

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

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Dated: March 14, 2022

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**I. Introduction**

The California Independent System Operator Corporation (CAISO) provides opening comments on the California Energy Commission’s (CEC) Qualifying Capacity of Supply-Side Demand Response Working Group Report (Working Group Report) per the *Administrative Law Judges’ Ruling on Loss of Load Expectation Study and Supply-Side Demand Response Report and Setting Comment Schedule*.<sup>1</sup>

**II. Discussion**

**A. The Commission Should Adopt the CEC’s Recommendation to Direct Investor Owned Utilities (IOUs) to Show Demand Response Resources on Supply Plans.**

The CEC recommends the Commission “direct [IOUs] to move... their demand response portfolios onto supply plans.”<sup>2</sup> The CAISO strongly supports this recommendation and continues to emphasize the importance of moving credited demand response capacity to supply plans. In August 2021, utility demand response programs accounted for about 1,400 MW of capacity—or 80% of total demand response counted towards meeting Commission system resource adequacy requirements.<sup>3</sup> Although IOUs bid demand response programs as supply in

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<sup>1</sup> <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M452/K751/452751292.PDF>

<sup>2</sup> Flynn, Tom and Lyon, Erik. 2022. *Qualifying Capacity of Supply-Side Demand Response Working Group Report*. California Energy Commission. Publication Number: CEC-200-2022- 001-CMF. Page 35.

<sup>3</sup> California ISO Department of Market Monitoring, Demand Response Issues and Performance. January 12, 2022, p. 7. <http://www.caiso.com/Documents/Demand-Response-Issues-Performance-Report-Jan-12-2022.pdf>

the CAISO market, they do not show them on resource adequacy supply plans. As a result, unlike all other Commission resource adequacy resources including other types of demand response, this demand response capacity is not subject to must offer obligations or substitute capacity obligations. The Commission should require IOUs to show demand response capacity on supply plans to enable the CAISO to enforce these obligations on IOU demand response in the same manner as other resource adequacy resources, including third party demand response.

**B. The Commission Should Adopt the CEC’s Recommendation to Use the LIP Profile Informed ELCC Demand Response Counting Methodology for IOUs for Resource Adequacy Year 2023.**

The CEC recommends the Commission adopt the Load Impact Protocol (LIP) Profile informed effective load carrying capability (ELCC) qualifying capacity (QC) methodology proposed by the CAISO and Pacific Gas & Electric (PG&E) for resource adequacy year 2023. The CEC recommends the Commission adopt this methodology only for IOU demand response, but also recommends IOUs continue to have the option to use the status quo LIP methodology.

The CAISO supports the CEC’s recommendation the Commission adopt the LIP Profile informed ELCC methodology as an interim counting methodology for IOU demand response programs for resource adequacy year 2023. The CAISO agrees with the CEC’s assessment that:

The LIP-informed ELCC method more accurately accounts for a contribution to reliability than the status quo. This method will allow the [CAISO] to grant an exemption to the resource adequacy availability incentive mechanism for investor-owned utility demand response resources and for the CPUC to direct investor-owned utilities to move their demand response resources onto supply plans.<sup>4</sup>

The LIP Profile informed ELCC approach represents accepted industry leading practices and captures the use-limitations, limited energy, and variable nature of most demand response programs to establish QC values.<sup>5</sup> The Commission has already adopted ELCC values for wind and solar, and recent Energy Division staff analysis also proposes to apply an ELCC

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<sup>4</sup> Flynn, Tom and Lyon, Erik. 2022. *Qualifying Capacity of Supply-Side Demand Response Working Group Report*. California Energy Commission. Publication Number: CEC-200-2022- 001-CMF. Page 35.

<sup>5</sup> For example, the Commission uses ELCC for wind and solar. MISO uses ELCC for wind. PJM recently adopted ELCC methodologies for wind, solar, storage and other resource types with limited energy or availability. SPP and NWPP are actively exploring use of ELCC methodologies.

methodology to storage and hybrid resources.<sup>6</sup> The LIP Profile informed ELCC approach also assesses demand response resources' interactive effects with other resources and meets the CAISO's principles to justify a resource adequacy availability incentive mechanism (RAAIM) exemption.<sup>7</sup> Exempting IOU demand response resources from RAAIM will remove the disincentive to show these resources on supply plans.

The CAISO originally recommended the LIP Profile informed ELCC as an interim QC methodology for both IOU and third-party demand response providers. However, ELCC studies are computationally intensive, and the Commission's Energy Division staff indicated that it would be infeasible to include third-party demand response programs in the ELCC studies for resource adequacy year 2023. The CAISO therefore supports the CEC's recommendation to adopt the LIP Profile informed ELCC approach "as an option for investor-owned utility demand response only."<sup>8</sup>

The CAISO has worked extensively with Energy and Environmental Economics (E3) and IOUs to develop implementation details for the LIP Profile informed ELCC methodology. The CAISO, in conjunction with E3, developed a process guide to facilitate Energy Division staff's modeling. The CEC's report provides a link to this process guide as an attachment.<sup>9</sup> The CAISO will continue discussions with Energy Division and IOU staff to ensure implementation of LIP Profile informed ELCC remains a feasible option for resource adequacy year 2023.

**C. If the LIP Profile ELCC Approach Cannot Be Implemented for Resource Adequacy Year 2023, IOUs Should Use CLECA's Proposal as a Backup Option In Lieu of the Existing Load Impact Protocol Process.**

If the LIP Profile informed ELCC approach cannot be implemented for resource adequacy year 2023, then the CEC recommends IOUs have the option to elect CLECA's

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<sup>6</sup> California Public Utilities Commission, *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.

<sup>7</sup> The CAISO is willing to pursue a RAAIM exemption for demand response resources with QC values established under a methodology that 1) assesses the resource's contribution to reliability across all hours of the year or seasons as a variable-output resource, and 2) assesses the resource's interactive effects with other similarly-situated resources. See CAISO, Board Memo - Decision on RAAIM Exemption Option for Variable-Output Demand Response, July 7, 2021: <http://www.aiso.com/Documents/Decision-RAAIM-Exemption-Option-Variable-Demand-ResponseResources-Memo-July-2021.pdf>

<sup>8</sup> Flynn, Tom and Lyon, Erik. 2022. *Qualifying Capacity of Supply-Side Demand Response Working Group Report*. California Energy Commission. Publication Number: CEC-200-2022- 001-CMF. Page 35.

<sup>9</sup> DR ELCC Guide: Using LIP-Informed Profiles to Calculate DR ELCC in SERVVM, prepared by Energy + Environmental Economics for the CAISO, January 19, 2021. This guide can be found in CEC Docket 21-DR-01 at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=21-DR-01>

proposal as a backup counting methodology in lieu of the existing Load Impact Protocol methodology. Although CLECA's proposal does not capture resources' contribution to reliability as precisely as LIP Profile informed ELCC, it is an improvement over the status quo LIP process. The Commission should adopt CLECA's proposed methodology for IOUs in the event implementation of LIP Profile informed ELCC is infeasible for the 2023 resource adequacy year.

CLECA's proposal does not capture resources' reliability contributions as precisely as LIP Profile informed ELCC because it may underrepresent resource variability and only approximates interactive effects with other resources on the system. But it is an improvement over the LIP process. The status quo LIP process estimates demand response load reduction capability across a five-hour event window from 4-9 pm. The LIP then calculates a simple average of estimated load impacts across the window to derive a single monthly capacity value. CLECA's proposal would weigh load impacts higher in hours with higher loss of load expectation (LOLE). CLECA's approach is an improvement over the existing LIP because LOLE weighting better captures the demand response program's estimated capability in more critical hours. The CAISO also agrees with CLECA's assessment<sup>10</sup> and the CEC's suggestion that the CLECA proposal likely will not pose significant implementation challenges for resource adequacy year 2023.<sup>11</sup> For these reasons, the CAISO supports CLECA's proposal as a preferred backup option to establish IOU demand response qualifying capacity values in the event implementation of LIP Profile informed ELCC for IOUs is infeasible.

**D. The CAISO Supports CLECA's Proposal As An Option for Third-Party Demand Response Providers for Resource Adequacy Year 2023 in Lieu of the Status Quo LIP and the CEDMC Proposal.**

The CEC recommends the Commission adopt the California Efficiency and Demand Management Council (CEDMC) proposal as an option for third-party demand response providers, and retain the status quo LIP as an option for them. The CEC also recommends the Commission adopt CLECA's proposal as a backup to the CEDMC proposal and status quo LIP.

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<sup>10</sup> CLECA Alternative LIP+LOLE Approach Proposal, updated January 17, 2022. This document can be found in CEC Docket 21-DR-01 at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?doctetnumber=21-DR-01>

<sup>11</sup> Flynn, Tom and Lyon, Erik. 2022. *Qualifying Capacity of Supply-Side Demand Response Working Group Report*. California Energy Commission. Publication Number: CEC-200-2022- 001-CMF. Page 36.

The CEDMC proposal allows a demand response provider (DRP) to calculate QC values with limited upfront validation to assess the expected capability of the underlying demand response programs. This proposal relies on a performance penalty structure to ensure DRPs do not overstate QC values and deliver contracted capacity. The CEC recommends modifying the CEDMC proposal to implement a penalty structure based on a hybrid of the PG&E Capacity Bidding Program (CBP) penalty and the Demand Response Auction Mechanism (DRAM) program penalty. Under this modified proposal, a demand response resource would incur penalties when resource performance falls below 90% of contracted capacity. The proposal would measure performance for full dispatch and test events based on performance in the CAISO market. Absent full dispatch or test events, the proposal would measure performance by comparing resource bids to the CAISO must offer obligation.

The CAISO has concerns with adopting CEDMC's proposal for 2023 without first determining whether the penalty structure would provide sufficient incentives for DRPs to reasonably estimate QC values. The CEDMC proposal would cap financial penalties a DRP's collateral requirements at \$2,500/MW-year, based on contracted net qualifying capacity (NQC). Potential penalties under the CEDMC proposal are extremely low compared to recent years' average system resource adequacy prices.<sup>12</sup> The CEC also notes uncertainty regarding whether Energy Division could implement the CEDMC proposal for resource adequacy year 2023:

CPUC staff have communicated that implementing the approach would require new structures and processes for collecting collateral, assessing ex post performance, and collecting penalty payments. These would require staffing and other resources that may not be possible to set up in time for the 2023 resource adequacy compliance year.<sup>13</sup>

If the Commission considers adopting the CEDMC proposal as an option for 2023, the CAISO recommends its adoption be subject to the resolution of these issues.

Given implementation concerns with the CEDMC proposal, the CEC recommends the Commission have a contingency plan and notes that "CLECA's LOLP-weighted LIP proposal is

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<sup>12</sup> For comparison, average system capacity prices reported by the CPUC were \$6.47/kW-month or \$77,640/MW-year in 2021. See: 2020 Resource Adequacy Report, CPUC, December 2021, p. 24.

<sup>13</sup> Flynn, Tom and Lyon, Erik. 2022. *Qualifying Capacity of Supply-Side Demand Response Working Group Report*. California Energy Commission. Publication Number: CEC-200-2022- 001-CMF. Page 31.

offered as a back-up for the [Commission] to evaluate in the event of this contingency.”<sup>14</sup> The CAISO supports CLECA’s proposal as an option for third-party demand response providers for resource adequacy year 2023. As explained above, the CLECA proposal can value a resource’s contribution to reliability more accurately than the existing LIP methodology, and it may be easier to implement for resource adequacy year 2023 as noted by the CEC.<sup>15</sup>

**E. The CAISO Supports Extending the CEC Supply-Side Demand Response Working Group to Determine a Long-Term Counting Methodology for Demand Response and Address Open Issues Identified by the Commission in (D.) 21-06-029.**

The CAISO supports the CEC’s recommendation to extend the CEC Supply-Side Demand Response Working Group to continue refining a long-term qualifying capacity methodology for supply-side demand response resources. The CAISO also supports extending the CEC working group process to address the issues identified in Commission’s decision (D.) 21-06-029 that were not addressed by CEC working group. In particular, an extended CEC working group process should address changes to planning reserve margin adders and transmission and distribution loss adders that are currently included in demand response credits.<sup>16</sup>

**F. The CAISO Recommends the Commission Consider Extending Adoption of LIP Profile informed ELCC to 2024 or Alternatively Develop a Pathway That Enables Refinements to the Method for Resource Adequacy Year 2024.**

In its Phase 2 proposal, the CAISO proposed the Commission adopt LIP Profile informed ELCC for resource adequacy years 2023 and 2024. The CAISO reasoned a two year duration would allow the Commission to test and refine the LIP Profile informed ELCC methodology. The CAISO stated, “The Commission can continue to use and refine the LIP Profile informed ELCC counting methodology until it adopts more comprehensive resource adequacy program changes beyond 2024. For example, the Commission could change the availability inputs in the LIP-informed ELCC approach to something other than a LIP profile.”<sup>17</sup>

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<sup>14</sup> Flynn, Tom and Lyon, Erik. 2022. *Qualifying Capacity of Supply-Side Demand Response Working Group Report*. California Energy Commission. Publication Number: CEC-200-2022- 001-CMF. Page 3.

<sup>15</sup> Flynn, Tom and Lyon, Erik. 2022. *Qualifying Capacity of Supply-Side Demand Response Working Group Report*. California Energy Commission. Publication Number: CEC-200-2022- 001-CMF. Page 36.

<sup>16</sup> See issues 4-7 of D.21-06-029, p. 36.

<sup>17</sup> CAISO Phase 2 Proposal, January 21, 2022, p. 4.



Parties opposed the CAISO's proposal to extend the LIP profile informed ELCC methodology for 2024 because it would be incompatible with anticipated Slice of Day reforms scoped for 2024 and outside the scope of the CEC interim report.<sup>18</sup> The CAISO understands parties' concerns but maintains that extending consideration of the LIP profile informed ELCC methodology for 2024 presents a valuable opportunity to learn further from interim results of the LIP Profile informed ELCC methodology. Also, it can help inform a QC methodology for long-term adoption, especially if Reform Track implementation is delayed.

Further, data on resource availability and performance for 2023 will not be fully available until 2024. Therefore, it is unlikely analysis of 2023 outcomes will be available in a timely manner to provide sufficient lead time to inform changes for 2024. The CAISO thus recommends the Commission consider extending the adoption of LIP Profile informed ELCC to 2024 or develop an alternative pathway to refine the method based on learnings from resource adequacy year 2023.

### **III. Conclusion**

The CAISO appreciates the opportunity to provide reply comments on the CEC Qualifying Capacity of Supply-Side Demand Response Working Group Report.

Respectfully submitted,

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Dated: March 14, 2022

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<sup>18</sup> CLECA Opening Comments on Phase 2 Proposals, February 14, 2022, p. 7; CEDMC Opening Comments, p. 3; OhmConnect Opening Comments, p. 2.