

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

California Independent System Operator Corporation) Docket No. ER23-1533-000
Operator Corporation)

**MOTION FOR LEAVE TO ANSWER AND ANSWER OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

The California Independent System Operator Corporation (“CAISO”) respectfully submits its motion for leave to answer¹ and answer to the protest filed by Vistra Corp. and Dynegy Marketing and Trade, LLC (collectively, “Vistra”) and the comments filed by Marin Clean Energy (“Marin”) in the above-identified docket, in which the CAISO proposes to implement various enhancements for energy storage resources. The Commission should disregard Vistra’s protest. Vistra mischaracterizes the scope and intent of the CAISO’s proposed tariff revisions, relies on inapposite precedent, and omits relevant, existing CAISO tariff provisions and Commission precedent. Further, Vistra’s protest is procedurally improper. The Commission should approve the CAISO’s proposed tariff revisions as just and reasonable.

¹ The CAISO submits this motion for leave to answer and answer pursuant to Rules 212 and 213 of the Commission’s Rules of Practice and Procedure, 18 C.F.R. §§ 385.212, 385.213. The CAISO respectfully moves for waiver of Rule 213(a)(2), 18 C.F.R. § 385.213(a)(2), to permit it to answer Vistra’s protest. Good cause for this waiver exists here because the answer will aid the Commission in understanding the issues in the proceeding, provide additional information to assist the Commission in the decision-making process, and help to ensure a complete and accurate record in the proceeding. See, e.g., *Equitrans, L.P.*, 134 FERC ¶ 61,250 at P 6 (2011); *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,023 at P 16 (2010); *Xcel Energy Servs., Inc.*, 124 FERC ¶ 61,011 at P 20 (2008).

Capitalized terms not otherwise defined herein have the meanings set forth in the Master Definitions Supplement, Appendix A to the CAISO tariff.

A. Vistra mischaracterizes the CAISO’s proposed tariff revisions.

The CAISO tariff provides that the CAISO will observe MWh constraints of storage resources in its market processes when scheduling coordinators for these resources identify that they have state of charge constraints.² The CAISO’s proposed tariff revisions clarify the CAISO will use reasonable efforts to commit, schedule, and dispatch storage resources offering regulation while recognizing the impact of those awards on their state of charge. As explained below, this effort will allow the market to observe a storage resource’s state of charge constraints more accurately when the resource carries either a regulation up or regulation down award.

Vistra alleges that the CAISO proposes “to revise its Tariff to provide it with broad discretion to account for the impact of regulation awards on a storage resource’s state of charge when determining regulation awards and commitments—without providing any detail regarding the parameters and rules that will be applied to account for a resource’s state of charge.”³ This is inaccurate because the CAISO has proposed no such discretionary authority. The CAISO’s proposed revisions consist of two simple provisions. First, the CAISO included a provision stating, “Consistent with the requirements of this Section [8.4.1.1], the CAISO will use all reasonable efforts to commit, schedule, and dispatch Non-Generator Resources offering Regulation while recognizing the impact of Regulation awards on their State of Charge in the Day-Ahead and Real-Time Markets.”⁴ Second, the CAISO included a provision stating, “The CAISO

² CAISO tariff section 27.9.

³ Vistra Protest at 3.

⁴ Proposed CAISO tariff section 8.4.1.1(g).

will include examples in the Business Practice Manual detailing how the Day-Ahead and Real-Time optimizations will account for Regulation awards in determining the State of Charge in subsequent intervals.”⁵ Nowhere in either provision does the CAISO empower itself with “broad discretion.” Although a commonly accepted practice, here, the CAISO did *not* even propose to specify elements of any implementation details in the Business Practice Manuals.⁶ The CAISO simply committed to provide examples in the Business Practice Manuals to help ensure scheduling coordinators for storage resources understand how the CAISO market optimization accounts for storage resources’ state-of-charge in issuing regulation awards.

The CAISO’s proposed tariff provisions are similar to tariff provisions the Commission required to comply with Order No. 841: “Scheduling Coordinators may elect to provide the CAISO with Non-Generator Resources’ and Pumped-Storage Hydro Units’ MWh constraints. In such cases, the CAISO will observe MWh constraints in the IFM, RUC, Real-Time Unit Commitment, and FMM as part of the co-optimization.”⁷ The CAISO has similar tariff provisions for Hybrid Resources: “The CAISO will use reasonable efforts to issue Real-Time Market Schedules that respect Hybrid Dynamic Limits.”⁸ And for Co-located Resources: “The CAISO may enforce an Aggregate Capability Constraint that reflects a Generating Facility’s maximum and minimum capability for purposes of Day-Ahead Market Awards, Real-Time Market Awards, and

⁵ *Id.*

⁶ See, e.g., sections 4.2.2, 4.5.1.1.10.1, 4.8.2.1.1, 6.5.16, 9.3.1.3.6, 10.1.7, 10.2.6, 11.29.8.2, 12.1.1.1, and 19.2 of the CAISO tariff.

⁷ Section 27.9 of the CAISO tariff.

⁸ Section 30.5.6.1 of the CAISO tariff.

Real-Time Dispatch as described in the CAISO's Business Practice Manuals."⁹ All of these provisions describe the same practice: The CAISO's optimization will account for some factor in issuing awards and schedules in the markets. In this proceeding, the CAISO clarifies that it will seek to account for how regulation awards in prior intervals may affect a resource's state of charge. This makes sense. If the CAISO does not account for how regulation awards in prior intervals may impact state of charge, storage resources may not have charging or discharging headroom to meet subsequent awards.

Vistra alleges that "the CAISO does not include any detail in its Tariff regarding the parameters or rules that it will apply to account for regulation awards' impacts on the state of charge of storage resources when committing, scheduling, and dispatching these resources for regulation."¹⁰ But the CAISO's proposed tariff revisions do not refer to further detail, parameters, or rules. Instead, the CAISO's tariff revision refer to the impact of regulation awards on state of charge. A regulation down award, for example, would increase the state of charge. A regulation up award would decrease it.

Vistra argues that, "There is no reason why the parameters and rules applied to optimize the provision of regulation service and energy storage resources' state of charge should be treated any differently"¹¹ than other provisions. The CAISO agrees.

This is why it included the tariff revisions in this proceeding. But Vistra continues:

⁹ Section 27.13 of the CAISO tariff. The term "reasonable efforts" appears in the CAISO's Commission-approved tariff 192 times. See, e.g., sections 4.13.4.7 ("The CAISO will use reasonable efforts to optimize both Resource IDs to avoid conflicting Schedules") and 9.3.10.7 ("The CAISO shall make all reasonable efforts to coordinate Outages involving other Balancing Authority Areas or affecting an Intertie").

¹⁰ Vistra Protest at 4.

¹¹ Vistra Protest at 7.

“Indeed, the fact that the CAISO has acknowledged that it will be able to further describe these parameters and rules in its BPMs demonstrates that they are capable of specification.”¹² Here, again, Vistra mischaracterizes the facts. Neither the tariff revisions nor the CAISO’s transmittal letter mention that it will describe any parameters and rules in the BPMs. The word “parameter” does not even appear in the CAISO’s transmittal letter. This is because there are no parameters; only the regulation awards and their effect on resources’ states of charge.

Vistra cites to various tariff provisions that include scheduling parameters for transmission constraint relaxation and penalty prices, but these provisions are inapposite. For example, Vistra cites to Section 27.4.3.3.1 as a tariff provision where “[t]he CAISO’s Tariff already details various parameters, constraints, and rules that the CAISO applies when optimizing its markets and scheduling and dispatching resources.” Even a cursory review of this provision demonstrates the stark difference between it and what the CAISO has proposed.¹³ Section 27.4.3.3.1 and Vistra’s other examples explain how the CAISO inserts static figures as elements in its market optimization algorithm. But these figures exist *ex ante* to the optimization; they do not result

¹² Vistra Protest at 7.

¹³ Section 27.4.3.3.1 states:

Scheduling parameters or penalty prices, are used to determine when the SCUC and SCED software will relax an enforced Transmission Constraint rather than adjust Supply or Demand bids or Non-priced Quantities as specified in Sections 31.3.1.3, 31.4 and 34.12 to relieve Congestion on the constrained facility. In the IFM, the enforced internal and Intertie Transmission Constraint scheduling parameter is set to \$10,000 per MWh. The corresponding scheduling parameter in RUC is set to \$1,250 for internal Transmission Constraints and \$3,200 for Intertie Transmission Constraints. In the RTM, this scheduling parameter is set to \$3,000 per MWh for internal Transmission Constraints and \$5,800 for Intertie Transmission Constraints. The effect of this scheduling parameter is that if the optimization can redispatch resources to relieve Congestion on a Transmission Constraint at or below the applicable price per MWh, the Market Clearing software will utilize such re-dispatch; but if the cost exceeds the applicable price per MWh, the market software will relax the Transmission Constraint.

dynamically from any market input or process. They are not similar to the two factors the CAISO proposes to account for: the regulation awards the resource receives and its state of charge. Neither factor can be specified before the optimization's market run, and both are specific to the resources and their market inputs in the relevant market intervals. They are unlike the specified penalty prices the CAISO applies in its markets.

Vistra also omits the many existing CAISO tariff provisions that demonstrate how the CAISO includes regulation parameters in the tariff where appropriate. Section 27 of the CAISO tariff contains parameters for optimizing regulation awards during ancillary service shortages.¹⁴ The CAISO does not rely on its BPMs to specify them.

The CAISO addresses the remainder of Vistra's arguments below, but Vistra's arguments are all premised on its mischaracterization of the CAISO's proposal. The Commission should not be swayed by Vistra's flawed premise, which ignores the plain text of the CAISO's proposed tariff revisions.

B. The CAISO's proposed tariff revisions and future BPM examples are consistent with the Rule of Reason.

In interpreting the Federal Power Act, the federal courts have stated that "there is an infinitude of practices affecting rates and service."¹⁵ Because every tariff cannot include this "infinitude of practices," the courts and the Commission have held that "only those practices that affect rates and service *significantly*, that are realistically

¹⁴ See, e.g., Sections 27.1.2.3.1 (Regulation Down Pricing – Insufficient Supply), 27.1.2.3.4 (Regulation Up Pricing – Insufficient Supply); 27.1.2.3.5 (Scarcity Demand Curve Value Tables); and 27.1.3 (Regulation Mileage Clearing Price).

¹⁵ *City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985).

susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous” must be in tariffs.¹⁶ This is known as the Rule of Reason. Vistra argues that the CAISO’s proposed use of BPMs is inconsistent with the Rule of Reason.¹⁷ As described above, this argument is based on the flawed premise that the CAISO proposes to use its BPMs for rates, terms, and conditions of service. The plain text of the CAISO’s proposed tariff revisions, which states that the CAISO will provide examples in the BPM, belies Vistra’s argument. The Commission describes BPMs as “as guides for internal operating procedures and to inform market participants of the CAISO’s practices.”¹⁸ Examples help inform market participants of the CAISO’s practices. Providing examples is among the most common and basic uses of BPMs.

Even if the CAISO were not providing examples, Vistra’s arguments are speculative and premature. The CAISO has not developed its BPM provisions, and the Commission has been clear that “our ‘rule of reason’ test requires a case-by-case analysis, comparing what is in the [] Tariff against what is in the Business Practice Manuals.”¹⁹ In similar cases the Commission has ruled: “Given that the CAISO is still developing the Business Practice Manuals, we find that such an analysis is premature at this time.”²⁰

¹⁶ *Id.*

¹⁷ Vistra Protest at 4-6.

¹⁸ *California Independent System Operator Corp.*, 119 FERC ¶ 61,313 at P 343 (2007).

¹⁹ *California Independent System Operator Corp.*, 116 FERC ¶ 61,274 at P 1370 (2006).

²⁰ *Id.*

Vistra also describes other ongoing stakeholder initiatives that may consider state-of-charge and optimization changes. Vistra argues that “prior to implementing any of these approaches, the CAISO should be required to make a filing with the Commission demonstrating that these parameters and rules are just and reasonable and incorporating language in its Tariff describing the approach that will be applied.”²¹ The CAISO agrees, but questions why Vistra is raising this issue now, even though Vistra understands so much is in development. Vistra’s protest mistakenly presumes the CAISO will never revisit these issues or further revise its tariff to account for future variables for storage, regulation, or state of charge. But that is not the case. Vistra’s protest itself responds to the CAISO’s second tariff amendment in six months on storage resources and regulation awards,²² and the amendment identifies two sets of tariff revisions to address the issue.²³ The CAISO’s past filings and current initiatives demonstrate that the CAISO files tariff changes with the Commission, belying Vistra’s claims that the CAISO has failed to do so or will inexplicably stop doing so.

Vistra argues, “It is also not obvious, in the absence of stating them in the Tariff, what parameters or rules the CAISO will apply when accounting for the impact of regulation awards on a resource’s state of charge.”²⁴ Here, Vistra misunderstands both the optimization and the Rule of Reason. The impact of regulation awards on each resource’s state of charge will depend on numerous dynamic factors. The CAISO intends to include examples in the BPMs because it is impossible to provide universal,

²¹ Vistra Protest at 8.

²² See *California Independent System Operator Corp.*, 181 FERC ¶ 61,146 (2022).

²³ The other set being the proposed requirement for storage resources with day-ahead ancillary service awards to submit real-time energy bids.

²⁴ Vistra Protest at 7-8.

fixed rules. Like most transmission operators, the CAISO does not issue regulation dispatches on predetermined set schedules. Resources receive 4-second automatic generator control (“AGC”) instructions from the CAISO to help maintain the frequency of the grid at 60 Hz.²⁵ The extent to which a storage resource must charge or discharge to provide regulation depends on frequency and grid conditions in that dispatch interval. This means even the market—and not the tariff—cannot dictate in advance the impact regulation awards will have on state of charge.

Under the Rule of Reason, the Commission has found that where “criteria for [a] rate may require frequent updates in order to capture the potential change in costs or market conditions,” they are “best suited for inclusion in the Business Practice Manual.”²⁶ This is the case here. The CAISO has not proposed to alter its AGC algorithm. Nor has the CAISO proposed to revise the regulation shortage parameters in Section 27.²⁷ Rather, the CAISO plans to work with stakeholders to provide examples in the BPMs that show the likely impact of regulation awards on storage resources’ state of charge based on the myriad factors that may impact the energy the resource may provide—month, hour, grid topology, location, among others—and the resulting impact on the resource’s state of charge, which also depends on the resource’s size, round-trip efficiency, continuous energy limits and capacity limits. Where the CAISO refers to “multipliers” and “values” in its policy papers, the CAISO simply refers to the optimization’s likely output based on the market inputs of each resource and the grid

²⁵ The CAISO has not proposed to change its AGC algorithm.

²⁶ *California Independent System Operator Corp.*, 119 FERC ¶ 61,313 at P 344 (2007).

²⁷ See, e.g., Sections 27.1.2.3.1 (Regulation Down Pricing – Insufficient Supply), 27.1.2.3.4 (Regulation Up Pricing – Insufficient Supply); 27.1.2.3.5 (Scarcity Demand Curve Value Tables); and 27.1.3 (Regulation Mileage Clearing Price).

conditions. In other words, the CAISO will provide examples showing how the optimization will provide regulation awards to hypothetical storage resources based on the various hypothetical inputs and grid conditions that influence those awards and their impact on the subsequent state of charge. If the CAISO were required to express this mathematically, the algorithm would be as simple as the proposed tariff language: “The CAISO will use all reasonable efforts to commit, schedule, and dispatch Non-Generator Resources offering Regulation while recognizing the impact of Regulation awards on their State of Charge in the Day-Ahead and Real-Time Markets.”²⁸

Vistra also fails to acknowledge the CAISO’s other, existing tariff provisions on regulation and state of charge. Vistra would have the Commission believe the CAISO’s proposed tariff revision is the entirety of its rates, terms, and conditions on storage and state of charge, but this is not the case. Section 8.4.1.1(g) provides:

Regulation capacity offered must be dispatchable on a continuous basis for at least sixty (60) minutes in the Day-Ahead Market and at least thirty (30) minutes in the Real-Time Market after issuance of the Dispatch Instruction. The CAISO will measure continuous Energy from the time a resource reaches its award capacity. In the Real-Time Market, where a storage resource using the Non-Generator Resource model will not have sufficient State of Charge to meet its Ancillary Services Schedule, the CAISO will dispatch the storage resource to have sufficient State of Charge to meet its Ancillary Services Schedule.

Likewise, Section 8.3.2.1.1 provides:

The CAISO will measure the accuracy of a resource’s response to CAISO EMS signals. The CAISO will sum a resource’s Automatic Generation Control set points for each four (4) second Regulation interval every fifteen (15) minutes and then sum the total deviations from the Automatic Generation Control set point for each four (4) second regulation interval during that fifteen (15) minute period. The CAISO will divide the sum of the resource’s Automatic Generation Control set points less the sum of the resource’s total deviations by the sum of the resource’s Automatic

²⁸ Proposed Section 8.4.1.1(g).

Generation Control set points. The CAISO will apply the resulting percentage to a resource's Instructed Mileage to calculate the resource's Regulation performance payments. The CAISO will adjust a resource's Automatic Generation Control set point deviations when the CAISO EMS signal sent to a resource changes direction and the resource underresponds in the prior interval. The adjusted Automatic Generation Control set point will reflect the Automatic Generation Control set point to which the EMS signal directed the resource to move in the prior interval.

These provisions, among others, contradict Vistra's claims that the CAISO has failed to memorialize in its tariff the rates, terms, and conditions for storage resources that elect to provide regulation. To the contrary, the CAISO tariff, its recent tariff filings, and its current stakeholder initiatives all demonstrate the CAISO's commitment to the Federal Power Act and the Rule of Reason. Nowhere does Vistra describe how the CAISO would benefit from keeping its regulation rules secret from market participants. Doing so could lead to confusion, settlement issues, and—most problematically—insufficient regulation. The Commission should disregard Vistra's protest.

C. Vistra's protest is procedurally improper and relies on inapposite precedent.

Vistra has labeled its pleading a protest, but Vistra's arguments do not pertain to whether the CAISO's proposed tariff revisions are just and reasonable. Instead, Vistra argues that the CAISO tariff lacks provisions Vistra imagines. This is procedurally inappropriate, and should be disregarded unless Vistra files a complaint under Section 206 of the Federal Power Act. Vistra principally relies up *Energy Storage Association v. PJM Interconnection LLC* ("ESA") in its protest, but Vistra ignores that *ESA* resulted from two separate complaints against PJM.²⁹ Vistra also argues that the CAISO tariff

²⁹ Vistra Protest at 10-11 (citing *ESA*, 162 FERC ¶ 61,296 (2018)). On the same day the Commission ruled on the complaints in *ESA*, the Commission also rejected tariff revisions submitted by

does not contain sufficient detail to comply with Order No. 841's basic requirements. Here Vistra ignores the fact that the Commission has already found that the CAISO has complied with Order No. 841.³⁰ Commission precedent is clear that it is impermissible to bring a Section 206 complaint in the form of a protest.³¹ The Commission should not allow Vistra to misuse the CAISO's Section 205 filing to require further enhancements that the CAISO is already developing. Doing so is procedurally improper and will not yield different results. As Vistra's own protest admits, the CAISO is already working with stakeholders to continue to enhance the CAISO's optimization for regulation awards and storage resources. When those efforts are complete, the CAISO will file the corresponding tariff revisions. Despite the proliferation of storage resources, the Commission must recognize that storage is a new grid technology, and the CAISO is already working diligently with stakeholders to better understand and predict how storage operates in the CAISO markets.

ESA is not only procedurally inapposite to this proceeding, it is factually inapposite. As the Commission explained in *ESA*, PJM's uses two different regulation

PJM after the complaints on overlapping subjects. See *PJM Interconnection LLC*, 162 FERC ¶ 61,295 (2018). Vistra does not cite the latter order in its protest.

³⁰ *Id.* at 12-13.

³¹ See, e.g., *Louisiana Power & Light Co.*, 50 FERC ¶ 61,040 at 61,062-63 & n. 3 (1990); *Entergy Services, Inc.*, 52 FERC ¶ 61,317 at 62,270 (1990) (holding that complaints must be filed separately from motions to intervene and protests); *Consol. Edison Co. of New York*, 97 FERC ¶ 61,241 at 62,092 & n. 14 (2001) (explaining that the Commission has consistently rejected efforts to treat various filings as Section 206 complaints); *Midwest Indep. Transmission Sys. Operator, Inc.*, 108 FERC ¶ 61,248 at P 5 (2004) (noting that the Commission has consistently rejected efforts to combine complaints with other types of filings); *Southwest Power Pool, Inc.*, 128 FERC ¶ 61,116 at P 16 & n. 22 (2009) (holding that it is impermissible to bring a Section 206 complaint in the form of a protest); *Public Service Co. of Colorado*, 139 FERC ¶ 61,223 at P 25 (2012) (noting that the Commission has clearly articulated that complaints must be made in separate pleadings and not included in intervention/protests or requests for rehearing); *Midcontinent Indep. Sys. Operator, Inc.*, 146 FERC ¶ 61,081 at P 34 (2014) (rejecting effort to treat protest as a complaint as "inconsistent with long-standing Commission precedent" because "complaints must be filed separately from other pleadings.").

signals for different types of market resources, and it optimizes and settles the resources on the two signals differently.³² The CAISO has no such structure. Because the CAISO uses a single regulation signal, it does not have PJM's complex neutrality feature or benefits factor, and therefore no benefits factor curve or values for such. Nor has the CAISO proposed to establish any such "parameter" in its BPM for the optimization. Regulation pricing, mileage, and demand curves are provided Section 27 of the CAISO tariff, not the CAISO BPMs.³³ Unlike the complainants in *ESA*, which cited all the parameters in PJM's BPMs they believed should have been in PJM's tariff—especially the benefits factor curve³⁴—Vistra admits that "[it is also not obvious, in

³² The Commission explained:

PJM uses a traditional signal, called RegA, to dispatch slower, sustained-output resources such as steam and combustion resources. PJM uses a faster signal, called RegD, to dispatch faster, dynamic resources, such as battery storage. PJM originally designed its RegD signal to be unconditionally energy neutral, meaning that the amount of RegUp provided by a RegD resource would match the amount of RegDown provided by the same resource, converging to neutrality within 15 minutes. This feature of PJM's RegD signal reduced the likelihood that an energy storage resource would have insufficient energy to respond to a signal, negatively affecting compensation and the ability of an energy storage device to provide Regulation in a future interval. However, the energy neutrality feature of the RegD signal is not set forth in the PJM Tariff.

PJM also uses a "benefits factor" curve in its Regulation market-clearing process to reflect the operational relationship between the RegA and RegD signal. The purpose of the benefits factor curve is to establish the tradeoff between RegA and RegD resources at various combinations so that the Regulation market's clearing engine can consider them on a comparable basis. PJM calculates a unit-specific benefits factor for each RegD resource in the Regulation bid stack based on the benefits factor curve, which PJM maintains in the PJM manuals rather than in the PJM Operating Agreement or Open Access Transmission Tariff (Tariff). The values on the benefits factor curve range from 2.9 to 0.0, with a benefits factor of 1.0 representing the point where one megawatt from RegD resources is treated as providing the same value as one megawatt from RegA resources. RegD resources assigned a unit-specific benefits factor of greater than 1.0 provide more benefit than a RegA resource, and are thus more likely to clear, whereas RegD resources assigned a unit-specific benefits factor of less than 1.0 provide less benefit and are less likely to clear. Traditional RegA resources have a unit-specific benefits factor equal to 1.0. *ESA* at PP 5-6.

³³ See, e.g., Sections 27.1.2.3.1 (Regulation Down Pricing – Insufficient Supply), 27.1.2.3.4 (Regulation Up Pricing – Insufficient Supply); 27.1.2.3.5 (Scarcity Demand Curve Value Tables); and 27.1.3 (Regulation Mileage Clearing Price).

³⁴ *ESA* at P 104.

the absence of stating them in the Tariff, what parameters or rules the CAISO will apply.”³⁵ Here, again, Vistra asks the Commission to imagine the CAISO’s current or future optimization rules differ from what they are. Vistra fails to cite anything that is actually in the CAISO’s BPMs or missing from the CAISO tariff.

Even assuming *arguendo* the CAISO intended to start specifying parameters in its BPMs and changing its optimization, Vistra’s protest is premature. Vistra accuses the CAISO of using its BPMs to effect optimization changes like PJM, but the CAISO has not changed its optimization or its BPMs. The Commission in *ESA* found that

PJM’s December 2015 adjustments to the benefits factor curve, including PJM’s actions to implement through its manuals an entirely different curve that capped RegD participation in certain hours, illustrate how the methodology for establishing the benefits factor is not a mere implementation detail, but instead significantly impacts RegD resources’ participation in the Regulation market and, ultimately, Regulation market clearing.³⁶

Vistra makes no similar claims because the CAISO has not engaged in anything similar. Additionally, this proceeding and others³⁷ demonstrate that the CAISO files regulation optimization changes in the tariff and not BPMs alone. And unlike PJM, the CAISO has a demonstrated history of revised its tariff—not BPMs alone—to effect regulation optimization changes.³⁸

³⁵ Vistra Protest at 7-8.

³⁶ *ESA* at P 105.

³⁷ See *California Independent System Operator Corp.*, 181 FERC ¶ 61,146 (2022); Sections 27.1.2.3.1 (Regulation Down Pricing – Insufficient Supply), 27.1.2.3.4 (Regulation Up Pricing – Insufficient Supply); 27.1.2.3.5 (Scarcity Demand Curve Value Tables); and 27.1.3 (Regulation Mileage Clearing Price).

³⁸ *ESA* at P 6 (“PJM calculates a unit-specific benefits factor for each RegD resource in the Regulation bid stack based on the benefits factor curve, which PJM maintains in the PJM manuals rather than in the PJM Operating Agreement or Open Access Transmission Tariff”).

D. The CAISO continues to comply with Order No. 841.

Vistra argues that the CAISO has failed to include sufficient specificity within its tariff to comply with Order No. 841's basic requirements.³⁹ This argument fails. Had the CAISO failed to provide sufficient specific regarding storage and regulation awards, the Commission would have already required further compliance. Unlike other ISO/RTOs, the CAISO's compliance with Order No. 841 is resolved—the Commission has issued its final ruling on the CAISO's compliance, and the CAISO implemented all required tariff revisions and software enhancements years ago.⁴⁰

To the extent Vistra argues that the CAISO's proposed tariff revisions are inconsistent with Order No. 841's requirements, its argument also fails. None of the examples and citations provided in Vistra's protest refer to regulation or illustrate what Vistra imagines is missing from the CAISO tariff. Vistra fails to cite to any other ISO/RTO tariff provision or compliance order on the subject, instead quoting generic provisions with which the CAISO has complied. As the CAISO noted in its transmittal letter, the CAISO's proposed tariff revisions in this filing are modeled on similar provisions that resulted from its compliance with Order No. 841.

For example, in complying with Order No. 841 the CAISO revised its tariff to provide: "Scheduling Coordinators may elect to provide the CAISO with Non-Generator Resources' and Pumped-Storage Hydro Units' MWh constraints. In such cases, the CAISO will observe MWh constraints in the IFM, RUC, Real-Time Unit Commitment,

³⁹ Vistra Protest at 12-13.

⁴⁰ See *California Independent System Operator Corp.*, Letter Order accepting compliance filing, Docket No. ER19-468-003 (Nov. 24, 2020).

and FMM as part of the co-optimization.”⁴¹ If anything, the CAISO’s proposed tariff revision provides even more detail on optimizing regulation awards:

Regulation capacity offered must be dispatchable on a continuous basis for at least sixty (60) minutes in the Day-Ahead Market and at least thirty (30) minutes in the Real-Time Market after issuance of the Dispatch Instruction. The CAISO will measure continuous Energy from the time a resource reaches its award capacity. In the Real-Time Market, where a storage resource using the Non-Generator Resource model will not have sufficient State of Charge to meet its Ancillary Services Schedule, the CAISO will dispatch the storage resource to have sufficient State of Charge to meet its Ancillary Services Schedule. Scheduling Coordinators for Non-Generator Resources located within the CAISO Balancing Authority Area that require Energy from the Real-Time Market to offer their full capacity as Regulation may request the use of Regulation Energy Management as described in Section 8.4.1.2. *Consistent with the requirements of this Section, the CAISO will use all reasonable efforts to commit, schedule, and dispatch Non-Generator Resources offering Regulation while recognizing the impact of Regulation awards on their State of Charge in the Day-Ahead and Real-Time Markets. The CAISO will include examples in the Business Practice Manual detailing how the Day-Ahead and Real-Time optimizations will account for Regulation awards in determining the State of Charge in subsequent intervals.*⁴²

This subsection is only one of eight that describes regulation requirements in Section 8.4.1.1 of the CAISO tariff. Section 27 of the CAISO tariff contains parameters for optimizing regulation awards during shortage conditions.⁴³ Vistra’s argument that the CAISO has failed to comply with Order No. 841 does not differ from its other arguments: Vistra mischaracterizes the CAISO’s existing tariff and proposed tariff revisions, and it provides no relevant evidence or precedent for its claims.

⁴¹ Section 27.9 of the CAISO tariff.

⁴² Section 8.4.1.1(g) (proposed revisions italicized).

⁴³ See, e.g., Sections 27.1.2.3.1 (Regulation Down Pricing – Insufficient Supply), 27.1.2.3.4 (Regulation Up Pricing – Insufficient Supply); 27.1.2.3.5 (Scarcity Demand Curve Value Tables); and 27.1.3 (Regulation Mileage Clearing Price).

E. Marin misunderstands the CAISO’s proposal, and the Commission should disregard its comments.

Although Marin did not oppose the CAISO’s proposed tariff revisions and states they are “a step in the right direction,”⁴⁴ Marin’s comments misunderstand the CAISO’s proposal in two aspects, and the CAISO takes this opportunity to correct the record.

First, Marin notes that the tariff revisions related to exceptional dispatch settlement for storage resources, “if approved by the Commission and implemented by CAISO, may replace the temporary MSOC [Minimum State of Charge] requirement.”⁴⁵ This is inaccurate. As the CAISO stated in its transmittal letter to extend the MSOC requirement, the Energy Storage Enhancements initiative would “also include new settlement enhancements to ensure storage resources dispatched to hold a state of charge receive adequate compensation for their opportunity costs. These enhancements are *not directly related to the need for the MSOC requirement*, but they will be included with the reliability enhancements.”⁴⁶ In other words, the retirement of the MSOC requirement is dependent on the “new tools for CAISO operators to monitor and manage storage resources’ state of charge, and new tools for CAISO operators to issue exceptional dispatches for storage resources to change to or hold at a specific state of charge.”⁴⁷ Although those enhancements will be implemented with the

⁴⁴ Marin Comments at 5.

⁴⁵ *Id.* at 4.

⁴⁶ *California Independent System Operator Corp.*, Tariff Revisions to Extend Minimum State of Charge Requirement at 6 n. 16, Docket No. ER23-1485-000 (March 28, 2023) (emphasis added).

⁴⁷ *Id.* at 6.

settlement changes proposed in this proceeding, the retirement of the MSOC requirement depends on the former, not the latter.⁴⁸

Second, Marin re-raises the improbable hypotheticals it first raised in Docket No. ER23-1485, wherein a storage resource could be exposed to high energy prices to re-charge if the CAISO exceptionally dispatched it to fully discharge early in the day.⁴⁹ But as the CAISO noted in that proceeding, the CAISO is unaware of any instance when this has occurred.⁵⁰ The CAISO's only (and few) exceptional dispatches for storage resources to date were to charge or hold state of charge in the late afternoon, not completely discharge in the early afternoon and then be forced to charge again. The CAISO has not seen market or grid conditions that would necessitate such an unlikely result, nor does Marin identify any such conditions. The CAISO believes such a result is unlikely, especially given CAISO plans to implement new state of charge tools this year. In any case, that issue is not relevant to whether the CAISO's proposed tariff revisions in this proceeding—to address opportunity costs to hold state of charge—are just and reasonable.

⁴⁸ Were Marin correct, the CAISO would have proposed removing the MSOC requirement tariff provisions as part of this proceeding.

⁴⁹ Marin Comments at 5-6.

⁵⁰ *California Independent System Operator Corp.*, Answer to Comments at 3 *et seq.*, Docket No. ER23-1485-000 (April 28, 2023).

F. Conclusion

For the reasons explained above and in this proceeding, the CAISO respectfully requests that the Commission accept the proposed tariff revisions as filed.

Respectfully submitted,

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Dated: May 3, 2023

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon all of the parties listed on the official service list for the above-referenced proceeding, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, CA this 3rd day of May, 2023.

/s/ Jacqueline Meredith
Jacqueline Meredith