

172 FERC ¶ 61,050  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;  
Richard Glick, Bernard L. McNamee,  
and James P. Danly.

California Independent System  
Operator Corporation

Docket No. ER19-468-002

ORDER ON COMPLIANCE FILING

(Issued July 17, 2020)

1. On November 21, 2019, the Commission issued an order accepting, subject to further compliance,<sup>1</sup> a filing the California Independent System Operator Corporation (CAISO) made to comply with the requirements of Order No. 841, which removes barriers to the participation of electric storage resources in the capacity, energy, and ancillary service markets operated by Regional Transmission Organizations and Independent System Operators (RTO/ISO).<sup>2</sup>
2. On January 21, 2020, CAISO submitted further proposed revisions to its Open Access Transmission Tariff (Tariff) to comply with the First Compliance Order (Second Compliance Filing). In this order, we accept the Second Compliance Filing, to become effective December 3, 2019, subject to a further compliance filing, as discussed below.

---

<sup>1</sup> *Cal. Indep. Sys. Operator Corp.*, 169 FERC ¶ 61,126 (2019) (First Compliance Order).

<sup>2</sup> *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 841, 162 FERC ¶ 61,127 (2018), *order on reh'g*, Order No. 841-A, 167 FERC ¶ 61,154 (2019), *aff'd sub nom. Nat'l Ass'n of Regulatory Util. Comm'rs. v. FERC*, No. 19-1142 (D.C. Cir. July 10, 2020).

## I. Background

3. In Order No. 841, the Commission modified section 35.28 of its regulations<sup>3</sup> to remove barriers to the participation of electric storage resources in RTO/ISO markets.<sup>4</sup> The Commission found that Order No. 841 will enhance competition and, in turn, help to ensure that the RTO/ISO markets produce just and reasonable rates, pursuant to the Commission's legal authority under Federal Power Act (FPA) section 206.<sup>5</sup>

4. Order No. 841 requires each RTO/ISO to revise its tariff to establish a participation model for electric storage resources consisting of market rules that, recognizing the physical and operational characteristics of electric storage resources, will help facilitate their participation in the RTO/ISO markets.<sup>6</sup> Specifically, for each RTO/ISO, the tariff provisions for the participation model for electric storage resources must: (1) ensure that a resource using the participation model is eligible to provide all capacity, energy, and ancillary services that it is technically capable of providing in the RTO/ISO markets; (2) ensure that a resource using the participation model can be dispatched and can set the wholesale market clearing price as both a wholesale seller and wholesale buyer consistent with existing market rules that govern when a resource can set the wholesale price; (3) account for the physical and operational characteristics of electric storage resources through bidding parameters or other means; and (4) establish a minimum size requirement for participation in the RTO/ISO markets that does not exceed 100 kW. Additionally, each RTO/ISO must specify that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets must be at the wholesale locational marginal price (LMP).<sup>7</sup>

5. On December 3, 2018, CAISO filed initial revisions to its Tariff to comply with the requirements of Order No. 841 (First Compliance Filing). On November 21, 2019, in

---

<sup>3</sup> 18 C.F.R. § 35.28 (2019).

<sup>4</sup> Order No. 841, 162 FERC ¶ 61,127 at P 1.

<sup>5</sup> 16 U.S.C. § 824e (2018).

<sup>6</sup> Order No. 841, 162 FERC ¶ 61,127 at P 3. In Order No. 841, the Commission referred to a set of Tariff provisions that are created for a particular type of resource as a participation model. *Id.*

<sup>7</sup> *Id.* P 4.

the First Compliance Order, the Commission accepted CAISO's First Compliance Filing, subject to a further compliance filing.<sup>8</sup>

6. In particular, the Commission found that CAISO's Tariff partially complied with the requirement of Order No. 841 to account for each of the specific enumerated physical and operational characteristics of electric storage resources through bidding parameters or other means,<sup>9</sup> and instructed CAISO to file Tariff changes to account for Discharge Ramp Rate,<sup>10</sup> Charge Ramp Rate,<sup>11</sup> Maximum/Minimum State of Charge,<sup>12</sup> Maximum Charge Limit,<sup>13</sup> Maximum Discharge Limit,<sup>14</sup> Maximum/Minimum Charge Time,<sup>15</sup> and

---

<sup>8</sup> First Compliance Order, 169 FERC ¶ 61,126 at PP 1, 11.

<sup>9</sup> *Id.* P 99.

<sup>10</sup> Discharge Ramp Rate is defined as the speed at which a resource using the participation model for electric storage resources can move from zero output to its Maximum Discharge Limit. Order No. 841, 162 FERC ¶ 61,127 at PP 234, 236.

<sup>11</sup> Charge Ramp Rate is defined as the speed at which a resource using the participation model for electric storage resources can move from zero output to its Maximum Charge Limit. *Id.* PP 234, 236.

<sup>12</sup> Maximum and Minimum State of Charge represent a State of Charge value that should not be exceeded (i.e., gone above) when a resource using the participation model for electric storage resources is receiving (Maximum State of Charge) or injecting (Minimum State of Charge) electric energy from the grid. *Id.* PP 215, 236.

<sup>13</sup> Maximum Charge Limit represents the maximum MW quantity of electric energy that a resource using the participation model for electric storage resources can receive from the grid. *Id.* PP 216, 236.

<sup>14</sup> Maximum Discharge Limit represents the maximum MW quantity that a resource using the participation model for electric storage resources can inject to the grid. *Id.*

<sup>15</sup> Maximum and Minimum Charge Time represent the maximum and minimum duration that a resource using the participation model for electric storage resources is able to be dispatched by the RTO/ISO to receive electric energy from the grid. *Id.* PP 222, 223, 236.

Maximum/Minimum Run Time<sup>16</sup> in its Tariff. The Commission found that, while CAISO's business practice manuals defined these parameters in a manner consistent with the descriptions in Order No. 841, these bidding parameters must be included in the Tariff.<sup>17</sup> The Commission further found that CAISO's Tariff complied with the Order No. 841's requirement to allow electric storage resources to self-manage their State of Charge.<sup>18</sup>

7. The Commission found that CAISO's Tariff partially complied with the requirement to adopt a minimum size requirement for electric storage resources that does not exceed 100 kW and directed revisions to the minimum size requirements in Appendix K that do not exceed 100 kW.<sup>19</sup>

8. Finally, with respect to Order No. 841's requirements related to energy used to charge electric storage resources, the Commission found that CAISO's Tariff partially complied. Specifically, the Commission found that CAISO's Tariff complied with Order No. 841's requirements regarding the use of nodal LMP to credit and debit electric storage resources,<sup>20</sup> as well those regarding the application of transmission charges to electric storage resources.<sup>21</sup> However, while the Commission found that CAISO's Tariff complies with the requirement that electric storage resources be directly metered, the Commission found it unclear whether CAISO's metering and accounting practices allow for simultaneous participation in both retail and wholesale markets.<sup>22</sup> In addition, the Commission found that CAISO's Tariff did not fully comply with Order No. 841's requirement that RTOs/ISOs prevent electric storage resources from paying both wholesale and retail rates for the same charging energy.<sup>23</sup> The Commission directed CAISO to: (1) revise its Tariff to include a basic description of its metering methodology

---

<sup>16</sup> Maximum and Minimum Run Time represent the maximum and maximum amount of time that a resource using the participation model for electric storage resources is able to inject electric energy to the grid. *Id.* PP 224, 236.

<sup>17</sup> First Compliance Order, 169 FERC ¶ 61,126 at P 100.

<sup>18</sup> *Id.* P 108.

<sup>19</sup> *Id.* P 116.

<sup>20</sup> *Id.* P 136.

<sup>21</sup> *Id.* PP 137-138.

<sup>22</sup> *Id.* P 159.

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

and accounting practices specific to electric storage resources, as well as references to other CAISO documents containing the implementation details;<sup>24</sup> (2) provide an explanation regarding how the metering and accounting practices allow for electric storage resources to participate in both wholesale and retail markets, or alternatively, revise its Tariff to allow electric storage resources that provide retail services to also participate in CAISO's markets;<sup>25</sup> and (3) revise its Tariff to explicitly provide that, if a host utility is unable or unwilling to net out any energy purchases associated with an electric storage resource's wholesale charging activities from the host customer's retail bill, then CAISO would be prevented from charging that resource wholesale rates for the charging energy for which the resource is already paying retail rates.<sup>26</sup>

## II. Second Compliance Filing

9. In the Second Compliance Filing, CAISO states that its filing addresses three compliance directives: (1) reflecting physical and operational characteristics of electric storage resources in its Tariff;<sup>27</sup> (2) lowering the minimum capacity requirements for electric storage resources to provide ancillary services;<sup>28</sup> and (3) ensuring that its metering practices allow for the participation of electric storage resources in both the wholesale and retail markets.<sup>29</sup>

10. To comply with the Commission's directive regarding physical and operational characteristics of electric storage resources, CAISO proposes to include a new Tariff section 4.6.11 requiring electric storage resources to submit their operating characteristics in the CAISO master file.<sup>30</sup> CAISO also proposes to revise and expand section 27.9 of its Tariff to expressly capture the operating characteristics electric storage resources may

---

<sup>24</sup> *Id.* P 161.

<sup>25</sup> *Id.* P 162.

<sup>26</sup> *Id.* P 164.

<sup>27</sup> CAISO, CAISO eTariff, § 4.6.11, Storage Operating Characteristics (0.0.0); *id.* § 27.9, Non-Generator Resources MWh Constraints (4.0.0).

<sup>28</sup> *Id.* app. K, Ancillary Service Requirements Protocol (ASRP) (13.0.0), §§ A.1.1.1, B.1.1, C.1.1.

<sup>29</sup> *Id.* § 10.1.3, Netting (4.0.0), § 10.1.3.4; Second Compliance Filing, Transmittal at 1.

<sup>30</sup> CAISO, CAISO eTariff, § 4.6.11, Storage Operating Characteristics (0.0.0); Second Compliance Filing, Transmittal at 2.

include as CAISO master file parameters.<sup>31</sup> In compliance with the Commission's requirement to lower the minimum capacity requirements for electric storage resources to provide ancillary services, CAISO proposes to revise Appendix K to its Tariff to state that electric storage resources 100 kW or greater may be certified to provide regulation, spinning reserve, and non-spinning reserve.<sup>32</sup> Finally, to comply with the Commission's directive for CAISO to ensure that its metering practices allow for the participation of electric storage resources in both the wholesale and retail markets, CAISO proposes to include a new section 10.1.3.4 in its Tariff describing the metering and accounting rules for storage resources.<sup>33</sup> This new section: (1) sets forth the options electric storage resources have for metering; (2) establishes safeguards to prevent double-billing for wholesale and retail activities; (3) expressly states that nothing in the new Tariff section prohibits a CAISO storage resource's ability to participate in retail markets; (4) states that electric storage resources participating in CAISO markets may not charge their resources pursuant to a CAISO wholesale rate except to provide energy or ancillary services to the CAISO markets upon discharge; and (5) provides that for any Non-Generator Resource (NGR) where the utility distribution company or retail utility verifies in writing that it is unable or unwilling to net out from its retail billing any energy purchases associated with the NGR's charging pursuant to CAISO settlement, CAISO will not settle the NGR's negative energy for charging.

### **III. Notices of Filings and Responsive Pleadings**

11. Following the Commission's issuance of the First Compliance Order, Cobia Capital, LLC (Cobia) filed a motion to intervene on January 6, 2020.

12. Notice of CAISO's Second Compliance Filing was published in the *Federal Register*, 85 Fed. Reg. 4964 (Jan. 28, 2020), with interventions and protests due on or before February 11, 2020. On February 13, 2020, Cobia filed a motion for leave to file comments out of time and limited comments.

---

<sup>31</sup> CAISO, CAISO eTariff, § 27.9, Non-Generator Resources MWh Constraints (4.0.0); Second Compliance Filing, Transmittal at 2.

<sup>32</sup> CAISO, CAISO eTariff, app. K, Ancillary Service Requirements Protocol (ASRP) (13.0.0), §§ A.1.1.1, B.1.1, C.1.1; Second Compliance Filing, Transmittal at 8.

<sup>33</sup> CAISO, CAISO eTariff, § 10.1.3, Netting (4.0.0), § 10.1.3.4; Second Compliance Filing, Transmittal at 9-12.

#### IV. Discussion

##### A. Procedural Matters

13. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2019), the timely, unopposed motion to intervene serves to make Cobia a party to this proceeding.

##### B. Substantive Matters

14. As discussed below, we accept the Second Compliance Filing, to become effective December 3, 2019, subject to a further compliance filing to be submitted within 90 days of the date of issuance of this order.

15. As a preliminary matter, we find that CAISO has complied with the Commission's directives in the First Compliance Order to (1) revise its Tariff to account for the physical and operational characteristics of electric storage resources enumerated in Order No. 841 through bidding parameters or other means;<sup>34</sup> and (2) revise Appendix K of its Tariff to institute minimum size requirements for electric storage resources that do not exceed 100 kW.<sup>35</sup> CAISO's compliance with these requirements is not contested. We address all remaining compliance requirements and all comments and protests below.

##### 1. Order No. 841 Requirements for Metering and Accounting Practices for Charging Energy

16. To help implement the new requirement in section 35.28(g)(9)(ii) of the Commission's regulations, Order No. 841 requires each RTO/ISO to implement metering and accounting practices as needed to address the complexities of implementing the requirement that the sale of electric energy from RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP.<sup>36</sup> Order No. 841 requires each RTO/ISO to directly meter electric storage resources,<sup>37</sup> but offers flexibility for each RTO/ISO to propose alternative approaches that may not entail direct metering but nonetheless address the complexities of implementing the

---

<sup>34</sup> First Compliance Order, 169 FERC ¶ 61,126 at P 100.

<sup>35</sup> *Id.* P 116.

<sup>36</sup> Order No. 841, 162 FERC ¶ 61,127 at P 322.

<sup>37</sup> In Order No. 841-A, the Commission clarified that the RTO/ISO itself does not need to be the entity that directly meters electric storage resources. Order No. 841-A, 167 FERC ¶ 61,154 at P 138.

requirement that the sale of electric energy from RTO/ISO markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP.<sup>38</sup> Order No. 841 acknowledges that metering and accounting rules may need to differ based on whether the resource is located on the transmission system, the distribution system, or behind-the-meter.<sup>39</sup>

17. The Commission rejected the suggestion that electric storage resources must choose to participate in either wholesale or retail markets due to the complexity of the metering and accounting practices.<sup>40</sup> The Commission found that it is possible for electric storage resources that are selling retail services also to be technically capable of providing wholesale services, and it would adversely affect competition in the RTO/ISO markets if these technically capable resources were excluded from participation. In response to concerns that not requiring electric storage resources to choose to participate exclusively in either wholesale or retail markets will allow resources using the participation model for electric storage resources to evade the distribution utility's retail service or to simultaneously buy electricity at the retail rate and sell it at the wholesale LMP, Order No. 841-A states that each RTO/ISO can address these issues by developing its metering and accounting requirements in cooperation with the distribution utilities and relevant electric retail regulatory authorities in its footprint, as the Commission recognized in Order No. 841.<sup>41</sup> Order No. 841-A also notes that, when Order No. 841 found that the sale of electric energy from the RTO/ISO markets to an electric storage resource that the resource then resells back to those markets must be at the wholesale LMP, it was referring to the sale of energy from the grid that is used to charge electric storage resources for later resale into the energy or ancillary service markets.<sup>42</sup>

18. Order No. 841 also requires RTOs/ISOs to prevent electric storage resources from paying twice for the same charging energy (i.e., they should not have to pay both the wholesale and retail price for the same charging energy).<sup>43</sup> To the extent that the host distribution utility is unable—due to a lack of the necessary metering infrastructure and

---

<sup>38</sup> Order No. 841, 162 FERC ¶ 61,127 at P 322.

<sup>39</sup> *Id.* P 324.

<sup>40</sup> *Id.* P 325.

<sup>41</sup> Order No. 841-A, 167 FERC ¶ 61,154 at P 142 (citing Order No. 841, 162 FERC ¶ 61,127 at P 324).

<sup>42</sup> *Id.* (citing Order No. 841, 162 FERC ¶ 61,127 at P 294).

<sup>43</sup> Order No. 841, 162 FERC ¶ 61,127 at P 326.



accounting practices—or unwilling to net out any energy purchases associated with an electric storage resource’s wholesale charging activities from the host customer’s retail bill, the Commission found that RTOs/ISOs would be prevented from charging that resource wholesale rates for the charging energy for which it is already paying retail rates.<sup>44</sup>

19. Order No. 841-A clarifies that an RTO/ISO could require verification from the host distribution utility that it is unable or unwilling to net wholesale demand from retail settlement before the RTO/ISO ceases to settle an electric storage resource’s wholesale demand at the wholesale LMP.<sup>45</sup> Order No. 841-A clarifies further that the Commission would consider on compliance each RTO’s/ISO’s proposal to identify whether a distribution utility is unable or unwilling to net out from a host customer’s retail bill the wholesale energy purchases associated with charging an electric storage resource that is participating in the RTO/ISO market.<sup>46</sup> However, Order No. 841-A denies CAISO’s request for clarification that when an RTO/ISO cannot verify the host distribution utility’s inability or unwillingness to net out wholesale charging energy, the RTO/ISO can require the electric storage resource to use a participation model designed for retail customer participation. Order No. 841-A states that, while Order No. 841 provides flexibility with respect to how each RTO/ISO implements the requirement to prevent electric storage resources from paying twice for the same charging energy, it would be inappropriate for an RTO/ISO to meet that requirement by requiring an electric storage resource to use a participation model designed for retail customer participation.<sup>47</sup>

---

<sup>44</sup> Paragraph 326 of the preamble of Order No. 841 used the term “resources using the participation model for electric storage resources” with respect to the requirements set forth therein (e.g., “we require each RTO/ISO to prevent resources using the participation model for electric storage resources from paying twice for the same charging energy”). However, section 35.28(g)(9)(ii) of the Commission’s regulations (as modified by Order No. 841), which these requirements are intended to implement, specifies that it applies to electric storage resources. Thus, the Commission used the incorrect term in paragraph 326 of Order No. 841. In this order, we use the correct term throughout.

<sup>45</sup> Order No. 841-A, 167 FERC ¶ 61,154 at P 138.

<sup>46</sup> *Id.*

<sup>47</sup> *Id.* P 139 (citing Order No. 841, 162 FERC ¶ 61,127 at P 326).

## 2. First Compliance Order

20. In the First Compliance Order, the Commission found that CAISO partially complied with the requirements of Order No. 841 regarding metering and accounting practices.<sup>48</sup> The Commission found that CAISO complied with the requirement that electric storage resources be directly metered by describing how electric storage resources may elect to be directly metered by either CAISO or their scheduling coordinator.<sup>49</sup> However, the Commission found that CAISO's direct metering of electric storage resources would not, in itself, address all issues regarding an electric storage resource's ability to participate in retail and wholesale markets.<sup>50</sup> The Commission directed CAISO to submit a further compliance filing explaining how the metering and accounting practices in its Tariff allow for electric storage resources to participate in both wholesale and retail markets, or alternatively, revise its Tariff to allow electric storage resources that provide retail services to also participate in CAISO's markets.<sup>51</sup> Additionally, the Commission directed CAISO to revise its Tariff to include a basic description of CAISO's metering methodology and accounting practices specific to electric storage resources, as well as references to the specific documents in CAISO's business practice manuals or other documents that contain the implementation details.<sup>52</sup>

21. The Commission also found that CAISO had not proposed a participation model for electric storage resources that fully eliminated the potential for duplicative retail and wholesale billing for charging by electric storage resources that later resell that charging energy back to the wholesale markets.<sup>53</sup> Accordingly, the Commission directed CAISO to revise its Tariff to explicitly provide that, if the host utility is unable or unwilling to net out any energy purchases associated with an electric storage resource's wholesale charging activities from the host customer's retail bill, then CAISO would be prevented from charging that resource wholesale rates for the charging energy for which it is already paying retail rates.<sup>54</sup>

---

<sup>48</sup> First Compliance Order, 169 FERC ¶ 61,126 at P 159.

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

<sup>50</sup> *Id.*

<sup>51</sup> *Id.* P 162.

<sup>52</sup> *Id.* P 161.

<sup>53</sup> *Id.* P 164.

<sup>54</sup> *Id.*

### 3. Second Compliance Filing

22. CAISO proposes to include new Tariff section 10.1.3.4 describing the metering and accounting rules for electric storage resources.<sup>55</sup> CAISO states that, collectively, these Tariff provisions will ensure that electric storage resources will have the flexibility and technology to avoid double-billing for retail and wholesale participation, and that electric storage resources maintain metering and accounting practices consistent with other supply resources.<sup>56</sup> CAISO proposes to include in the Tariff a general statement that electric storage resources may elect to provide CAISO with meter data as either a CAISO Metered Entity or a Scheduling Coordinator Metered Entity.<sup>57</sup> CAISO explains that it affords electric storage resources the flexibility to elect how they would like to be metered because there are advantages to being a CAISO Metered Entity or a Scheduling Coordinator Metered Entity depending on the complexity of the resource's configuration, its capital and ongoing financing needs, and its local regulatory standards.<sup>58</sup>

23. CAISO states that for electric storage resources electing to be CAISO Metered Entities, installing CAISO-approved meters and undergoing the certification process can represent significant costs to new resources, particularly smaller resources.<sup>59</sup> CAISO states that, however, CAISO Metered Entities can avoid the ongoing costs associated with the collection, validation, estimation, editing, and submission of meter data to CAISO. In addition, CAISO explains that CAISO Metered Entities can avoid

---

<sup>55</sup> Second Compliance Filing, Transmittal at 9 (citing CAISO, CAISO eTariff, § 10.1.3, Netting (4.0.0), § 10.1.3.4).

<sup>56</sup> *Id.*, Transmittal at 12.

<sup>57</sup> *Id.*, Transmittal at 9. CAISO states that CAISO Metered Entities have meters directly polled by CAISO, and CAISO performs the validation, estimation, and editing procedures to produce settlement quality meter data. CAISO states that Scheduling Coordinator Metered Entities have meters directly polled by the scheduling coordinator, and the scheduling coordinator performs the validation, estimation, and editing before providing CAISO with the settlement quality meter data.

<sup>58</sup> *Id.*

<sup>59</sup> *Id.* (citing CAISO, CAISO eTariff, § 10.2, Metering for CAISO Metered Entities (0.0.0)).

rule of conduct penalties for late or inaccurate meter data because CAISO polls the meters instantaneously.<sup>60</sup>

24. CAISO explains that Scheduling Coordinator Metered Entities must comply with several initial and ongoing requirements to ensure that their meters and their processing procedures comply with Tariff requirements.<sup>61</sup> However, according to CAISO, Scheduling Coordinator Metered Entities avoid the higher initial programming, inspecting, and sealing costs required of CAISO Metered Entities.<sup>62</sup> CAISO states that Scheduling Coordinator Metered Entities may propose unique, complex metering configurations for CAISO review and approval.<sup>63</sup> CAISO maintains that this can especially benefit electric storage resources participating in retail programs because it allows the scheduling coordinator to parse multiple meters and remove any retail data from what it submits to CAISO.<sup>64</sup> CAISO notes that its existing practices allow all resources to choose whether to be a CAISO Metered Entity or a Scheduling Coordinator Metered Entity.<sup>65</sup>

25. CAISO states that to avoid double-billing for wholesale and retail activities, it proposes to include Tariff provisions stating that (1) CAISO Metered Entities' revenue quality meters must be installed and programmed to exclude any retail meter data, and (2) Scheduling Coordinator Metered Entities must describe to CAISO how their metering arrangement or validation, estimation, and editing procedure prevents commingling retail

---

<sup>60</sup> *Id.* (citing CAISO, CAISO eTariff, § 37.5.2, Inaccurate or Late Actual SQMD (5.0.0)).

<sup>61</sup> *Id.*, Transmittal at 9-10 (citing CAISO, CAISO eTariff, § 10.3, Metering for Scheduling Coordinator Metered Entities (0.0.0)).

<sup>62</sup> *Id.*, Transmittal at 10.

<sup>63</sup> *Id.* (citing CAISO, CAISO eTariff, § 10.3.7, Meter Standards (2.0.0), § 10.3.7.1).

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

<sup>65</sup> *Id.* (citing CAISO, CAISO eTariff, § 10.1, General Provisions (1.0.0)). CAISO states that it explained these practices in detail in its Metering Rules Enhancement filing in 2017, which the Commission accepted as just and reasonable. *Cal. Indep. Sys. Operator Corp.*, Docket No. ER17-949-000 (Mar. 31, 2017) (delegated order); *Cal. Indep. Sys. Operator Corp.*, Docket No. ER17-949-001 (Dec. 15, 2017) (delegated order).

and CAISO meter data.<sup>66</sup> CAISO maintains that this requirement will ensure that each electric storage resource separates its wholesale and retail meter data, and that CAISO has reviewed and verified its method of doing so.<sup>67</sup> CAISO states that it has purposefully not proposed to include Tariff requirements stating how electric storage resources must avoid commingling wholesale and retail meter data.<sup>68</sup> Instead, the Tariff sets forth the market rule that requires separation of an electric storage resource's wholesale and retail meter data, without specifying a particular method.<sup>69</sup> CAISO states that electric storage resources—especially those that may participate in retail and wholesale markets simultaneously—have highly variable metering needs, local regulatory requirements, and configurations. CAISO states that by including simple, flexible Tariff provisions, CAISO will avoid a one-size-fits-few approach, and instead be able to review each storage resource's proposal to ensure CAISO receives settlement quality meter data for wholesale charges only.<sup>70</sup>

26. CAISO proposes to include a Tariff provision expressly stating that nothing in this new Tariff section should be interpreted as prohibiting an electric storage resource's ability to participate in retail markets.<sup>71</sup> CAISO proposes to reiterate in the new Tariff section that, although electric storage resources must exclude retail meter data from their CAISO settlement quality meter data, they may continue to net their Station Power from their output under the Tariff and local regulatory authority requirements.<sup>72</sup> CAISO states that these netting provisions allow electric storage resources to net Station Power load

---

<sup>66</sup> Second Compliance Filing, Transmittal at 10 (citing CAISO, CAISO eTariff, § 10.1.3, Netting (4.0.0), § 10.1.3.4).

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

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

<sup>70</sup> *Id.*, Transmittal at 10-11.

<sup>71</sup> *Id.*, Transmittal at 11 (citing CAISO, CAISO eTariff, § 10.1.3, Netting (4.0.0), § 10.1.3.4).

<sup>72</sup> *Id.* (citing CAISO, CAISO eTariff, § 10.1.3, Netting (4.0.0), § 10.1.3.4). CAISO states that it explained its netting rules for electric storage resources' Station Power in detail in its Energy Storage and Distributed Energy Resources stakeholder initiative phase two filing, which the Commission accepted in 2018. *Cal. Indep. Sys. Operator Corp.*, Docket No. ER18-2242-000 (Oct. 24, 2018) (delegated order).

from their charging or discharging, as allowed by their local regulatory authority, to avoid retail settlement of Station Power load.<sup>73</sup>

27. CAISO states that to avoid any gaming of dual-market participation, it also proposes to include a Tariff provision expressly stating that electric storage resources participating in the CAISO markets may not charge their resources pursuant to a CAISO wholesale rate except to provide energy or ancillary services to the CAISO markets upon discharge.<sup>74</sup>

28. Finally, CAISO proposes to include a provision stating that, beginning October 1, 2020, for any NGR where the utility distribution company or retail utility verifies in writing to CAISO that it is unable or unwilling to net out from its retail billing any energy purchases associated with the NGR's charging pursuant to CAISO settlement, CAISO will not settle the NGR's negative energy for charging.<sup>75</sup> According to CAISO, this provision will ensure that electric storage resources billed at retail rates for wholesale charging activities are not also billed by CAISO for the same energy, consistent with Order No. 841.<sup>76</sup> To avoid metering and settlement discrepancies and to monitor how much electric storage resources rely on this treatment, CAISO proposes to include clarifying Tariff language requiring the scheduling coordinators for these NGRs to continue to report to CAISO all meter data, including meter data for charging, rather than zeroing out that meter data itself before submitting it to CAISO.<sup>77</sup> CAISO explains that it will require new market software to identify such resources and then zero out their settlements for charging, which CAISO states it will implement with its Fall 2020

---

<sup>73</sup> Second Compliance Filing, Transmittal at 11. CAISO states that where allowed by the local regulatory authority, CAISO does not consider Station Power load retail, but a sale for resale under the Federal Power Act, and therefore wholesale. CAISO states that, as such, including Station Power load in its settlement quality meter data does not conflict with the CAISO's requirement to exclude retail meter data from CAISO settlement.

<sup>74</sup> *Id.* (citing CAISO, CAISO eTariff, § 10.1.3, Netting (4.0.0), § 10.1.3.4).

<sup>75</sup> *Id.*, Transmittal at 11-12 (citing CAISO, CAISO eTariff, § 10.1.3, Netting (4.0.0), § 10.1.3.4).

<sup>76</sup> *Id.*, Transmittal at 12.

<sup>77</sup> *Id.*

software release, on October 1, 2020.<sup>78</sup> CAISO states that this delay will not prejudice any party or hinder any electric storage resource's market participation.<sup>79</sup>

#### 4. Protests/Comments

29. Cobia states that it has developed what could possibly be the first behind-the-meter NGR that is a CAISO Metered Entity.<sup>80</sup> Cobia explains that based on its experience, it is simply not achievable for revenue quality meters to be installed and programmed to exclude any retail meter data, as required by proposed section 10.1.3.4 of the Tariff.<sup>81</sup> Cobia asserts that this programming methodology does not exist.<sup>82</sup> Cobia states that during the execution phase of its aforementioned project, Cobia confirmed this fact with the vendor that provided the CAISO-certified meter and "remoted intelligent" gateway for Cobia's project.<sup>83</sup>

30. Cobia explains that, for example, where a behind-the-retail-meter project is a CAISO Metered Entity yet never discharges an amount that exceeds the host load, the power would always flow from the electric grid, through the retail meter of the host utility, then through the CAISO meter of the electric storage resource.<sup>84</sup> According to Cobia, the CAISO meter would not have visibility into the host utility meter and cannot therefore exclude any retail meter data as CAISO proposes.<sup>85</sup> Cobia states that it has proposed a solution to CAISO that any energy flowing through the CAISO meter not be billed at CAISO rates since it is already billed at retail rates, but CAISO denied this request and suggested that it is up to the electric storage resource to figure out how to address this issue with the retail provider.<sup>86</sup>

---

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

<sup>79</sup> *Id.*

<sup>80</sup> Cobia Comments at 1.

<sup>81</sup> *Id.* at 2.

<sup>82</sup> *Id.*

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

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

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

31. Cobia also protests CAISO's proposal that an electric storage resource obtain from the utility distribution company or retail utility a letter in writing "...that it is unable or unwilling to net out from its retail billing any energy purchases."<sup>87</sup> Cobia contends that obtaining this letter is unduly burdensome on small behind-the-meter electric storage resources, and that this portion of the Tariff should be rewritten such that the default assumption is that the utility distribution company or retail utility will continue to charge for electricity as it has always done.<sup>88</sup>

## 5. Commission Determination

32. We find that CAISO's proposed metering and accounting Tariff revisions partially comply with the directives in the First Compliance Order. We find that CAISO's proposed Tariff section 10.1.3.4 complies with the directive to provide a basic description of CAISO's metering methodology and accounting practices specific to electric storage resources and allows electric storage resources that provide retail services to also participate in CAISO's markets. We also find that the proposed Tariff section complies with Order No. 841 and the Commission's directive because it will avoid double-billing for wholesale and retail activities by requiring each CAISO Metered Entity to have its meter programmed to exclude any retail meter data and requiring each Scheduling Coordinator Metered Entity to describe to CAISO how it will prevent commingling retail and CAISO meter data.

33. We also accept, in part, CAISO's proposed requirement for the utility distribution company or retail utility to verify in writing to CAISO that it is unable or unwilling to net out from its retail billing any wholesale energy purchases. Cobia has provided no evidence for its claim that requiring electric storage resources to obtain such a letter is unduly burdensome. However, we note that this provision only applies to NGRs, and therefore does not apply to all electric storage resources, as required by the Commission's directive in the First Compliance Order.<sup>89</sup> Therefore, we direct CAISO to submit a further compliance filing within 90 days of the issuance of this order that revises section 10.1.3.4 of CAISO's Tariff to make clear that this provision applies to the wholesale charging activities of all electric storage resources.

34. With regard to Cobia's comment that it will be double-billed for charging energy because there is no method to install and program revenue quality meters that would allow an electric storage resource to exclude retail meter data, we find that Cobia's concern should be addressed by CAISO's Tariff revisions prohibiting CAISO from

---

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> First Compliance Order, 169 FERC ¶ 61,126 at P 164.



settling an NGR's wholesale charging energy when the retail provider does not remove purchases from the electric storage resource's retail bill.<sup>90</sup> If CAISO and Cobia are unable to implement a metering configuration or accounting method that excludes retail meter data, under proposed section 10.1.3.4 of CAISO's Tariff, Cobia may provide CAISO with a letter from its retail service provider indicating that the retail provider cannot or will not net out wholesale energy purchases from Cobia's retail billing. Alternatively, Cobia could elect to become a Scheduling Coordinator Metered Entity, which would allow Cobia to propose a unique metering configuration better suited to its circumstances and provide Cobia's scheduling coordinator the opportunity to validate, estimate and edit meter data as necessary before providing the data to CAISO. In the event that Cobia believes CAISO's future implementation of this requirement is inconsistent with CAISO's Tariff, Cobia may file a complaint under FPA section 206 to seek redress from the Commission.

The Commission orders:

(A) CAISO's compliance filing is hereby accepted, to become effective December 3, 2019, subject to a further compliance filing, as discussed in the body of this order.

(B) CAISO is hereby directed to submit a further compliance filing, within 90 days of the date of issuance of this order, as discussed in the body of this order.

By the Commission.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.

---

<sup>90</sup> CAISO, CAISO eTariff, § 10.1.3, Netting (4.0.0), § 10.1.3.4.

**Appendix – eTariff Designations**

California Independent System Operator Corporation, FERC FPA Electric Tariff, CAISO eTariff

[4.6.11, Storage Operating Characteristics, 0.0.0](#)

[10.1.3, Netting, 4.0.0](#)

[27.9, Non-Generator Resources MWh Constraints, 4.0.0](#)

[Appendix K, Ancillary Service Requirements Protocol \(ASRP\), 13.0.0](#)