

168 FERC ¶ 61,213
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

California Independent System Operator Corporation Docket No. ER19-2347-000

ORDER ON TARIFF REVISIONS

(Issued September 30, 2019)

1. On July 2, 2019, the California Independent System Operator Corporation (CAISO) filed, pursuant to section 205 of the Federal Power Act (FPA),¹ revisions to its open access transmission tariff (Tariff) intended to facilitate participation of fast ramping hydroelectric resources in the western energy imbalance market (EIM) by modifying the local market power mitigation process and cost-based bids used for such resources. These revisions would modify the Tariff by: (1) limiting the instances in which CAISO dispatches resources at mitigated bid prices when local market power mitigation is not actually triggered in a specific interval, but is a carryover of a determination made in a prior interval (Mitigation Timing); (2) allowing an EIM entity balancing authority area (BAA) in the real-time market to limit dispatch of incremental net exports under certain conditions (Net Export Limit); and (3) creating a new default energy bid (DEB) for hydroelectric resources with storage (Hydro DEB). In this order, we accept in part and reject in part CAISO's filing.² Specifically, we accept the Mitigation Timing proposal, to be effective on CAISO's actual implementation date, and the Hydro DEB proposal,

¹ 16 U.S.C. § 824d (2018).

² CAISO states that each of its three proposals can be implemented independently, that no one change is integrated with or dependent upon another, and that the proposals should be considered as severable from one another. CAISO July 2, 2019 Filing at 9 (CAISO Filing). *See, e.g., Cal. Indep. Sys. Operator Corp.*, 167 FERC ¶ 61,001 (2019) (accepting in part and rejecting in part proposed tariff revisions); *Cal. Indep. Sys. Operator Corp.*, 165 FERC ¶ 61,161 (2018) (accepting in part and rejecting in part proposed tariff revisions).

effective October 14, 2019, as requested. We reject the Net Export Limit proposal, as discussed below.

I. Background

2. CAISO's market software evaluates local market power by testing transmission constrained areas for structural competitiveness. An area is structurally uncompetitive when market participants can exert market power by submitting bids above marginal costs that set the market clearing price. During times when an area is deemed structurally uncompetitive, a resource will be subject to local market power mitigation and its bid will be mitigated to the higher of its DEB or the competitive locational marginal price (LMP), if its energy bid is higher than the competitive LMP calculated in the evaluation. CAISO states that, in the EIM, mitigation may result in increased dispatch of resources beyond a supplier's required energy offer amount for EIM participation.³ CAISO states that this may result in EIM entities being dispatched to export and serve external load at prices below their bids, which can result in reduced participation in the voluntary EIM.⁴ CAISO asserts that these situations are exacerbated by CAISO's calculation of DEBs, which CAISO states often fail to reflect hydroelectric resources' actual marginal costs.⁵

II. CAISO Filing

3. CAISO proposes three separate and distinct changes to its Tariff to address these issues: (1) Mitigation Timing; (2) the Net Export Limit; and (3) the revised Hydro DEB.⁶ Each of these revisions is discussed below. CAISO states that it expects to implement the proposed revisions no later than December 4, 2019. However, CAISO explains that it must begin preparing any Hydro DEBs requested prior to the effective date to ensure scheduling coordinators have a functional Hydro DEB by the time the changes are implemented. Therefore, CAISO requests that the Commission accept the Tariff provisions regarding development of the Hydro DEB effective October 14, 2019, and requests authority to provide the Commission and market participants notice of the actual effective date at least 14 days prior to that date.⁷

³ CAISO Filing at 2-3.

⁴ *Id.* at 3.

⁵ *Id.*

⁶ *Id.* at 2-3.

⁷ *Id.* at 2.

III. Notice and Responsive Pleadings

4. Notice of CAISO's filing was published in the *Federal Register*, 84 Fed. Reg. 32,900 (2019), with interventions and protests due on or before July 23, 2019. Timely motions to intervene were filed by PacifiCorp, Modesto Irrigation District, Calpine Corporation, Public Utility District No. 1 of Chelan County, Washington, Public Power Council, Public Generating Pool, Eugene Water & Electric Board, NRG Power Marketing LLC, NV Energy, Inc., Southern California Edison Company, Northern California Power Agency, Snohomish County Public Utility District No. 1, Powerex Corp., California Department of Water Resources State Water Project, and Seattle City Light. Timely motions to intervene and comments were filed by the Pacific Northwest Joint Commenters (Joint Commenters),⁸ Pacific Gas and Electric Company (PG&E), Bonneville Power Administration (Bonneville), the Department of Market Monitoring of the California Independent System Operator, Inc. (DMM), National Hydropower Association (National Hydropower), and Idaho Power Company (Idaho Power). The Public Utilities Commission of the State of California (CPUC) filed a notice of intervention and protest. Motions to intervene out-of-time were filed by the Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside California (collectively, Six Cities), and the City of Santa Clara, California. On August 5, 2019, CAISO filed an answer to comments and protests. On August 8, 2019, the Joint Commenters filed an answer to CPUC's protest.

IV. Discussion

A. Procedural Matters

5. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2019), the notice of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

6. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d) (2019), the Commission will grant Six Cities' and the City of Santa Clara, California's late-filed motions to intervene given their interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

7. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2019), prohibits an answer to a protest or answer unless otherwise ordered by the decisional authority. We will accept CAISO's and Joint Commenters'

⁸ The Joint Commenters include Eugene Water & Electric Board, Powerex Corp., Public Generating Pool, Public Power Council, Public Utility District No. 1 of Chelan County, Public Utility District No. 1 of Snohomish County, and Seattle City Light.

answers because they have provided information that assisted us in our decision-making process.

B. Substantive Matters

8. As discussed below, we accept in part and reject in part CAISO's proposed Tariff revisions.⁹ We accept the Mitigation Timing proposal effective on CAISO's actual implementation date, and the Hydro DEB proposal effective October 14, 2019, as requested. We reject the Net Export Limit proposal.

1. Mitigation Timing

a. CAISO Proposal

9. CAISO proposes to revise Sections 31.2.3, 34.1.5, and Appendix A of its Tariff¹⁰ to enhance the timing of market power mitigation. CAISO explains that, under the current market rules, when local market power mitigation is triggered in the 15-minute market interval, mitigation is also triggered for all the subsequent market intervals for the balance of the hour. The current rules also specify that, if local market power mitigation is triggered in the binding real-time dispatch interval, mitigation is extended to the rest of the five-minute intervals within a 15-minute interval. Finally, under the current rules, if local market power mitigation is applied in a 15-minute interval, whether through mitigation originally being triggered in the interval or through mitigation extended through the balance of the hour, mitigation is also applied in the corresponding real-time dispatch intervals. CAISO further explains that the current market rules use the same mitigated bid price for all the market intervals to which mitigation is extended, unless the competitive LMP is lower in a market interval than in the market interval that originally failed the market power test, in which case the mitigated bid price is based on the lower competitive LMP.¹¹

10. According to CAISO, the mitigated bid extension rules can result in EIM resources being forced to sell energy for transfers out of their balancing area at mitigated

⁹ As noted above, CAISO stated in its filing that each of its proposals can be implemented independently and that the proposals are severable from one another. CAISO Filing at 9.

¹⁰ CAISO, CAISO eTariff, 31.2.3 Bid Mitigation (2.0.0); *id.* 34.1.5 Mitigating Bids in the RTM (4.0.0); *id.* Appendix A, Definitions, - Competitive LMP Parameter (0.0.0).

¹¹ CAISO Filing at 10.

prices in market intervals in which no market power was detected. CAISO states that, in these intervals, the area is not import-constrained and the resources in the area do not have market power. Rather, CAISO explains, in these later intervals, the market may be dispatching resources in the area to provide energy to transfer out of the area to a competitive region. Moreover, CAISO notes that the mitigated bid price at which the market dispatches these resources can be lower than the resource's estimated marginal costs if the DEB fails to appropriately reflect such marginal costs.¹²

11. CAISO proposes to eliminate the current rules for balance-of-the-hour mitigation in the 15-minute interval and balance of the 15-minute interval in the real-time dispatch. Further, CAISO proposes that a resource mitigated in the 15-minute interval will not automatically be mitigated in the corresponding real-time dispatch intervals. CAISO also proposes market rule changes so that the local market power mitigation process will calculate a mitigated bid price for each market interval based on the actual competitive LMP in each interval. To help ensure the market does not dispatch resources to export power from constrained regions at mitigated bid prices, CAISO states it is proposing a small adder to slightly increase the competitive LMP used in calculating mitigated bids.¹³

12. CAISO states that, because the local market power mitigation process will no longer extend mitigation in the real-time unit commitment process to subsequent market intervals after an interval in which it detects market power, CAISO also proposes that the market power mitigation process test each 15-minute real-time unit commitment interval in the real-time unit commitment's horizon for market power and apply mitigation separately to each run. According to CAISO, it is important to apply mitigation to each real-time unit commitment interval in which market power is detected to have consistent market results across the horizon. Similarly, CAISO proposes that the local market power mitigation process individually test the earlier market intervals in the real-time dispatch horizon. However, CAISO explains that because the real-time dispatch does not have a separate local market power mitigation run, mitigation from the first advisory interval will be passed to the binding interval in the next real-time dispatch run.¹⁴

b. Comments

13. Joint Commenters and Bonneville support CAISO's proposal. According to Joint Commenters, CAISO's proposal would reduce the potential for flow reversal by assessing market power independently in each interval, and by only applying mitigation

¹² *Id.* at 13.

¹³ *Id.*

¹⁴ *Id.*

to those specific intervals in which the potential for market power has been detected. Joint Commenters note that CAISO's proposal would help ensure that the market power mitigation process will not result in the dispatch of a resource to export power from constrained regions at mitigated bid prices by applying a nominal adder to the bids of resources mitigated to the competitive LMP.¹⁵ Bonneville states that CAISO's proposal is an improvement over existing practices because it limits unnecessary and inappropriate market power mitigation. Bonneville argues that this change incents market participation because it reduces the likelihood that generating bids are mitigated to lower values during intervals when market power cannot be exercised.¹⁶

14. DMM supports the overall proposal in light of the special nature of hydroelectric resources, the lack of a must-offer obligation in the EIM, and the competitive benefits from increased hydroelectric resource participation. DMM notes that the carryover of mitigation to subsequent market intervals for an hour in which local market power mitigation is triggered originally stemmed from a combination of software issues and concerns about the accuracy of earlier mitigation designs that have since been addressed. DMM provides analysis indicating that, if implemented, the Mitigation Timing proposal could reduce the frequency of mitigation by as much as 20 percent.¹⁷

c. Commission Determination

15. We find that CAISO's proposal to enhance the timing of local market power mitigation is just and reasonable. We agree with CAISO and commenters that this proposal will improve the accuracy of CAISO's market power mitigation and minimize bid mitigation when market power does not, in fact, exist. For these reasons, we find that the Mitigation Timing proposal is a just and reasonable improvement to CAISO's existing market rules and we therefore accept the proposal.

2. Net Export Limit

a. CAISO Proposal

16. CAISO proposes to revise Section 29.39 of its Tariff¹⁸ to implement an optional feature to allow EIM entities to limit net exports under certain conditions. CAISO

¹⁵ Joint Commenters Comments at 8-9.

¹⁶ Bonneville Comments at 3.

¹⁷ DMM Comments at 3.

¹⁸ CAISO, CAISO eTariff, 29.39 EIM Market Power Mitigation (3.0.0).

explains that, for the EIM to dispatch energy transfers in or out of an EIM Entity BAA, each EIM entity must pass a resource sufficiency evaluation, which demonstrates that it has bid enough supply to meet its demand and flexible ramping product requirement. There is no requirement to offer a quantity of energy beyond that amount. Despite this, CAISO explains, the existing market power mitigation process can mitigate a resource's bids when multiple BAAs are import constrained, and a resource can be dispatched for additional exports at mitigated bid prices for greater quantities of energy than were required to be offered.¹⁹ CAISO asserts that this result goes beyond what is necessary to resolve market power²⁰ and can be problematic for EIM entities, particularly in cases when the DEB is lower than a resource owner's estimate of current marginal costs. CAISO asserts that, given that the EIM is a voluntary market, this mitigation outcome may discourage EIM entities from bidding in their full available quantity of resources and making transmission available for EIM use.²¹

17. CAISO proposes to create a feature, which EIM entities can opt into, that would limit the additional dispatch of resources that occurs when the resources' bids are lowered due to their respective BAA becoming subject to bid mitigation.²² The optional feature would allow EIM entities to limit net transfers out of the mitigated BAA to the greater of: (1) the pre-mitigation transfer quantity, or (2) the base transfer quantity, plus, for both (1) and (2), the sum of the flexible ramping up awards in the market power mitigation run in excess of the BAA's flexible ramping up requirement.²³ CAISO states this rule would be applied in both the 15-minute market and real-time dispatch. CAISO notes that, in the event the transfer constraint is binding in the pricing run, the congestion rents will accrue to the source EIM BAA. CAISO argues that this is consistent with the current EIM treatment for congestion rents, in which congestion rents accrue to the BAA where the constraint is located.²⁴

18. CAISO asserts that currently, if an EIM entity wants to protect itself from having to sell energy at a DEB below its cost, it must restrict the amount of energy it offers to the

¹⁹ CAISO Filing at 18.

²⁰ *Id.*, Attachment G at 26.

²¹ *Id.* at 20.

²² *Id.*

²³ *Id.* at 21; *see also id.* Attachment G at 5.

²⁴ *Id.* at 24-25; *see also id.* Attachment G at 27.

market or limit the transmission it makes available for EIM transfers.²⁵ CAISO asserts that its proposal allows entities to control their participation more precisely, which may encourage fuller participation in the EIM, and that allowing EIM entities to limit the quantity they sell at mitigated prices is consistent with the voluntary nature of the market.²⁶

b. Comments

19. Joint Commenters and Bonneville support CAISO's Net Export Limit proposal.²⁷ Bonneville argues that this change may support the efficient dispatch of resources by balancing the need to mitigate the exercise of market power with the goal to avoid inducing activity at prescribed prices beyond what is necessary to resolve market power issues.²⁸ PG&E states that it tentatively supports the changes CAISO has proposed to eliminate economic displacement and flow reversal, noting that inefficient dispatch resulting from mitigation will be partly resolved by the improvements in the proposed DEB calculations.²⁹ However, PG&E requests that the Commission require DMM to monitor the market impacts to ensure that benefits are not outweighed by unintended consequences, and to report to the CAISO board in a year if any flaws are identified.³⁰

20. While DMM supports CAISO's proposed revisions overall, it identifies some specific concerns regarding the Net Export Limit proposal. DMM states that the Net Export Limit could either increase or decrease market efficiency.³¹ DMM notes that if a resource's market bids exceed actual marginal opportunity costs and DEBs are not lower than the unit's actual marginal costs, the Net Export Limit may reduce market efficiency, since the export limit would also reduce the ability of one EIM area to help mitigate uncompetitive conditions in another EIM area. DMM is also concerned that allocating 100 percent of congestion revenues to the exporting area may create incentives for inefficiency scheduling and bidding. However, DMM states that has not been able to

²⁵ *Id.* at 20.

²⁶ *Id.* at 3.

²⁷ Joint Commenters Comments at 9; Bonneville Comments at 4.

²⁸ Bonneville Comments at 4.

²⁹ PG&E Comments at 2-3.

³⁰ *Id.* at 3.

³¹ DMM Comments at 3.

develop an alternative approach for allocating congestion revenues, and agrees that CAISO's provisions on this issue will provide the DMM with needed transparency.³²

c. Commission Determination

21. We find that CAISO has not demonstrated that its proposal to implement the Net Export Limit is just and reasonable and we therefore reject it. We conclude that CAISO's Net Export limit proposal is inconsistent with the market power mitigation framework in the EIM and is not an appropriately calibrated solution to the concerns CAISO identifies. In particular, CAISO's proposal could weaken CAISO's market power mitigation process by allowing EIM entities to withhold generation through the submission of high supply bids and restricting EIM transfers out of their BAAs. Under CAISO's proposal, those bids would be mitigated when the potential to exercise market power was detected, but it is the unmitigated bids that would determine the dispatch of resources to serve load outside of the EIM entities' BAAs. As a result, CAISO's proposal would effectively allow market participants in the EIM to raise prices above competitive levels at the discretion of the EIM entity, resulting in potentially unjust and unreasonable rates.

22. We are not persuaded by CAISO's argument that this proposal is permissible because the EIM is a "voluntary market." The FPA requires the Commission to ensure just and reasonable rates in all markets under its jurisdiction.³³ Resources in the EIM do not have a must-offer obligation in the same way that many resources in CAISO do, but this distinction is not a compelling basis for weakening the protections against anti-competitive behavior in the EIM. Even if resources are not under a contractual or legal obligation to offer supply into a market, allowing the unmitigated exercise of market power by those resources may result in unjust and unreasonable rates. In fact, in the markets operated by CAISO, CAISO does not limit its market power mitigation procedures just to resources with must-offer obligations in its own markets.

23. CAISO asserts that its proposal is needed to address the unique situation faced by hydroelectric resources with storage capability that are dispatched at DEBs that they believe do not reflect their true opportunity costs. However, CAISO's proposal would be available to any current or future EIM entity and would apply to any resource type. Under this proposal, EIM entities could decide whether the Net Export Limit constraint applies to generation within their BAA and then receive congestion revenue as a result of the application of this constraint. We find that this discretion could potentially undermine CAISO's independent operation of the EIM because it would allow EIM entities, which are also participants in the EIM, discretion over what constraints are applied to them. Further, as DMM notes, the proposed Net Export Limit could create

³² *Id.* at 4-5.

³³ 16 U.S.C. § 824d.

incentives for inefficient and uneconomic scheduling and bidding because EIM entities may have incentives to bid such that the constraint becomes binding and the resulting congestion revenue is returned to them. As discussed below, we believe that CAISO's proposed Hydro DEB helps to address the unique situation faced by hydroelectric resources with storage capability without the drawbacks of the Net Export Limit by allowing those resources to better reflect their opportunity costs.

3. Hydro DEB

a. CAISO Proposal

24. CAISO proposes to revise Section 39.7.1.7 and Appendix A of its Tariff³⁴ to implement a new DEB option that would apply to all hydroelectric resources with storage capability that participate in the CAISO day-ahead and real-time markets or the EIM. CAISO states that its current DEB options do not include a transparent methodology that appropriately captures the opportunity costs for water, including the potential to sell output in the future and constraints created by regulatory, legal, or environmental requirements. Therefore, CAISO is concerned that a mitigated resource may be subject to a DEB that undervalues the resource's marginal costs, which in turn could create a disincentive for hydroelectric resources with flexible ramping capacity to participate in the voluntary EIM and reduce the economic efficiency of the EIM.³⁵ To address these issues, CAISO asserts that its proposed formula captures many of the attributes and opportunity costs relevant to hydroelectric resources, and will improve dispatch efficiency while providing just and reasonable compensation to mitigated resources.

25. CAISO explains that it currently uses a negotiation process to establish DEBs for hydroelectric resources participating in the CAISO day-ahead and real-time markets and the EIM.³⁶ However, CAISO states that, in its experience, these ad hoc negotiations do not provide transparency and certainty to all hydroelectric resources about how their marginal costs will be valued. Consequently, according to CAISO, the negotiated DEBs may not be acceptable to hydroelectric resources.³⁷ To address this practical challenge, CAISO states that its proposal is intended to provide a more transparent and structured

³⁴ CAISO, CAISO eTariff, 39.7.1 Calculation of Default Energy Bids (31.0.0), § 39.7.1.7; id. Appendix A, Definitions, - Hydro Default Energy Bid (0.0.0).

³⁵ CAISO Filing at 27.

³⁶ CAISO, CAISO eTariff, 39.7 Local Market Power Mitigation for Energy Bids (5.0.0).

³⁷ CAISO Filing at 30-31.

method for calculating the DEB for hydroelectric resources, based on three categories of identified opportunity costs that those resources might face.³⁸

26. Specifically, CAISO proposes to calculate the Hydro DEB as the maximum of the following three components:

Long-Term/Geographic: CAISO states that this component represents opportunity costs for the potential of the resource to sell output in the future, including in different bilateral markets.

Short-Term: CAISO states that this component represents opportunity costs created by short-term water use limitations.

Gas Floor: CAISO states that this component represents the cost of replacement energy in the real-time market if the resource exceeds its short-term limitations as measured by the average gas turbine heat rate multiplied by the gas price applicable to the relevant region.³⁹

27. The long-term and gas floor components include a 10 percent adder to account for variations between published price indices and prices of actual individual bilateral transactions.⁴⁰ The short-term component includes a 40 percent adder to prevent a resource from being too frequently dispatched on a particular day that is intended to avoid dispatching a resource for more than four hours per day.⁴¹ CAISO plans to calculate the Hydro DEB for each resource once per day, and separately for the day-ahead and real-time markets.

b. Comments

28. PG&E, Joint Commenters, Bonneville, National Hydropower, and Idaho Power support CAISO's Hydro DEB proposal.⁴² Bonneville and National Hydropower assert that CAISO's proposed approach is transparent, widely available, and captures the various components that determine opportunity costs and potential replacement costs for

³⁸ *Id.* at 31-32.

³⁹ *Id.* at 32.

⁴⁰ *Id.* at 34.

⁴¹ *Id.* at 41.

⁴² PG&E Comments at 2; Joint Commenters Comments at 4; Bonneville Comments at 4-5; National Hydropower Comments at 2-3; Idaho Power Comments at 1-2.

hydro resources.⁴³ Joint Commenters state that the marginal costs of large hydroelectric resources are highly variable and that opportunity costs are driven by projections of water supply, domestic needs, and other constraints.⁴⁴ According to Joint Commenters, none of the options under the currently effective CAISO Tariff is well suited to energy-limited hydroelectric resources.⁴⁵ They argue that the variable cost option was designed for fossil fuel resources with easier to calculate production costs. Joint Commenters further state that the LMP option is not suited to resources with marginal costs that vary substantially or are based on opportunity costs that are forward-looking in nature. According to Joint Commenters, the negotiated DEB option requires a lengthy negotiation process that may be a barrier to entry for smaller market participants and has been unworkable for newer entrants whose opportunity costs cannot be fixed with precision.

29. Joint Commenters encourage the Commission to accept CAISO's Hydro DEB proposal in full because it provides a resolution of the complex set of issues that have been identified by the CAISO and stakeholders.⁴⁶ Joint Commenters state that CAISO's proposal appropriately recognizes that: (1) a hydro resource will, as a general matter, seek to sell surplus capability on the most valuable days and hours and at the most valuable locations; and (2) the marginal cost of a hydro resource is most frequently the opportunity cost of generating today versus foregoing the opportunity to sell energy at higher prices in proximate or distant locations in the future.⁴⁷ Joint Commenters assert that, on balance, they believe that the proposed new DEB option will provide participants with energy-limited storage hydroelectric resources with an improved ability to recover their opportunity costs, consistent with Commission precedent, in the EIM and in intervals where local market power conditions exist.⁴⁸ Idaho Power concurs with the Joint Commenters' comments recognizing the limitations of the current DEB options and

⁴³ Bonneville Comments at 4-5; National Hydropower Comments at 3.

⁴⁴ Joint Commenters Comments at 4.

⁴⁵ *Id.* at 5.

⁴⁶ *Id.* at 6.

⁴⁷ *Id.* at 7.

⁴⁸ *Id.* at 8.

therefore supporting the new Hydro DEB option as a reasonable compromise among stakeholders to value opportunity costs.⁴⁹

30. DMM supports the general framework for the new Hydro DEB, but believes two aspects of the long-term/geographic component may not be needed.⁵⁰ First, DMM questions allowing opportunity costs to be based on prices in the Southwest, since the higher prices often occurring in the Southwest reflect the value of transmission from the Northwest to the Southwest, rather than the value of energy in the Northwest. Second, DMM questions allowing DEBs to be based on futures prices 12 months in the future (rather than a more limited period), since the 12 month period often extends beyond the current hydro cycle. However, DMM believes that CAISO's Hydro DEB proposal still provides significant protection against the potential for the exercise of market power even with these two aspects of the long-term/geographic component.⁵¹

31. CPUC opposes the Hydro DEB proposal, expressing concerns that resource owners of hydroelectric facilities could select distant hubs in setting their opportunity costs to artificially inflate their DEB levels.⁵² According to CPUC, this could lead to DEBs set to the futures prices at distant hubs, meaning that the DEBs that set prices locally in the EIM could include the congestion costs between the local resource node and the distant pricing hub.⁵³ CPUC also asserts that key neutral stakeholders have expressed serious concerns about this element of CAISO's proposal, including the DMM and CAISO's Market Surveillance Committee. CPUC contends that the difference in prices between the origin hub and the distant hub should roughly equal the value of transmission between the two hubs. CPUC notes that the DMM also raised the concern that the value of transmission between the pricing hub and the resource node could be incorporated into the energy prices under the CAISO's proposal. Consequently, ratepayers would be exposed to artificially higher prices from hydropower resources.⁵⁴ CPUC requests that the Commission reject the Hydro DEB element of CAISO's filing.

⁴⁹ Idaho Power Comments at 1-2.

⁵⁰ DMM Comments at 5.

⁵¹ *Id.* at 5-10.

⁵² CPUC Comments at 3.

⁵³ *Id.* at 4.

⁵⁴ *Id.* at 6-7.

c. Answers

32. In response to CPUC’s protest, CAISO asserts that use of distant electrical pricing hubs reasonably reflects a hydroelectric resource’s opportunity costs. CAISO explains it included a requirement that the scheduling coordinator must not only demonstrate ownership of transmission rights to distant locations, but must also demonstrate that these rights are not fully committed and that there is an actual opportunity to use these rights.⁵⁵ CAISO further states that during the stakeholder process market participants provided convincing evidence that these transmission rights are indeed “use it or lose it,” because there is no robust, bilateral market for unused transmission rights. CAISO notes that DMM and the Market Surveillance Committee now support the filing,⁵⁶ but based on concerns they raised in the stakeholder process, CAISO will monitor the implementation of Hydro DEBs over time. CAISO states that, if it finds the current implementation approach does not accurately capture hydroelectric resources’ opportunity costs, it will propose any necessary changes to stakeholders and the Commission to be more consistent with actual opportunity costs in the West.⁵⁷

33. Joint Commenters also assert that CPUC’s concerns regarding the use of distant pricing hubs are misguided. According to Joint Commenters, energy-limited hydroelectric resources outside the CAISO BAA must choose not only when and whether to produce energy, but must also choose the particular geographic markets into which their output will be sold. Joint Commenters contend that several of the entities marketing the output of energy-limited hydroelectric resources in the West regularly transact at dozens of discrete geographic locations, including locations throughout the Northwest, CAISO import delivery points, the desert Southwest, and in some cases, Alberta, Canada. According to Joint Protesters, a DEB based only on current and future index prices at an external hydroelectric resource’s “default” geographic location has the potential to systematically understate the value of the opportunities in other locations throughout the West.⁵⁸

34. Joint Commenters also state that CPUC’s assumption that any difference in prices between a resource’s local hub and a distant hub should equal the value of transmission between the two locations is rooted in the dynamics of a regional transmission organization (RTO) with LMP pricing, and has no application in the Western bilateral

⁵⁵ CAISO Answer at 5.

⁵⁶ *Id.* at 4.

⁵⁷ *Id.* at 9.

⁵⁸ Joint Commenters Answer at 2-3.

markets outside of CAISO. According to Joint Commenters, the opportunity cost of foregone sales in a remote geographic location in the west cannot be captured by the price of transmission alone, as is the case within an RTO.⁵⁹

35. Finally, Joint Commenters contend that CPUC's protest does not take into account or reflect the breadth of stakeholder dialogue and input into the stakeholder process. According to Joint Commenters, CPUC ignores the fact that both DMM and the Market Surveillance Committee ultimately supported CAISO's proposals as a package that workably accommodated a variety of relevant concerns and considerations raised by a diverse group of active stakeholders.⁶⁰

d. Commission Determination

36. We find that CAISO's proposal to introduce a new Hydro DEB is just and reasonable and we therefore accept it. CAISO's proposal represents a transparent alternative to the existing negotiated DEB option that will allow hydroelectric resources with storage to reflect their opportunity costs in their DEBs, and in turn will ensure that hydroelectric resources will be dispatched when they are most needed.

37. We find that it is just and reasonable to include the geographic component as an element of the DEB for hydroelectric resources with storage, because of the unique characteristics of these resources. Therefore, we disagree with CPUC's argument that the distant hubs should not be included in the DEB calculation because they only represent the value of transmission. A hydroelectric resource that has ready access to available transmission could realistically use the transmission to sell power at the distant hub rather than at a default hub. Thus, the prices at the distant hub would represent a genuine opportunity cost to the extent the hydroelectric resource has verifiable access to transmission to that hub.

38. Moreover, CAISO's proposal includes sufficient safeguards to verify that access and, thereby, ensure that the values used by the formula represent verifiable opportunity costs. As described above, CAISO has included a requirement that a scheduling coordinator must not only demonstrate ownership of transmission rights to distant locations, but must also demonstrate that these rights are available for use.⁶¹ We find that, with these safeguards, CAISO's proposal provides an efficient and transparent alternative to current DEB mechanisms. Furthermore, we accept CAISO's commitment

⁵⁹ *Id.* at 4.

⁶⁰ *Id.* at 5-7.

⁶¹ CAISO, CAISO eTariff, 39.7.1 Calculation of Default Energy Bids (31.0.0), § 39.7.1.7.2.

to monitor the implementation of Hydro DEBs over time and to propose modifications to its process, if warranted.

The Commission orders:

(A) CAISO's proposed revisions to its Tariff are hereby accepted in part, effective October 14, 2019 and on CAISO's actual implementation date, as requested, and rejected in part, as discussed in the body of this order.

(B) The Commission hereby directs CAISO 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.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.