171 FERC ¶ 61,220
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. ER19-2347-001

ORDER DENYING REHEARING AND GRANTING CLARIFICATION

(Issued June 18, 2020)

1. On September 30, 2019, the Commission accepted in part and rejected in part revisions to the California Independent System Operator Corporation's (CAISO) open access transmission tariff related to the western energy imbalance market (EIM).[1] The Commission accepted CAISO's proposals to enhance the timing of its local market power mitigation process and to create a new default energy bid for hydroelectric resources with storage capacity.[2] The Commission rejected CAISO's proposal to allow 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).[3]

2. CAISO requested rehearing and, alternatively, moved for clarification.[4] We deny the request for rehearing and grant the motion for clarification.

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[1] *Cal. Indep. System Operator Corp.*, 168 FERC ¶ 61,213 (2019) (September 30 Order).

[2] These proposals are discussed at length in the September 30 Order. *Id.* PP 9-15, 24-48.

[3] *Id*. PP 16-23.

[4] CAISO October 30, 2019 Request for Rehearing and Alternative Motion for Clarification (CAISO Request for Rehearing).

I. Background

3. CAISO administers day-ahead and real-time wholesale electricity markets, with the 15 minute market and the five minute real-time dispatch market extending to balancing authorities outside of CAISO that participate in the EIM.[5] As described in the September 30 Order, CAISO's market software evaluates local market power by testing transmission-constrained areas for structural competitiveness.[6] An area is structurally uncompetitive when conditions are such that market participants can exert market power by submitting bids above their marginal costs that set the market-clearing price. During periods when CAISO's software deems an area structurally uncompetitive, all resources in the area are subject to local market power mitigation. When mitigated, a resource's bid is reduced to the greater of either the competitive locational marginal price (LMP) or the resource's default energy bid.[7] The local market power mitigation process is performed in the software's pre-market mitigation run, and the market (day-ahead or real-time market) is cleared on the set of bids that have been mitigated.

4. CAISO explained in its initial filing on July 2, 2019 that, for the EIM to dispatch energy in or out of an EIM entity BAA, each EIM entity must pass a resource sufficiency evaluation, which demonstrates that the EIM entity has bid enough supply to meet its demand and flexible ramping product requirement.[8] There is no requirement that the EIM entity offer a quantity of energy beyond that amount. Despite this, CAISO explained, the existing local market power mitigation process can mitigate a resource's bids when multiple BAAs are import-constrained and, as a result of the potentially lower mitigated bids, a resource in one import-constrained BAA can be dispatched for export to a second import-constrained BAA in greater quantities of energy than were required to be offered.[9] CAISO asserted that this result goes beyond what is necessary to resolve

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[5] Current EIM participants include Arizona Public Service Company, Balancing Authority of Northern California (Phase 1), Idaho Power Company, NV Energy, Inc., PacifiCorp, Portland General Electric Company, Powerex Corporation, Puget Sound Energy, Salt River Project, and Seattle City Light.

[6] September 30 Order, 168 FERC ¶ 61,213 at P 2; CAISO July 2, 2019 Tariff Filing at 5.

[7] September 30 Order, 168 FERC ¶ 61,213 at P 2.

[8] *Id*. P 16; CAISO July 2, 2019 Tariff Filing at 18.

[9] CAISO July 2, 2019 Tariff Filing at 18.

market power[10] and can be problematic for EIM entities, particularly in cases when mitigation moves to a default energy bid that is lower than a resource owner's estimate of current marginal costs. CAISO claimed 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.[11]

5. CAISO proposed the optional Net Export Limit feature to limit the additional dispatch of resources based on mitigated bids. The Net Export Limit would allow an EIM entity to limit net transfers out of its mitigated BAA to the greater of either the pre-mitigation transfer quantity or the base transfer quantity, plus the sum of the flexible ramping up awards in the market power mitigation run in excess of the BAA's flexible ramping up requirement.[12] CAISO stated that this rule would be applied in both the fifteen minute market and the five minute real-time dispatch market. CAISO noted that, in the event that the Net Export Limit transfer constraint is binding in the pricing run, the congestion rents will accrue to the source EIM entity BAA.

6. In the September 30 Order, the Commission found that CAISO had not demonstrated that its proposal to implement the Net Export Limit was just and reasonable and therefore rejected the proposal.[13] The Commission determined that the proposed Net Export Limit was inconsistent with the market power mitigation framework in the EIM and not an appropriately calibrated solution to the concerns that CAISO had identified.[14] The Commission concluded that the proposed Net Export Limit would allow EIM entities to raise prices above competitive levels, would be overbroad to correct a claimed flaw in the default energy bids for hydroelectric resources with storage capacity, and could incentivize inefficient and uneconomic scheduling and bidding if EIM entities can game their bids to trigger the Net Export Limit as a binding constraint and receive the resulting congestion revenue.[15]

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[10] *Id.*, Attachment G at 26.

[11] CAISO July 2, 2019 Tariff Filing at 20.

[12] *Id.* at 21; *see also id.* Attachment G at 5.

[13] September 30 Order, 168 FERC ¶ 61,213 at PP 21-23.

[14] *Id*. P 21.

[15] *Id*. PP 21-23.

7. On October 30, 2019, CAISO filed a request for rehearing, or, in the alternative, a motion for clarification of the September 30 Order.

II. Discussion

A. Nexus with Market Efficiency

8. On rehearing, CAISO contends that no record evidence supports the Commission's conclusion that the proposed Net Export Limit will create an ability for EIM entities to withhold generation.[16] CAISO states, to the contrary, that the proposed Net Export Limit is designed to eliminate the existing incentive for an EIM entity, if it wishes to limit the amount of energy that its resources may have to sell at mitigated prices, to only offer the minimum amount of required supply.[17] CAISO predicts that the Net Export Limit would encourage suppliers to offer greater levels of supply into the EIM.[18]

9. We deny rehearing. We are concerned that CAISO's proposed incentive for greater participation in the EIM is likely to produce outcomes that are not just and reasonable. Contrary to CAISO's assertions, the direct effect of the proposed Net Export Limit would be to allow EIM entities to limit the dispatch of their resources if they are mitigated in the market power mitigation run.[19] The result is that an EIM entity that opted for the Net Export Limit under CAISO's proposal would be able to bid above its marginal cost while also choosing to limit dispatch in the EIM during periods when market power mitigation is necessary. In this way, CAISO's proposal would be a departure from the competitive solution identified by the market power mitigation run and thus would limit the effectiveness of the market power mitigation and would

[16] CAISO Request for Rehearing at 13 (citing September 30 Order, 168 FERC ¶ 61,213 at P 21).

[17] *Id.*

[18] *Id.*

[19] *E.g.*, CAISO July 2, 2019 Tariff Filing at 20 (explaining that the proposed Net Export Limit addresses the undesirable situation that CAISO's software can dispatch the full offered resource from an EIM entity BAA at a default energy bid that the EIM entity BAA believes is too low); *id.* at 26 (the Net Export Limit "benefits EIM participating resources by limiting the quantity of sales at mitigated prices . . . .").

undermine market efficiency.[20] In the examples offered by CAISO,[21] the effect of the Net Export Limit relative to the currently effective market power mitigation is to raise the LMP in the importing BAA. Although the bids in the exporting BAA continue to be mitigated, the EIM entity in the exporting BAA receives congestion revenue, thus gaining the benefit of the high prices that its own participation in the Net Export Limit imposed in the importing BAA. Moreover, EIM entities may have resources in more than one BAA and so could potentially benefit from higher LMPs in that way.

10. In its motion for clarification, CAISO states that even if the Commission does not grant rehearing, the Commission should clarify that load in a BAA where local market power mitigation is triggered cannot be served by resources at prices based on unmitigated bids.[22] CAISO faults the Commission for failing to explain how the existing local market power mitigation system and the participation in the proposed Net Export Limit feature can result in "unmitigated bids . . . determin[ing] the dispatch to serve load outside of the EIM entities' BAAs."[23] CAISO explains that, if a transmission constraint triggers local market power mitigation in an EIM entity BAA, then it is not possible for an unmitigated bid to determine dispatch within the constrained area or out of the constrained area.[24]

11. We grant clarification. The Commission did not intend to conclude that unmitigated bids would be effective in determining the LMP to serve load in an import-constrained BAA subject to local market power mitigation.[25] We acknowledge that all supply bids in an import-constrained BAA would continue to be subject to mitigation under CAISO's proposal. However, the proposed Net Export Limit would allow an EIM entity to cap its net transfers and the restriction on supply would affect dispatch in the exporting BAA and in other BAAs.

[20] *See* September 30 Order, 168 FERC ¶ 61,213 at P 21.

[21] *E.g.*, CAISO July 2, 2019 Tariff Filing at 19 fig. 3, 23 fig. 4; CAISO Request for Rehearing at 16-17; *infra* PP 16, 18.

[22] CAISO Request for Rehearing at 12.

[23] *Id*. at 9-12 (quoting September 30 Order, 168 FERC ¶ 61,213 at P 21).

[24] *Id.* at 9-12.

[25] *See id.* at 9-12 (quoting September 30 Order, 168 FERC ¶ 61,213 at P 21).

B. Nexus with Hydroelectric Resources with Storage Capacity

12. CAISO disputes the Commission's description in the September 30 Order that CAISO's "proposal is needed to address the unique situation faced by hydroelectric resources with storage capability that are dispatched at [default energy bids] that they believe do not reflect their true opportunity costs."[26] CAISO contends that its filing nowhere limited the Net Export Limit to this situation.[27] CAISO asserts that the Commission erred in concluding that the concerns giving rise to the Net Export Limit can be addressed by CAISO's proposed creation of a new default energy bid for hydroelectric resources with storage capability.[28]

13. We deny rehearing. However, we acknowledge that CAISO intended to address a broader spectrum of concerns than those faced by hydroelectric resources. The Commission's statements in the September 30 Order were driven by the fact that, as noted by CAISO's Department of Market Monitoring (DMM), the Net Export Limit would improve market efficiency to the extent that resources' default energy bids were set at too low a level.[29] In that case, limiting the dispatch of a resource at the default energy bid would prevent uneconomic transactions and improve market efficiency. Given that CAISO's proposal also included a new default energy bid for hydroelectric resources with storage, which would address that same problem, i.e., a default energy bid being set at too low a level, the Commission concluded that the Net Export Limit was also intended to address this deficiency. The Commission nevertheless understood that the Net Export Limit could cause problems with all resources in participating EIM entities, and the Commission's perception of CAISO's intent did not factor into the September 30 Order's conclusion to reject the Net Export Limit.

C. Nexus with Bidding Practices

14. CAISO states that the Commission lacked substantial evidence to conclude that the proposed Net Export Limit could create incentives for inefficient and uneconomic

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[26] CAISO Request for Rehearing at 14-15; September 30 Order, 168 FERC ¶ 61,213 at P 23. In the September 30 Order, the Commission accepted CAISO's proposal to introduce this new default energy bid. September 30 Order, 168 FERC ¶ 61,213 at PP 36-38.

[27] CAISO Request for Rehearing at 14.

[28] *Id.* at 13-14.

[29] September 30 Order, 168 FERC ¶ 61,213 at P 20 (summarizing comments from the DMM); DMM July 23, 2019 Motion to Intervene and Comments at 3-5.

scheduling and bidding.[30] CAISO indicates that the Commission reasoned that EIM entities may have incentives to bid such that the Net Export Limit constraint becomes binding and the resulting congestion revenue is returned to them.[31] CAISO states that this conclusion is not backed by facts or by any analysis. To the extent that the Commission relied on the same criticism voiced by DMM, CAISO criticizes the DMM for its conclusory and unsupported concerns.[32] CAISO anticipates that the benefits to consumers from more available supply and transmission from EIM participants who would be protected by the proposed Net Export Limit would outweigh any hypothetical incentives for inefficient scheduling and bidding based on the allocation of associated congestion revenue.[33]

15. In support of its arguments, CAISO provides an example where its software identifies that two BAAs sit within an import-constrained area and are subject to local market power mitigation.[34] In CAISO's example, bid mitigation in both BAAs reduces the bids to the greater of the competitive LMP or the default energy bid. CAISO states that in BAA_1 the mitigated bid is \$25 and that in BAA_2 the mitigated bid is \$30. According to CAISO, if BAA_1 does not enforce the Net Export Limit, then the price in BAA_1 and BAA_2 would clear between \$25 and \$30. If BAA_1 enforces the Net Export Limit, then the cost of congestion is \$5, and BAA_1 will receive the \$5 congestion revenue for the MW quantity of an EIM transfer to BAA_2. CAISO states that, although BAA_1 will receive a net payment of \$30 for the transfer, the supply providers in BAA_1 will receive a lower payment of \$25. CAISO concludes that the BAA_1 supply serving its native load would receive a higher payment without the Net Export Limit than with it, disproving, in CAISO's opinion, that the Net Export Limit and congestion rents could create incentives for inefficient and uneconomic scheduling and bidding.[35]

16. As an initial matter, we disagree that the Commission's conclusion in the September 30 Order is not backed by facts and analysis. In its tariff filing, CAISO explained that, when the Net Export Limit results in a net EIM transfer limit that is binding in the market, then the LMPs within the participating BAA will differ from the

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[30] CAISO Request for Rehearing at 15-16.

[31] September 30 Order, 168 FERC ¶ 61,213 at P 23.

[32] CAISO Request for Rehearing at 17.

[33] *Id.* at 16.

[34] *Id.* at 16-17.

[35] *Id.*

LMPs outside, and the associated congestion revenue will be included in the real-time congestion offset of the BAA in which the constraint is located.[36] It follows that an EIM entity's discretion to opt into the Net Export Limit is the discretion to choose that a constraint applies to the EIM entity and results in congestion revenue for itself.[37] The Commission appropriately concluded that this discretion and the award of congestion revenue could potentially undermine CAISO's independent operation of the EIM and could incentivize inefficient and uneconomic scheduling and bidding by EIM entities.[38]

17. Moreover, CAISO's own example illustrates the problematic impacts of its proposed Net Export Limit. Without the Net Export Limit, generation in BAA_1 is mitigated from a high bid to its default energy bid and is dispatched to serve load in BAA_2, which lowers the price paid by load in BAA_2. With the Net Export Limit, when combined with the withholding effect of high pre-mitigation bids, the exporting EIM entity is able to create an artificial constraint which raises prices for load and generation in BAA_2. In addition, the exporting BAA_1 gains the benefit of the congestion payment created through its own actions.

18. We disagree with CAISO that the outcomes demonstrated by its example are just and reasonable. Although EIM entities have discretion over the amount of transmission to turn over to the EIM and the amount of generation to offer into the EIM, the EIM itself should be operated efficiently to promote competitive outcomes.[39] The proposal would work against this goal because of the proposed Net Export Limit's effects of: (1) diverging from the competitive solution identified by the market power mitigation run; and (2) giving entities other than CAISO undue influence over the dispatch and settling of the EIM after they have submitted offers into the market. Given our concerns about the impact of the Net Export Limit, we also disagree with CAISO's assertion that the potential for increased participation in the EIM renders the Net Export Limit proposal just and reasonable. We affirm the conclusion that to allow a resource owner to limit dispatch during periods of market power mitigation is not just and reasonable.[40] If a resource owner is concerned that mitigation to the Default Energy Bid will not accurately

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[36] CAISO July 2, 2019 Tariff Filing at 24-25.

[37] September 30 Order, 168 FERC ¶ 61,213 at P 23.

[38] *Id.*

[39] *Cal. Indep. Sys. Operator Corp.*, 147 FERC ¶ 61,231, at PP 155-156 (2014) (noting that a goal and benefit for the formation of the EIM was more efficient and competitive electricity markets).

[40] September 30 Order, 168 FERC ¶ 61,213 at P 21.

reflect the resource owner's short-run marginal costs, the appropriate remedy is to modify the resource's Default Energy Bid,[41] not to allow the resource owner to limit dispatch when its offer is mitigated.

The Commission orders:

(A) CAISO's request for rehearing is hereby denied, as discussed in the body of this order.

(B) CAISO's motion for clarification is hereby granted, as discussed in the body of this order.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.

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[41] The Commission accepted CAISO's other proposal to do exactly this. September 30 Order, 168 FERC ¶ 61,213 at PP 36-38 (accepting CAISO's proposal to implement a new default energy bid for hydroelectric resources with storage capability).