

**BEFORE THE ENERGY COMMISSION
OF THE STATE OF CALIFORNIA**

Supply Side Demand Response

21-DR-01

**COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR
CORPORATION ON QUALIFYING CAPACITY OF SUPPLY-SIDE DEMAND
RESPONSE WORKING GROUP DRAFT REPORT**

I. Introduction

The California Independent System Operator Corporation (CAISO) provides comments on the California Energy Commission’s (Energy Commission) *Qualifying Capacity of Supply-Side Demand Response Working Group Draft Report*, dated December 6, 2022 (Draft Report). The CAISO greatly appreciates Energy Commission staff’s efforts to facilitate the Supply-Side Demand Response Working Group and develop recommendations for the California Public Utilities Commission (CPUC) in the Draft Report.

II. Discussion

A. The CAISO Supports the Energy Commission’s Recommendation for the CPUC to Remove the Operating Reserve and Load Forecast Error Components of the PRM Adder.

The CAISO supports the Energy Commission’s recommendation that the CPUC eliminate components of the planning reserve margin (PRM) adder associated with operating reserves and load forecast error.¹ As stated in prior comments, the CPUC should not reinstate the operating reserve component of the PRM adder for several reasons.² First, the CAISO serves the load under supply side demand response programs each day and procures operating reserves for this load. Second, the CAISO’s reserve requirements are not based solely on load levels; they also are based on the most severe system contingency (MSSC) and by generation levels. Supply side demand response reduces neither of these, nor the CAISO’s reserve requirements, which is why the operating reserve component of the PRM adder is inappropriate.

¹ Draft Report, p. 51.

² CAISO Comments on Demand Response Working Group Proposals, Docket No. 21-DR-01, October 17, 2022 (CAISO Comments on Working Group Proposals), pp. 2-3.

As stated in prior comments, the CPUC also should eliminate the load forecast error component of the PRM adder.³ The load forecast PRM adder inappropriately assumes demand response reduces resource adequacy procurement for load forecast error. However, there is no evidence in the record demonstrating that supply side demand response resources reduce the load forecast error between the planning and operational timeframes. Correspondingly, demand response resources do not reduce the amount of additional capacity load serving entities (LSEs) must procure to account for any load forecast error, making the PRM adder component inappropriate.

B. The Energy Commission Should Clarify its Position on the Forced Outage Component of the PRM Adder.

The Draft Report states, “[Energy Commission] staff finds it reasonable to maintain the forced outage rate adder because under the framework recommended in this report, [Southern California Edison Company’s (SCE)] statement would be correct.”⁴ SCE supports retaining the forced outage component of the PRM because “the LIP methodology already includes and de-rates DR for forced outages.”⁵ However, the Energy Commission’s findings in reviewing qualifying capacity (QC) requests and load impact protocol (LIP) filings are inconsistent with the assertion that nonperformance is included in QC values under the LIP methodology.⁶ The Energy Commission supports retaining the forced outage adder in conjunction with its recommended penalty-based QC proposal.

The Energy Commission should clarify whether it supports eliminating the forced outage adder separate from its recommended proposal. The CPUC ultimately may not adopt the Energy Commission’s recommended QC proposal, and it is unclear whether the Energy Commission would support retaining the forced outage component of the PRM adder in this case.

The CAISO also notes that accounting for forced outages in resource QC values will reduce the overall PRM applied to LSE resource adequacy obligations. This effect is demonstrated in the CPUC Energy Division’s loss of load expectation (LOLE) studies in the Integrated Resource

³ CAISO Comments on Working Group Proposals, p. 3.

⁴ Draft Report, p. 47.

⁵ SCE Comments on Demand Response Working Group Proposals, Docket No. 21-DR-01, October 17, 2022, p. 15.

⁶ Draft Report, p. 47.

Planning (IRP) and resource adequacy proceedings. If QC values account for expected forced outages, then less buffer to manage expected forced outages is required in the PRM.⁷ However, it does not follow that these resources should subsequently receive a resource adequacy credit for reducing the PRM. This would defeat the purpose of the forced outage QC de-rate.

The CAISO reminds the Energy Commission that the PRM adder has consistently over-estimated the actual contribution of demand response resources observed on high load days.⁸ Although the PRM adder was reduced by six percent in 2022 in CPUC Decision (D.) 21-06-029, the PRM adder continues to create a gap in usable resource adequacy capacity in the operational timeframe. This gap presents reliability challenges for the CAISO, especially on days where the CAISO must rely on all resource adequacy resources to meet operational needs.

C. The Energy Commission Proposed Penalty Framework Presents Significant Implementation Challenges for the CAISO.

The Energy Commission recommends the CAISO implement and administer its proposed Capacity Shortfall Penalty for demand response resources participating in the CAISO market.⁹ The Energy Commission proposes the CAISO assess performance-based penalties to demand response resources, based on individual resource adequacy contract prices.

The CAISO opposes these recommendations for several reasons. First, the CAISO is neither a party to, nor does it have any visibility over, LSEs' bilateral resource adequacy contracts, which are numerous. It is not feasible for the CAISO to enforce penalties for agreements to which the CAISO is not a party and does not see.

Additionally, the CAISO cannot impose such a penalty structure by *fiat*. The CAISO would have to conduct a full stakeholder process, receive approval from its governing body, and then demonstrate the tariff changes are just and reasonable to the Federal Energy Regulatory Commission (FERC). Even if the proposed penalty price were a simple, generic capacity price not tied to bilateral contracts, the CAISO doubts the feasibility of completing a stakeholder process and implementing the Energy Commission's design by 2025. More problematically, if

⁷ CPUC Energy Division, Study for Proceeding R.21-10-002: Loss of Load Expectation and Effective Load Carrying Capability Study Results for 2024, February 18, 2022, p. 3.

CPUC Energy Division, Presentation on Reliability Filing Requirements for LSE's 2022 IRP - Results of PRM and ELCC Studies, July 29, 2022, Slide 30.

⁸ CAISO DMM, 2021 Demand Response Issues and Performance, January 12, 2022, p. 9:

<http://www.caiso.com/Documents/Demand-Response-Issues-Performance-Report-Jan-12-2022.pdf>.

⁹ Draft Report, p. 50.

the Energy Commission’s recommendations are premised on implementation of some type of CAISO penalty, then the entirety of the Energy Commission’s proposal becomes at risk. The CAISO cannot take on such responsibility without stakeholder support, governing body approval, and FERC approval. As such, it is imprudent to design a package of recommendations based on the premise that the CAISO can implement part of the Energy Commission’s proposal. The Energy Commission should revise its recommendations to avoid this risk.

The Energy Commission also proposes *ex post* adjustments to resource performance to account for both the amount of capacity made available to the CAISO market through bids, and to account for performance in excess of bids. Further, to assess performance, the Energy Commission proposes to allow demand response providers (DRPs) exceptions to using CAISO baselines for settlement, if a “superior” alternative baseline is used.¹⁰ This proposal is similarly problematic to the Energy Commission’s penalty proposal. As an initial challenge, the Energy Commission does not provide detail on what qualifies as a “superior” alternative baseline. But more critically, demand response baseline methodologies are CAISO tariff rates under the Federal Power Act. Any new baseline or other performance measurement would require CAISO tariff changes, which are unlikely to occur, especially by 2025. The CAISO already offers seven distinct baseline methodologies carefully vetted with stakeholders and demand response providers, and approved by FERC.¹¹

D. The Energy Commission’s Proposal Has Shortcomings and Needs Additional Vetting.

The Energy Commission’s demand response QC proposal is an incentive-based approach. The proposal relies on a financial penalty mechanism (“Capacity Shortfall Penalty”) to discipline up-front QC values. The Energy Commission also proposes *ex post* adjustments to performance to account for capacity made available to the CAISO market through bids.

In general, the CAISO does not oppose a penalty-based QC framework. The CAISO has commented that although a penalty-based approach QC could incentivize accurate QC valuations, any workable methodology should ensure counting is as accurate as possible up front rather than address capacity shortfalls after the fact.¹² Additionally, a penalty-based framework

¹⁰ Draft Report, p. 22.

¹¹ Section 4.13.4 of the CAISO tariff.

¹² CAISO Comments on Working Group Proposals, p. 6.

should not incentivize resources to deviate from CAISO dispatch instructions or incentivize inaccurate bidding.

The Energy Commission’s penalty proposal in its current form has shortcomings that should be addressed. At a minimum, the Energy Commission should provide numerical examples of its proposals so stakeholders can better understand and evaluate how the proposed incentive mechanisms would work in practice. The CAISO discusses three shortcomings of the Energy Commission’s proposal below:

1. The Energy Commission’s Performance Assessment Will Reward Over-Performance and Potentially Incentivize Deviation from CAISO Dispatch Instructions.

The Energy Commission proposes to credit response above a resource’s bid (which may be far in excess of CAISO dispatch) towards resource performance. The Energy Commission states this will "allow DR providers to demonstrate over-performance that can be used to justify larger future QC values, enabling DR growth."¹³

The CAISO is concerned the Energy Commission’s proposal rewards deviation from CAISO dispatch. The CAISO must balance between generation and load at all times, and it must be able to rely on resources to accurately respond to dispatch instructions to reliably operate the system. Response in excess of CAISO dispatch can contribute to adverse operational and market outcomes. Moreover, failing to follow CAISO dispatches would violate the CAISO tariff and create compliance issues for the DRPs and FERC. The Energy Commission should reconsider this part of its proposal.

2. Aggregation of Performance at the DRP Level Will Mute Performance Incentives and Ignores Locational Needs.

The Energy Commission proposes to allow aggregation of performance at the DRP level before assessing its proposed Capacity Shortfall Penalty. The Draft Report states, “[Energy Commission] proposes allowing ‘capacity aggregation,’ or applying penalties to the aggregated portfolio of a DR provider rather than individual resources, to reduce underperformance risk.”¹⁴ Although the proposal may mitigate “under-performance risk” for a DRP, aggregating performance across all resources under a DRP will mute incentives for individual resource

¹³ Draft Report, p. 23.

¹⁴ Draft Report, p. 19.

performance. The proposal will allow over-performing resources to offset the non-performance of other resources within a DRP portfolio, regardless of location on the CAISO system. The CAISO is concerned that aggregating performance at the DRP level ignores local and sub-load aggregation point needs, and will reduce incentives for individual resources to respond to CAISO dispatch. Energy anywhere is not the same as energy where the CAISO dispatches it or needs it, or where LSEs procured it. The Energy Commission’s proposal can introduce operational challenges for the CAISO if, for example, the CAISO faces local reliability issues requiring response in a specific area, but resources are not incentivized to respond in that location because they respond elsewhere.

3. The Energy Commission’s Proposed Performance Assessment Could Result in Inaccurate Bidding.

In comments on working group proposals, Pacific Gas and Electric Company (PG&E) expressed concerns regarding the Energy Commission’s proposal that counting bid values towards performance will overstate actual resource performance and true load impacts and could result in overstated QC values.¹⁵ The CAISO shares PG&E’s concerns. The Energy Commission’s proposed performance assessment could also incentivize inaccurate bidding to bolster performance and QC values.

The Energy Commission recognizes this shortcoming in its proposal.¹⁶ The Energy Commission should not recommend the CPUC adopt a proposal which the Energy Commission itself recognizes could incentivize DRPs to potentially bid inaccurately. The Energy Commission states that, “To avoid dispatch, DR providers bid most or all of this capacity at or near the bid cap under conditions when that capacity is unlikely to be available (for example, on temperature days)” and states that its proposal may allow DRPs to continue this practice.¹⁷ The CAISO is concerned the Energy Commission proposal will lead to inaccurate bids, which can create operational challenges if the CAISO dispatches resources that cannot respond up to their bid levels.

¹⁵ PG&E Comments on Demand Response Working Group Proposals, Docket No. 21-DR-01, October 17, 2022, p. 3.

¹⁶ Draft Report, p. 42.

¹⁷ Draft Report, p. 42.

E. The Energy Commission and the CPUC should further consider enhancements to *ex ante* capacity valuation based on *ex post* performance.

Any resource adequacy counting methodology should ensure DRPs accurately estimate QC values up front. The CAISO is concerned that Energy Commission proposal removes all rigor from the *ex ante* QC evaluation, especially because the effectiveness of the Energy Commission’s proposed penalty mechanism is untested. Additionally, penalties are only applied if and when demand response is actually dispatched. However, many demand response resources are rarely dispatched outside of high load conditions.

The CAISO has supported proposals that adjust the QC of resources up front based on *ex post* performance. In prior comments, the CAISO stated that Demand Side Analytics’ (DSA) proposal could enhance existing LIPs if QC values actually use the *ex post* bid performance data and temperature data.¹⁸ The Energy Commission and the CPUC should further consider how data from DSA’s proposal can be used to inform up front QC values.

F. The CAISO Corrects Inaccurate Statements in the Draft Report.

The CAISO clarifies the Energy Commission’s statement regarding the CAISO’s must offer obligation. The Energy Commission states that the must offer requires resources to bid to their QC values and therefore results in bids in excess of actual load impacts.¹⁹ This is incorrect. Under the CAISO tariff, DRPs should *feasibly* represent resource bids and capabilities to the CAISO market²⁰, even if this means resources cannot meet their must-offer obligations. The CAISO does not require resources that cannot deliver their QC values, to bid up to their QC values.

The Energy Commission also states, “the RAAIM requires resources to bid their shown QC in each AAH.”²¹ This statement is inaccurate. RAAIM is an availability incentive mechanism, not a requirement for resources to bid.

¹⁸ CAISO Comments on Working Group Proposals, p. 6.

¹⁹ Draft Report, p. 42.

²⁰ CAISO Tariff Section 37.3.

²¹ Draft Report, Appendix B, p. B-1.

III. Conclusion

The CAISO appreciates the opportunity to provide comments on the Draft Report.

Respectfully submitted,

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