggregations

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<sup>10</sup> See *Resource Adequacy Developments in the Western Interconnection*, Docket No. AD21-14-000 (record replete with evidence of resource adequacy challenges in CAISO and the Western Interconnection that require more active role for DERs and other technologies).

<sup>11</sup> See, e.g., Comments of Advanced Energy Economy at 5-11, 22-26, *Climate Change, Extreme Weather, and Electric System Reliability*, Docket No. AD21-13-000.

<sup>12</sup> Order No. 2222 at P 130.

from actually utilizing the DERP model to date. Due to these barriers, many DERs currently participate in CAISO’s Proxy Demand Resource (“PDR”) and Reliability Demand Response Resource (“RDRR”). While these programs offer valuable opportunities to provide wholesale services through reductions in load, they do not allow aggregations of DERs to provide services through injection of energy onto the grid, such as energy or ancillary services, thereby limiting the services that technically capable DERs can provide to CAISO. These are the precise types of barriers rooted in existing participation models that Order No. 2222 was adopted to resolve.<sup>13</sup>

Specifically, the limits in CAISO’s existing DERP model that render it not in compliance with Order No. 2222 include the following:

- 1. The existing DERP model requires DERs to commit to participate exclusively in the CAISO markets and does not provide them a pathway to participate in one or more retail programs and the wholesale markets as required by Order No. 2222.**

One key barrier to participation in the existing DERP model is the requirement that participating DERs be settled at wholesale prices for charging and discharging every hour, 24 hours a day, seven days per week. This around-the-clock settlement requirement essentially means that DERs that are technically capable of providing services to CAISO in an aggregation must commit to solely participating in the CAISO markets. In other words, the DERP participation model effectively forces DERs to choose between participating exclusively in either retail programs or the wholesale markets.

In this respect, the existing DERP participation model does not comply with Order No. 2222’s requirement that CAISO allow DERs that participate in one or more retail programs to also participate in its wholesale markets.<sup>14</sup> By requiring DERs that participate in an aggregation

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<sup>13</sup> *Id.* at P 28 (explaining that “while . . . demand response programs have helped reduce barriers to load curtailment resources, they often limit the operations of some types of distributed energy resources”).

<sup>14</sup> *Id.* at P 160.

under the DERP model to be settled around the clock all year, CAISO prevents them from using offer parameters<sup>15</sup> or other tools to hold themselves out of the wholesale market so that they can be available to participate in one or more retail program. This broad effective prohibition on participation in both retail programs and the CAISO wholesale market goes far beyond the narrow restrictions on dual participation to avoid double counting that Order No. 2222 allows RTOs/ISOs to put in place.

This forced choice fails to recognize that DERs are typically adopted to provide a range of services, with their primary use often to provide services under retail programs or meet customer needs behind the retail meter. Precluding potential participants in DER aggregations from taking advantage of opportunities outside the wholesale markets will limit the number and variety of aggregations that can be constructed, since some DERs will not be installed without an opportunity for additional revenue streams. The limits of the DERP model as it currently stands stifle investment in DER technologies and limit DER activity in CAISO's wholesale markets, working against the Commission's regulatory objectives in Order No. 2222 to improve market efficiency to ensure just and reasonable rates and deliver the benefits of technology innovation to customers.

While the perceived complexities of compensation may have led CAISO to retain this 24/7 settlement requirement in its compliance filing, we note that solutions can be designed to alleviate these complexities. For example, CAISO has the option to bill a storage device at the Locational Marginal Price ("LMP") for charging energy that directly precedes a discharge made at the direction of CAISO after it clears in the market. This settled energy would be credited to the load serving entities' ("LSE") load settlement with CAISO and would also be removed from

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<sup>15</sup> *Id.* at P 227 (requiring RTOs/ISOs to implement or adjust bidding parameters to "recognize distributed energy resources' multiples uses").

generation charges on the customer's retail bill. All other energy would be settled and billed at retail.

**2. CAISO does not explain how the telemetry requirements imposed under the existing DERP model comply with Order No. 2222.**

The existing DERP model applies telemetry requirements to DERs that provide ancillary services as part of an aggregation.<sup>16</sup> These requirements are designed around conventional generation technologies, apply regardless of size, and require that telemetry systems must be installed that are capable of transmitting status information every four seconds.<sup>17</sup>

CAISO does not explain how these requirements take into account the unique physical and operational characteristics of DERs and DER aggregations as Order No. 2222 requires. Specifically, CAISO's compliance filing fails to comply with the requirement in Order No. 2222 that it explain why such telemetry requirements are necessary and "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>18</sup> Instead, CAISO relies on the Commission's approval in 2016 of its telemetry requirements, and states that it does not *require* each DER to provide direct telemetry.<sup>19</sup> But the Commission's earlier approval of the existing telemetry rules long predates Order No. 2222, and does not absolve CAISO of the requirement that it explain more fully how those existing rules comply with the Commission's more recent requirements. In addition, while it appears that CAISO does not require individual telemetry to provide *energy*,

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<sup>16</sup> See CAISO, "PDR-DERP-NGR Summary Comparison Matrix" at 5, available at <http://www.caiso.com/Documents/ParticipationComparison-ProxyDemand-DistributedEnergy-Storage.pdf> (summarizing CAISO tariff requirements).

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

<sup>18</sup> Order No. 2222 at P 263-264.

<sup>19</sup> CAISO Transmittal Letter at 21-22, citing *California Independent System Operator Corp.*, 155 FERC ¶ 61,229 at P 13-14 (2016).

that does not provide a fulsome explanation of how telemetry requirements apply to *ancillary services*, or why they are just and reasonable in compliance with Order No. 2222.

**3. Limits in the enrollment process create barriers to the full participation of all technically capable aggregations of residential demand response resources in CAISO.**

Order No. 2222 explicitly includes demand response resources within the definition of DERs that must be permitted to participation in wholesale markets through aggregation,<sup>20</sup> and the Commission noted there that existing demand response programs “often limit the operations of some types of distributed energy resources.”<sup>21</sup> As a result, CAISO needed to consider whether its existing and proposed participation models fully accommodate the participation of all aggregations of demand response resources. Residential demand resources that are dispatchable by market operators—including but not limited to smart thermostats and water heaters—are an important emerging resource thanks to significant technology improvements in the years since the existing demand response participation models were developed, but CAISO’s existing tariff and participation models do not fully accommodate such resources as Order No. 2222 requires.

Specifically, market enrollment processes currently require access to customer meter data to participate in demand response, due to data requirements for market settlement. This “high friction” process presents a significant barrier for dispatchable residential demand response resources and reduces customer participation substantially. For example, customers are subjected to requirements to provide utility service account numbers that are not readily available, or go through a cumbersome registration process that has little relevance to their ability or willingness to participate in a demand response aggregation.<sup>22</sup>

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<sup>20</sup> Order No. 2222 at P 114.

<sup>21</sup> *Id.* at P 28.

<sup>22</sup> Pollock, C., & Fogel, C., “Energy Division’s Evaluation of Demand Response Auction Mechanism” at 145 (2019) (noting that, as a result of these friction points, enrollment rates were just 3% of eligible customers).

The Commission should require CAISO, in a further compliance filing, to explain why changes to its tariff and market participation models are not needed to allow these technically capable residential demand response resources to participate in its markets, as Order No. 2222 requires. As noted above, while each RTO/ISO has existing market participation models for demand response, the Commission did not exempt or otherwise exclude demand response from Order No. 2222’s requirements; to the contrary, it explicitly included demand response resources among the DERs that each RTO/ISO must allow to participate in its markets through aggregation. CAISO recognizes this in its filing.<sup>23</sup>

Accommodating dispatchable residential demand response resources and settling them in the market should not be burdensome. In fact, CAISO has already adopted tariff modifications approved by the Commission that allow behind-the-meter electric vehicle supply equipment (“EVSE”) to provide demand response resources directly in the wholesale market via sub-metering.<sup>24</sup> Similarly, CAISO could allow for submetering of smart thermostats installed in customer homes to allow aggregators to use those thermostats to provide dispatchable demand response and flexible loads. Smart thermostat manufacturers are capable of providing runtime data for building HVAC systems on a five-minute interval basis. This data is sufficient to verify customer load reductions, is commonly used in utility program evaluation of demand response programs, and is listed as an acceptable method in the Department of Energy’s Uniform Method Protocol on smart thermostat program evaluation.<sup>25</sup> As a result, such data can be provided by aggregators to allow for reliable market settlements.

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<sup>23</sup> CAISO Transmittal Letter at 9 (citing Order No. 2222 at P 142-145).

<sup>24</sup> *California Independent System Operator Corp.*, 175 FERC ¶ 61,298 (2020).

<sup>25</sup> The draft Protocol is available upon request at <https://www.nrel.gov/ump/>. In section 4 of the draft protocol, the Department of Energy supports the use of runtime data as appropriate for measurement and verification, stating:

“As residential electricity demand for space heating and cooling often contributes significantly to peak demand, administrators of smart thermostat programs may want to estimate the peak energy savings from

**4. DERs are unable to qualify as Resource Adequacy (RA) resources, limiting the wholesale services and reliability and resilience value they can provide to CAISO.**

Aggregations of DERs participating under CAISO's existing DERP model are unable to qualify as RA resources in CAISO today.<sup>26</sup> While AEE and SFP recognize that the RA program is under the California Public Utility Commission's ("CPUC") primary authority, the inability of DER aggregations to provide resource adequacy services is a significant barrier to the ability of these resources to participate in CAISO's markets, contrary to the objectives of Order No. 2222. Moreover, with DERs growing rapidly in California, it is unjust and unreasonable to continue to fail to provide an opportunity for these resources to aggregate and support resource adequacy needs. More frequent extreme weather events threatening the CAISO grid and service to customers in California only heightens the need for action on this long-standing barrier to the ability of the growing set of DER resources in the state to participate in the markets and bolster reliability and resilience.

Regardless of the fact that the RA program is under the CPUC's authority, there are a number of steps that CAISO can and should take to lower barriers to the ability of technically capable DERs to provide resource adequacy services. These actions are within CAISO's purview and its tariff; as a result, examining them and making appropriate changes to remove barriers to the ability of aggregated DERs to provide RA value is necessary to ensure full compliance with Order No. 2222.

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smart thermostats. To estimate accurately the energy savings for the utility's peak hour(s), evaluators should collect and analyze hourly or sub-hourly electricity consumption or thermostat runtime data using the methods for thermostat replacement programs or optimization programs described previously in this chapter."

Draft Protocol at 14.

<sup>26</sup> See CAISO, "PDR-DERP-NGR Summary Comparison Matrix" at 8, available at <http://www.aiso.com/Documents/ParticipationComparison-ProxyDemand-DistributedEnergy-Storage.pdf> (summarizing CAISO tariff requirements).

First, the Commission should direct CAISO to consider its existing definition of deliverability for storage resources that are located behind the customer meter, and the procedures by which resources get deliverability “status”. These resources meet the Commission’s definition of DER in Order No. 2222, and the metric of deliverability of energy to the bulk system included within the existing definition of deliverability is not the appropriate metric to assess the value that behind-the-meter storage provides to system RA needs. In addition, the procedures for obtaining deliverability status have not been established well for behind the meter resources, and they are required to go through the same process that large front of the meter resources do, which is prohibitively expensive and time consumer for smaller resources that are nonetheless capable of providing RA value. Given the fact that CAISO did not conduct a stakeholder process before making the instant filing, a Commission direction to CAISO to consider these issues would help all parties gain greater understanding and help the Commission assess compliance with Order No. 2222.

Second, CAISO should be directed to use its existing tariff authority to set a qualifying capacity value for behind the meter DERs and hybrid resources. Without certainty around that value, these resources will continue to be ineligible to provide reliability capacity to the California grid. CAISO has already taken this step for storage resources located in front of the meter.

Finally, at a minimum, to comply with Order No. 2222’s requirement that RTOs/ISOs incorporate bidding parameters needed to account for the physical and operational characteristics of DER aggregations,<sup>27</sup> CAISO should be directed to develop must offer obligations and technical requirements for behind-the-meter storage and hybrid resources participating under the

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<sup>27</sup> Order No. 2222 at P 225.

DERP model. The lack of such parameters prevents these resources from providing RA under the CPUC program today, and as the Commission found in Order No. 2222, the lack of these kinds of parameters are a clear barrier to participation in wholesale markets more broadly.<sup>28</sup> CAISO can conduct this work in advance of the CPUC establishing its own qualifying capacity methodology, and can recommend a methodology to the CPUC.

AEE and SFP urge the Commission to encourage CAISO to work with the CPUC to add the DERP model as an eligible market participation model for providing RA. The PDR and RDRR models are already RA eligible market participation models and expanding the universe to include DER aggregations under the DERP model would capture a growing set of resources capable of addressing California's pressing needs for resilience and grid flexibility in the face of extreme heat, wildfires, and other extreme weather events.<sup>29</sup> Such a result, combined with the changes suggested in these comments, would also make the DERP model more useful and increase the participation of DER aggregations in CAISO's markets, meeting the Commission's objectives in Order No. 2222 and ensuring just and reasonable rates. Finally, adding DERP to the PDR and RDRR as eligible models for providing RA would recognize that many DERs will straddle all of these participation models in the future and better reflect their contributions to reliability.<sup>30</sup>

More broadly, CAISO should work with the CPUC and other relevant state agencies (e.g., the California Energy Commission) to ensure that there are not barriers to participation in CAISO's markets for DERs that result from regulations outside the market, and that all agencies'

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<sup>28</sup> Order No. 2222 at P 225-228.

<sup>29</sup> See *Resource Adequacy Developments in the Western Interconnection*, Docket No. AD21-14-000 (record replete with evidence of resource adequacy challenges in CAISO and the Western Interconnection that require more active role for DERs and other technologies).

<sup>30</sup> Enhancing and expanding baseline options for PDR resources may also be necessary to accurately reflect resource contributions to reliability as DERs increasingly straddle the PDR and DERP participation models.

policies are aligned to achieve state priorities. For instance, customers were asked to provide demand response in response to emergency resource needs in 2020, which required a Governor’s exemption to California Energy Commission regulations to implement. It would be helpful to prospectively review regulations relating to backup generator permitting and runtime requirements, prospectively revising such provisions to be consistent with the resource adequacy needs of the state. This will ensure the regulatory certainty needed by generators to plan for and be available, for not only demand response but also injection of energy onto the grid if so desired by CAISO, when signaled by the market constructs that will be supported in CAISO’s Order No. 2222 tariff revisions.

**B. CAISO’s proposed tariff provisions regarding dual participation in wholesale and retail markets are not “narrowly designed” to prevent double counting of services from DERs and do not comply with Order No. 2222.**

Order No. 2222 expressly requires CAISO to allow DERs participating in one or more retail programs to also participate in the wholesale markets through an aggregator, and to allow distributed energy resources to provide multiple wholesale services, providing that they are not counted twice for providing the same service (i.e., “double counting”).<sup>31</sup> Order No. 2222 states that any restrictions on DER participation in wholesale markets through an aggregator must be “*narrowly designed* to avoid counting more than once the services provided by [DERs] in RTO/ISO markets.”<sup>32</sup> In Order No. 2222-A, the Commission emphasized that such restrictions must only prevent wholesale market participation when it is the *only option* to avoid double-counting of services.<sup>33</sup>

**1. The proposed blanket prohibition on wholesale participation by resources receiving compensation under retail programs is overly broad.**

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<sup>31</sup> Order No. 2222 at P 160.

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

<sup>33</sup> Order No. 2222-A at P 64.

The new tariff provisions CAISO proposes to “address double counting generally” far exceed the narrowly tailored restrictions on wholesale participation that the Commission allowed for in Order No. 2222. First, the new double counting provisions would broadly prohibit a DER from participation in a wholesale aggregation if it receives “compensation from retail programs for capacity, Energy, or other services it provides the CAISO Markets.”<sup>34</sup> CAISO explains that this “simple provision . . . creates a compliance obligation on the DERA and the DERP to avoid double counting,” but does not explain how this provision meets the Commission’s requirement that such restrictions be “narrowly designed” nor why it is the only option to avoid double counting of services.<sup>35</sup>

It is not surprising that CAISO fails to offer such an explanation given how broadly the prohibition is stated in the proposed tariff language, and the fact that it sets forth a generic prohibition on compensation from retail programs for “capacity, Energy, or *other services*.” The proposal does not detail exactly what is meant by “capacity, Energy, or other services.” It is unclear if it includes distribution domain services such as distribution capacity deferral or customer level services such as time of use bill management, or whether it includes state technology incentives to promote the use of energy storage. In short, such a broadly worded prohibition, on its face, is not “narrowly designed.” It also places undue risks on DER owners, operators, and aggregators to determine whether the retail compensation they receive would double count services in the CAISO market. Order No. 2222 requires CAISO to set forth double counting restrictions in a detailed and narrow manner, and to impose market participation bans as a last resort. CAISO’s proposal misses this mark.

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<sup>34</sup> CAISO Transmittal Letter at 14 and proposed tariff language in Section 4.17.3, “Requirements for Distributed Energy Resource Aggregations.”

<sup>35</sup> CAISO Transmittal Letter at 14.

Further, CAISO proposes to have only the utility distribution company and CAISO confer and determine whether a DER receives “compensation from retail programs for capacity, Energy, or other services it provides the CAISO Markets.”<sup>36</sup> This approach risks undue discrimination as well as unjust and unreasonable determinations that a DER may not participate in a wholesale aggregation. Excluding the DER owner, operator, or aggregator that intends to use it in a wholesale aggregation from this process, in particular, risks undue discrimination and is unjust and unreasonable.

Moreover, for a number of reasons CAISO’s approach will be unworkable in practice, and will serve to diminish opportunities for DERs to provide multiple services in California generally and for DER aggregations to participate in the wholesale market, working against the Commission’s objectives in Order No. 2222.

First, the proposed tariff language entirely ignores the framework put in place by the CPUC—in conjunction with CAISO staff—for multiple use applications of energy storage resources in 2018.<sup>37</sup> This framework explicitly provided for provision of services from these resources that are differentiated by capacity and/or time, as well as those that occur simultaneously. Time differentiation allows a single resource to provide similar services in different months or time periods. CAISO’s proposed tariff language here raises unanswered questions about whether compensation received under this framework would fall within the vague double counting prohibition that tariff language would put in place.

Second, it is important to note that in California, procurement of capacity and energy to serve retail load is increasingly not performed by the UDC. Rather, this procurement—which

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<sup>36</sup> CAISO Transmittal Letter at 14-15.

<sup>37</sup> California Public Utility Commission, “Decision on Multiple-Use Application Issues”, Rulemaking 15-03-011 (Jan. 11, 2018), *available at* <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M206/K462/206462341.pdf>

includes the design and operation of customer programs—is frequently done by community choice aggregators (“CCAs”). Neither CCAs, nor their procurement or rates, are subject to the direct oversight of the CPUC, and are certainly not within the authority of the UDC. CAISO’s proposal to limit the determination of whether double counting will occur to only the UDC and CAISO would improperly allow two entities that are entirely divorced from the actual procurement and obligation of resources to arbitrarily determine which DER is allowed into an aggregation and which DER must be excluded. As noted above, this approach is not just and reasonable and creates an unacceptable risk of undue discrimination.

Third, CAISO does not operate a capacity market, and has no direct authority over capacity procurement for resource adequacy in California apart from the limited emergency use of a narrow capacity procurement mechanism in its tariff. As a result, it is unclear how any retail program could provide compensation to a DER for “capacity . . . services it provides to the CAISO markets.” Capacity procurement is generally solicited through requests for offers issued by load serving entities, with contracts executed bilaterally between electric resource providers and load serving entities. The resource provider is then required to bid that resource into the CAISO wholesale energy market consistent with the must offer obligation. It is unclear how CAISO’s proposed tariff language applies to this circumstance, and the tariff language risks an overly broad continued exclusion of DERs from providing resource adequacy value.

If CAISO intends for its proposed tariff language to broadly exclude any DER aggregations that would provide capacity/RA value, then it bears repeating that the proposal would exacerbate and perpetuate one of the primary barriers to the participation of DERs in its markets (as discussed above). CAISO even acknowledges this barrier in its own filing here.<sup>38</sup>

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<sup>38</sup> CAISO Transmittal Letter at 3.

Given the recent and ongoing challenges that extreme weather is presenting to CAISO and the West, the Commission should continue to focus attention on barriers to DERs providing resource adequacy value, with the express goal of *removing* those barriers rather than *exacerbating* them.

Importantly, this portion of the CAISO's filing includes entirely new tariff provisions that were not developed with any stakeholder input. Unlike many of the other RTOs/ISOs, CAISO did not establish an iterative stakeholder process where stakeholders received information on this approach sufficiently ahead of finalization of those proposals in proposed tariff language to be filed with the Commission so that they could understand CAISO's approach and provide input. It is also not clear if there was any collaboration with the CPUC on this proposal.

**2. The existing tariff provisions preventing DERs participating in retail net energy metering programs from providing ancillary services in CAISO is unnecessary to avoid double counting and fails to comply with Order No. 2222.**

In addition to the proposed new broad restrictions on participation in both retail programs and the wholesale markets discussed above, CAISO also declines to update its current rules that broadly prohibit all DERs participating in a retail net energy metering program from also participating in the wholesale markets unless expressly authorized by the retail program rules.<sup>39</sup> This restriction generally prevents such DERs (which are the majority of DERs in CAISO) from providing ancillary services. This prohibition is not necessary to avoid double counting, because retail net energy metering programs do not provide and are not compensated for wholesale ancillary services. Ancillary services are simply not counted at all in retail net energy metering programs, eliminating any risk of double counting.

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<sup>39</sup> See CAISO Transmittal Letter at 14 (asserting the current restriction in its tariff (Section 4.17.3(d)) that “prevents a DER from participating in a DERA where the DER already participates in a retail net energy metering program that does not expressly permit wholesale market participation” complies with Order No. 2222).

The fact that net energy metering customers may avoid some ancillary services costs when they avoid the retail rate does not mean they are being compensated for ancillary services. A net energy metering customer injecting energy is not providing any ancillary services: they are not following ISO dispatch, do not meet the technical requirements to provide the services, and are likely not sufficiently metered or telemetered. Avoidance of ancillary services costs by a net metering customer providing energy is purely a matter of retail cost allocation with no bearing on double counting for services provided.

Conversely, a DER providing wholesale ancillary services while also participating in a retail net metering program is only receiving retail compensation for the energy incidentally provided. In many cases, a DER providing ancillary services will receive no net energy metering credit at all: for example, a DER providing CAISO's Regulation Down product will actually increase its energy consumption, while one providing Operating Reserves will generally be providing no energy while awaiting dispatch. Just as wholesale markets distinguish between energy and ancillary services, DER rules should distinguish between energy compensated under net metering and ancillary services compensated under wholesale rates. This may be accomplished by more narrowly tailored restrictions allowing net energy metering customers to provide wholesale ancillary services, but not wholesale energy.

In order to comply with Order No. 2222's requirement that limits on DER participation must be "narrowly designed to avoid counting more than once the services provided,"<sup>40</sup> CAISO must update its tariff to only prohibit DERs in retail energy net metering programs from providing energy in the wholesale markets. In the alternative, the Commission should direct

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<sup>40</sup> Order No. 2222 at P 160.

CAISO to provide rigorous, settlement-grade accounting examples demonstrating how allowing net energy metering customers to provide ancillary services results in double counting.

### III. CONCLUSION

WHEREFORE, for the foregoing reasons, AEE and SFP respectfully request that the Commission accept CAISO's compliance filing in part, reject it in part, and direct CAISO to make a further compliance filing to remedy the issues identified herein.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in these proceedings.

Dated this 9th day of August, 2021.

/s/ Jeffery Dennis