

181 FERC ¶ 61,034
FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, DC 20426

October 18, 2022

In Reply Refer To:
California Independent System
Operator Corporation
Docket No. ER22-2661-000

California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630

Attention: David S. Zlotlow

Dear Mr. Zlotlow:

1. On August 15, 2022, pursuant to section 205 of the Federal Power Act,¹ the California Independent System Operator Corporation (CAISO) submitted revisions to its Open Access Transmission Tariff (Tariff) to refine its flexible ramping product by: (1) introducing nodal procurement to the uncertainty award element of the product; (2) revising the default master file setting for proxy demand resources; and (3) clarifying certain existing flexible ramping product-related Tariff provisions. In this order, we accept the proposed Tariff revisions, effective as of the actual implementation date, as requested, subject to CAISO notifying the Commission of the actual effective date of the Tariff revisions within five business days of their implementation.

2. CAISO explains that it developed the flexible ramping product to manage the ramping capability needed to meet changes in net demand, which CAISO states has become more challenging with increased variability in demand and increased participation of variable energy resources in the real-time market.² CAISO explains that the flexible ramping product has two components: (1) ramping capability to address forecasted

¹ 16 U.S.C. § 824d.

² According to CAISO, ramping capability is “a resource’s ability to move from one energy output to a higher (upward ramp) or lower (downward ramp) energy output” and that flexible ramping capability is “a resource’s ability to change its output rapidly to respond to a change in forecasted net load.” Transmittal at 2.

changes in net demand for which resources and load are paid or charged through the real-time market's energy scheduling and dispatch process; and (2) ramping capacity awards to address the potential for errors in the advisory demand or supply forecasts (Uncertainty Awards).³

3. CAISO states that under its current practice, it sets separate uncertainty requirements and issues separate Uncertainty Awards for each individual balancing authority area within CAISO and for the entire Western Energy Imbalance Market (WEIM) area.⁴ CAISO explains that it initially did not include more granular locational procurement requirements as doing so would have required significant enhancements that CAISO argues would have unnecessarily delayed implementation. CAISO states, however, that since implementation, CAISO's actual market experience and analyses have indicated that its current practice has resulted in a meaningful share of Uncertainty Awards being undeliverable due to transfer limitations or internal transmission constraints.⁵

4. In order to enhance deliverability of Uncertainty Awards, CAISO proposes to revise the flexible ramping product procedures in its Tariff to model Uncertainty Awards by network node while considering all transmission constraints as part of procuring the uncertainty component.⁶ CAISO explains that to implement nodal procurement of Uncertainty Awards, it will optimize award procurement so energy that can be dispatched from resource capacity corresponding to the Uncertainty Awards will not result in flows exceeding transmission constraints and scheduling limits, including WEIM transfer limits. CAISO proposes to accomplish this by implementing "deployment scenarios" that will test whether an Uncertainty Award will still be deliverable if the market dispatches all the scheduled flexible ramping product capacity in either the upward or downward direction. According to CAISO, the market optimization will make Uncertainty Awards to a resource only if its flexible ramping award is deliverable in the deployment scenarios. CAISO asserts that this approach will mitigate the risk of undeliverable flexible ramping product.⁷

5. Additionally, CAISO states that, in order to provide a more accurate estimate of where the flexible ramping product will be needed, it will distribute the energy corresponding to Uncertainty Awards as sinking at the load and variable energy resource

³ *Id.* at 2-3.

⁴ CAISO notes that the WEIM area consists of the combined CAISO balancing authority area and all WEIM entity balancing authority areas. *Id.* at 5 & n.19.

⁵ *Id.* at 3-4.

⁶ CAISO, CAISO eTariff, § 44 (Flexible Ramping Product) (4.0.0), §§ 44.2.1.2, 44.2.3, 44.2.4.1, 44.2.1.3.

⁷ Transmittal at 9.

locations within each balancing authority area in the WEIM area based on allocation factors derived from historical and/or forecasted information that reflect the relative contributions of demand and variable energy resources to the overall uncertainty requirement.⁸

6. CAISO proposes three conforming changes that relate to the WEIM bid range capacity test, which assesses whether a WEIM entity has provided incremental bid-in capacity to meet imbalances, and the WEIM flexible ramp sufficiency test, which assesses whether a WEIM entity has sufficient ramping capability to meet forecast demand and uncertainty in each 15-minute interval of an hour. CAISO explains that each test separately evaluates sufficiency in both the ramp-up and ramp-down directions. CAISO notes that it does not propose to change the nature of either of these tests, but instead proposes changes to what happens in the event a resource fails either or both tests.⁹

7. First, CAISO states that it will determine the respective upward and downward uncertainty requirements for the group of balancing areas that pass both the capacity test and the flexibility test for that direction and set a separate uncertainty requirement for each balancing area that fails either of the two tests for a direction. CAISO explains that if a balancing authority area fails the capacity or flexibility test, the real-time market will procure Uncertainty Awards for that balancing authority area using only that balancing authority area's internal resources. CAISO asserts that this change will better ensure that a balancing authority area is not inequitably leaning on another balancing authority area.¹⁰ Second, CAISO proposes revisions to its settlements and billing Tariff provisions to settle Uncertainty Awards for a direction for the group of balancing authority areas that passed both the capacity and flexibility tests for that direction. CAISO explains that balancing authority areas that fail either test for a direction will have their flexible ramping product awards settled just for their balancing authority area to better align cost allocation with the entities that pass or fail the tests.¹¹ Third, for a failing balancing authority area with a distinct upward or downward uncertainty requirement, CAISO proposes to procure flexible ramping product awards assuming that the failing balancing authority area is limited to its final hourly real-time base schedule, therefore limiting the procurement of additional energy transfers from outside the failing WEIM balancing authority area. CAISO explains

⁸ *Id.* at 10.

⁹ *Id.* at 10-11.

¹⁰ *Id.* at 11.

¹¹ CAISO, CAISO eTariff, § 11 (Settlements and Billing) (0.0.0), §§ 11.25.1.1, 11.25.2.2.1.(a).

that this assumption ensures that flexible ramping product is procured with the failing balancing authority area's resources.¹²

8. CAISO asserts that the proposed nodal procurement of flexible ramping product also warrants conforming changes to its real-time market¹³ and market power mitigation procedures.¹⁴ CAISO states that the revised methodology will consider all constraints simultaneously from the deployment scenarios. According to CAISO, the dynamic competitive path assessment will now also consider all constraints from the base case and the two deployment scenarios. CAISO explains that if a constraint is deemed non-competitive through this process, then any non-competitive congestion component for a resource's price identified in the mitigation process (whether it arose from the base case or a flexible ramping deployment scenario) would trigger potential mitigation to the resource's default energy bid.¹⁵

9. CAISO avers that its proposed nodal flexible ramping product Uncertainty Award procurement will ensure that both energy and flexible ramping product awards are "transmission-feasible."¹⁶ CAISO further states that absent these enhancements, it would need to continue taking inefficient out-of-market actions to manage uncertainty to ensure that capacity to address uncertainty is deliverable. Additionally, CAISO states that nodal Uncertainty Award procurement will produce more accurate pricing of the flexible ramping capacity of individual resources as the flexible ramping product price will more frequently be greater than zero because the supply of deliverable flexible ramping product will be lower. CAISO explains this will create a locational value for the flexible ramping product similar to how nodal energy prices reflect the locational value of energy.¹⁷

10. CAISO also proposes to revise its proxy demand resource Tariff provisions¹⁸ to make 60 minutes the master file default response time for proxy demand resources, rather than the currently effective five minutes. CAISO explains that this Tariff revision reflects the reality that, today, few proxy demand resources can bid and respond to dispatch instructions in five-minute intervals. CAISO asserts that this change maintains optionality

¹² Transmittal at 12.

¹³ CAISO, CAISO eTariff, § 34 (Real-Time Market) (7.0.0), §§ 34.1.5.2, 34.1.5.3.

¹⁴ *Id.*, § 39 (Market Power Mitigation Procedures) (0.0.0), § 39.7.2.2.

¹⁵ Transmittal at 13-15.

¹⁶ *Id.* at 8.

¹⁷ *Id.*

¹⁸ CAISO, CAISO eTariff, § 4.13 (DRPs, RDRRs, and PDRs) (2.0.0), § 4.13.3.

for proxy demand resources, but it does so in a way that removes the burden for a proxy demand resource to opt out of a default selection that likely does not apply to its resource. CAISO avers that this change also promotes more accurate market dispatch by reducing the chances that a proxy demand resource will bid and be dispatched in a time granularity that does not apply to the resource.¹⁹

11. Finally, CAISO proposes several non-substantive clarifying edits pertaining to: (1) how it settles forecasted movement and Uncertainty Awards;²⁰ (2) the impact of accounting for the deployment scenarios in the calculation of the marginal congestion component of the locational marginal price;²¹ (3) the addition of certain acronyms to match Tariff-defined terms related to this filing;²² (4) the applicable process when a WEIM entity fails the resource sufficiency evaluation;²³ and (5) the correction of internal cross-references to other Tariff provisions and inadvertent upload errors to the Commission's eTariff system.²⁴

12. CAISO explains that it intends to implement these revisions on November 1, 2022 as part of its fall 2022 market software release. However, CAISO requests that the Commission authorize an effective date for the revisions on or before December 15, 2022, subject to CAISO filing a notice with the Commission within five days of the actual effective date.²⁵

13. Notice of CAISO's filing was published in the *Federal Register*, 87 Fed. Reg. 51,086 (Aug. 19, 2022), with interventions and protests due on or before September 6, 2022. Timely motions to intervene were filed by Calpine Corporation; the City of Santa Clara, California; the Cities of Anaheim, Azusa, Banning, Colton, Pasadena, Riverside, and Santa Clara, California; the Northern California Power Agency; the California

¹⁹ Transmittal at 14-15.

²⁰ *Id.* at 15 (citing CAISO, CAISO eTariff, § 11 (Settlements and Billing) (0.0.0), §§ 11.25.1.1, 11.25.2.2.1(a)).

²¹ *Id.* (citing CAISO, CAISO eTariff, app. C (Locational Marginal Price) (17.0.0)).

²² *Id.* at 16 (citing CAISO, CAISO eTariff, § 11 (Settlements and Billing) (0.0.0), §§ 11.25.1.2, 11.25.1.3, 11.25.2.1, 11.25.3, and 27.5.6(a)).

²³ *Id.* (citing CAISO, CAISO eTariff, § 29.34 (EIM Operations) (20.0.0), § 29.34(n)(1)(B)).

²⁴ *Id.* (citing CAISO, CAISO eTariff, § 11 (Settlements and Billing) (0.0.0), §§ 11.25.2.2.1, 11.25.2)).

²⁵ *Id.* at 16-17.

Department of Water Resources State Water Project; Southern California Edison Company; and Pacific Gas and Electric Company. The CAISO Department of Market Monitoring filed a timely motion to intervene and comments in support of CAISO's filing.

14. We accept CAISO's proposed Tariff revisions, effective as of the actual implementation date, subject to CAISO notifying the Commission of the actual implementation date within five days of that date.²⁶ We find that the proposed Tariff revisions are just and reasonable, and have not been shown to be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful. The proposed Tariff revisions will help ensure that energy and flexible ramping product awards are deliverable and will produce more accurate pricing of the flexible ramping capacity of individual resources. We also find that the proposed Tariff revisions will appropriately align cost allocation and market mitigation methodologies with the new nodal procurement process. Additionally, CAISO's proposal to change the default master file setting for proxy demand resources to the hourly block will improve the accuracy of market dispatches and remove the burden for a proxy demand resource to opt out if a default selection does not apply to that resource, while still allowing the resource to opt-in for the 15- and five-minute intervals if it is able to be dispatched in those intervals. Finally, we accept CAISO's non-substantive Tariff revisions described above as just and reasonable clarifications and/or corrections to the existing Tariff.

By direction of the Commission.

Debbie-Anne A. Reese,
Deputy Secretary.

²⁶ CAISO is directed to notify the Commission of the actual effective date of the Tariff revisions within five business days of their implementation, in an eTariff submittal using Type of Filing Code 150 – Report.