

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Oversee the
Resource Adequacy Program, Consider
Program Reforms and Refinements, and
Establish Forward Resource Adequacy
Procurement Obligations.

Rulemaking 21-10-002
(Filed October 7, 2021)

**OPENING COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION ON CEC SUPPLY SIDE DEMAND RESPONSE
WORKING GROUP REPORT**

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I. Introduction

Pursuant to the February 15, 2023 *Administrative Law Judge’s Ruling on Comment Schedule for California Energy Commission’s Supply-Side Demand Response Report*, the California Independent System Operator Corporation (CAISO) submits comments on the California Energy Commission’s (CEC) Qualifying Capacity of Supply-Side Demand Response Working Group Report (Working Group Report). The CAISO appreciates California Energy Commission (CEC) staff’s efforts to facilitate the Supply-Side Demand Response Working Group and provide recommendations to enhance the supply-side demand response framework in the resource adequacy program. The CAISO generally supports the direction of the CEC’s proposals, but recommends further analysis and development of the details of the CEC’s penalty-based approach to set demand response qualifying capacity (QC) values. The CAISO also identifies shortcomings of the CEC’s QC proposal that need further vetting. The CAISO supports the CEC’s recommendations to remove the load forecast error and operating reserve components of the planning reserve margin (PRM) adder applied to demand response capacity, but it encourages the California Public Utilities Commission (Commission) to also remove the component of the PRM adder associated with forced outages. Lastly, the CAISO corrects two inaccurate statements in the Working Group Report.

II. Discussion

A. The Commission Should Eliminate the Remaining Components of the Demand Response PRM Adder.

The demand response PRM adder has consistently overestimated the actual contribution of demand response resources observed on high load days.¹ The PRM adders applied to demand response have the effect of grossing up demand response QC values, allowing demand response capacity to count towards resource adequacy requirements in excess of their estimated load reduction capabilities. Although the PRM adder was reduced by six percent (the six percent reduction was associated with operating reserves) in Decision (D.) 21-06-029, the PRM adder continues to create a gap in usable resource adequacy capacity for the CAISO in the operational timeframe. This gap can present reliability challenges for the CAISO, especially on days where the CAISO must rely on all resource adequacy resources to meet operational needs.

1. Operating Reserve and Load Forecast Error Components

The Commission should adopt the CEC's recommendation to eliminate the component of the PRM adder associated with operating reserves permanently. The Commission correctly determined in D.21-06-029 that the adder component associated with operating reserves should be removed. As stated in prior comments, the Commission 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 are also based on the most severe system contingency (MSSC) and vary 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.

The Commission should also adopt the CEC's recommendation to eliminate the load forecast error component of the PRM adder, which erroneously assumes demand response reduces resource adequacy procurement for load forecast error. There is no evidence in the

¹ CAISO Department of Market Monitoring (DMM), *2021 Demand Response Issues and Performance*, January 12, 2022, p. 9: <http://www.aiso.com/Documents/Demand-Response-Issues-Performance-Report-Jan-12-2022.pdf>

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

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.

2. Forced Outage Rate Component

The Commission should remove the forced outage rate component of the demand response PRM adder regardless of the demand response QC methodology adopted. The CEC reasons that retaining the forced outage adder is appropriate in conjunction with its proposed demand response QC methodology, which will account for non-performance in resource QC values. Accounting for forced outages in resource QC values will reduce the overall PRM applied to LSE resource adequacy obligations. The Energy Division's loss of load expectation (LOLE) studies in the Integrated Resource Planning (IRP) and resource adequacy proceedings demonstrate this effect. If QC values account for expected forced outages, then less buffer to manage expected forced outages is required in the PRM.³ 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, and incentives associated with, applying a de-rate to resource QC values to account for forced outages.

B. Although the CAISO Supports Further Consideration of the CEC's Demand Response Qualifying Capacity Proposal, the Proposal has Shortcomings that Must be Addressed.

The CAISO supports further consideration of the CEC's QC proposal, including a penalty-based approach to derive demand response QC values. Penalties and incentives under the CEC proposal must be sufficient to incentivize demand response providers (DRPs) to estimate accurately their QC values up front. Otherwise, the CAISO faces significant operational risk if the capacity used to meet resource adequacy requirements does not actually show up in the operating timeframe. The CAISO has longstanding concerns that the current Load Impact Protocol (LIP) methodology overstates demand response capacity actually available

³ 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.

to the CAISO on high load days⁴ and is open to considering a new demand response QC methodology that will more accurately account for demand response availability especially on critical high load days. Although the CAISO supports the general concept of the CEC's proposed QC methodology, the CEC's proposal has shortcomings that require additional vetting and reconsideration. Further development of the details of the proposal is necessary before the Commission can adopt the proposal. In particular, the CEC should provide additional analysis and numerical examples to demonstrate how the various incentives in its proposal interact. As discussed below, different components of the CEC proposal could mute incentives for demand response resources to perform, and it is not clear to what extent adverse performance incentives exist under the CEC proposal as a whole.

1. The CEC's Performance Assessment Will Reward Over-Performance and Potentially Incentivize Deviation from CAISO Dispatch Instructions.

The CEC proposes to credit response above a resource's bid (which may be far in excess of CAISO dispatch) towards resource performance. The CEC states this will "allow DR providers to demonstrate over-performance that can be used to justify larger future QC values, enabling DR growth."⁵ The CAISO is concerned the CEC's proposal rewards deviation from CAISO dispatch. The CAISO must balance generation and load at all times, and it must be able to rely on resources accurately responding to dispatch instructions in order for the CAISO to operate the system reliably. 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 at the Federal Energy Regulatory Commission for the DRPs. For these reasons, the Commission should direct the CEC to reconsider this part of the CEC proposal.

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

The CEC proposes to allow aggregation of performance at the DRP level before assessing the CEC's proposed Capacity Shortfall Penalty. The Working Group Report states,

⁴ See: CAISO DMM, *2021 Demand Response Issues and Performance*, January 12, 2022, p. 9. CAISO DMM, *2022 Demand Response Issues and Performance*, February 14, 2023, p. 10.

⁵ Working Group Report, p. 22.

“[CEC] proposes allowing ‘capacity aggregation,’ or applying penalties to the aggregated portfolio of a DRP rather than individual resources, to reduce underperformance risk.”⁶

Although the proposal to aggregate resource performance across a DRP portfolio may mitigate “under-performance risk” for a DRP, aggregating performance across all resources under a DRP will mute incentives for individual resource performance. This approach will allow over-performing resources to offset the non-performance of other resources within a DRP portfolio.

The CEC approach will also 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. The CEC’s proposal also introduces potential 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 and instead respond elsewhere. The Commission should direct the CEC to reconsider aggregating resource performance at the DRP level. The CEC should reconsider evaluating performance at the resource level to preserve incentives for individual resource performance.

3. The Proposed Performance Assessment Could Result in Inaccurate Bidding.

The CEC’s proposed performance assessment also could incentivize inaccurate bidding to bolster performance and QC values. The CAISO appreciates the CEC’s addition of specific conditions under which bid capacity can count towards resource performance in the Working Group Report. The CAISO expects these additions will mitigate, to a small extent, the CAISO’s concerns with the CEC proposal in its Draft Working Group Report.⁷ However, the CAISO remains concerned the CEC proposal will lead to inaccurate bids if DRPs can simply count bid capacity towards resource performance to bolster QC values. Indeed, the CEC recognizes this shortcoming in its proposal. The CEC states that, “To avoid dispatch of the full must-offer obligation, DR providers bid most of this capacity at or near the bid cap under conditions when

⁶ Working Group Report, p. 18

⁷ CAISO, *Comments on Demand Response Working Group Draft Report*, CEC Docket No. 21-DR-01, December 20, 2022, p. 6.

that capacity is unlikely to be available (for example, on temperate days)” and states that its proposal may allow DRPs to continue this practice.⁸ This incentive structure can result in operational challenges if the CAISO dispatches resources that cannot respond up to their bid levels.

The CAISO recommends the Commission require further evaluation of the different components of the CEC’s demand response QC proposal so parties can assess how different calculations in the CEC’s proposal interact together and the extent to which adverse incentives exist for resources to bid inaccurately not follow dispatch instructions, or not perform. If further evaluation of the proposal shows these adverse incentives exist, the Commission should consider appropriate modifications to the proposal.

C. The CAISO Corrects Inaccurate Statements in the CEC Report.

The CAISO clarifies the CEC’s statement regarding the CAISO’s must offer obligation. The CEC states that the CAISO must offer obligation requires resources to bid to their QC values, resulting in bids in excess of actual load impacts.⁹ This is incorrect. Under the CAISO tariff, DRPs should feasibly represent resource bids and capabilities to the CAISO market¹⁰, 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 CEC also states, “the RAAIM requires resources to bid their shown QC in each AAH.”¹¹ This statement is also inaccurate. RAAIM is an availability incentive mechanism, not a requirement for resources to bid.

⁸ Working Group Report, p. 41

⁹ Working Group Report, p. 41: “This concern appears to stem from a current issue for DR that DR resources have a must-offer obligation to bid the entire QC.”

¹⁰ CAISO Tariff Section 37.3.

¹¹ Draft Report, Appendix B, p. B-1.

III. Conclusion

The CAISO appreciates the opportunity to provide comments on the Working Group Report and looks forward to working with the Commission, Commission staff, CEC, and parties to enhance the demand response framework in the resource adequacy program.

Respectfully submitted

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