

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

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

Rulemaking 19-11-009  
(Filed November 7, 2019)

**REPLY COMMENTS ON JOINT ELCC COMPLIANCE FILING OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

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**I. Introduction**

The California Independent System Operator Corporation (CAISO) submits its reply to comments submitted on July 19, 2021 regarding the *Joint Compliance Filing on Refreshed Effective Load Carrying Capability Study Results* (Joint Compliance Filing) filed by the CAISO, Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E).

The Commission should not set an administrative qualifying capacity percentage derate for demand response resources because it would misconstrue the effective load carrying capability (ELCC) study results and would not constitute a reliability-based counting methodology for demand response. Without an ELCC or similar “contribution to reliability” counting methodology, the CAISO cannot waive resource adequacy availability incentive mechanism (RAAIM) penalties per its intended filing with the Federal Energy Regulatory Commission (FERC). The Commission should use the values submitted in the Joint Compliance Filing and update them with more recent enrollment and load impact data as SCE proposed in opening comments. PG&E and SDG&E should submit similar data for Commission consideration. With a reliability-based counting methodology, the CAISO can exempt investor-owned utility (IOU) demand response from RAAIM, and the Commission can direct the IOUs to place these resources on supply plans for the 2022 resource adequacy compliance year.

**II. Discussion**

**A. An Administrative 5% Derate Does Not Support a Contribution to Reliability  
Demand Response Counting Methodology.**

In initial comments on the CAISO's ELCC study results, PG&E and the California Large Energy Consumers Association (CLECA) recommended the Commission use an administratively set 5% derate as a proxy for an ELCC-based counting methodology, if the Commission were to determine a derate is necessary.<sup>1</sup> CLECA reiterates this recommendation in opening comments (PG&E did not file opening comments).<sup>2</sup> However, the 5% derate PG&E and CLECA recommend is not comparable to the reliability-based ELCC study results. The 5% derate only reflects the demand response resources' *availability* given call and duration limitations as defined by the underlying demand response program.<sup>3</sup> In contrast, the final ELCC results consider *actual bidding behavior*, which reflects the IOUs' estimate of its demand response resources' real-time available capability on that day and in that hour. An administratively set 5% derate does not account for demand response resources' reliability contribution by recognizing their variable-output, use-limited nature, or saturation effects.

Furthermore, the Commission declined to adopt a 5% interim derate in the June 24 decision (D.21-06-029) in this proceeding, stating, "[r]egarding Energy Division's proposed 5% derate adjustment, the Commission agrees with parties that there is insufficient basis for the percentage, and we decline to adopt this proposal."<sup>4</sup> The CAISO reiterates that only a contribution to reliability counting methodology that considers a demand response resource's variable output, use-limitations, and saturation effects can justify and qualify a resource for a RAIM exemption under the CAISO's proposed tariff change.<sup>5</sup> RAIM serves two purposes. First, it incentivizes resources providing resource adequacy capacity to participate in the market to the greatest degree possible or else face non-availability charges if it cannot meet a defined performance threshold. Second, exposure to RAIM charges allows load serving entities to consider a resource's performance and availability when making procurement decisions, which

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<sup>1</sup> PG&E, Comments on Effective Load Carrying Capability (ELCC) Study Results for Demand Response (DR) Resources, p. 2; CLECA, Comments on Effective Load Carrying Capability (ELCC) Study Results for Demand Response (DR) Resources, June 28, 2021, p. 8.

<sup>2</sup> CLECA, Opening Comments on Refreshed Effective Load Carrying Capability Study Results, July 19, 2021, p. 5. (CLECA Opening Comments)

<sup>3</sup> CAISO, *Demand Response ELCC Presentation* from Energy and Environmental Economics, June 24, 2021, p. 58. <http://www.caiso.com/Documents/E3-CAISODemandResponseELCCStudyUpdate2021-Combined-.pdf>

<sup>4</sup> California Public Utilities Commission, Decision Adopting Local Capacity Obligations for 2022-2024, Flexible Capacity Obligations for 2022, and Refinements to the Resource Adequacy Program, June 24, 2021, p. 37.

<sup>5</sup> CAISO, *Resource Adequacy Availability Incentive Mechanism (RAAIM) Exemption Option For Variable-Output Demand Response Valued Under an Effective Load Carrying Capacity (ELCC) or Similar Methodology*, July 6, 2021. <http://www.caiso.com/Documents/RevisedFinalProposal-RAAIMExemptionOption-DRResources.pdf>

should foster procurement of better performing resources. Under an ELCC or similar contribution to reliability counting methodology, many of demand response resources' unique characteristics that impact load curtailment capability (*i.e.*, temperature, occupancy, day of the week, time of day, production schedules, program design, etc.) have already been accounted for and are reflected in the QC value. Consequently, the CAISO can waive application of RAAIM.

**B. The CAISO Supports Updating the Qualifying Capacity (QC) Values Used for Calculating Derates.**

SCE's opening comments raise concerns about using the 2020 credited QC values to calculate the ELCC values. To address this, SCE proposes to refresh the QC values with updated enrollment and load impact values.<sup>6</sup> The CAISO is amenable to applying the ELCC study result to updated QC values based on actual enrollment figures as SCE suggests. Applying the ELCC results to IOU-updated QC values is relatively straightforward and does not require re-running the ELCC study. Any QC adjustments would result from applying the existing ELCC study results to updated QC values based on 2020 actual enrollment numbers. This is consistent with the ELCC study results that were based on actual 2020 bids. Such an update appropriately reflects a reliability-based capacity counting methodology and comports with the CAISO's intended FERC filing for RAAIM exemption for variable-output demand response.

The CAISO anticipates that updating the QC values can occur quickly. The CAISO notes that this update would not necessitate a new ELCC study but only application of the study to the new QC values based on updated enrollment numbers. The CAISO would rely on the IOUs to provide the timely and accurate set of updated ex-ante data based on actual enrollment, as SCE exemplifies in the table included in its opening comments.<sup>7</sup>

The Commission should ensure implementation of a consistent and timely capacity valuation methodology for all IOU demand response for resource adequacy year 2022 and ensure that enrollment numbers used to establish the resource adequacy QC value for demand response programs are fresh and not outdated.

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<sup>6</sup> SCE, Opening Comments on Refreshed Effective Load Carrying Capability Study Results, July 19, 2021, p. 3. (SCE Opening Comments)

<sup>7</sup> *Id.*, p. 4.

## **C. Additional Clarifications**

### **1. Any QC Methodology Should Also Consider Reliability Contributions on Weekends.**

SCE and SDG&E contend that the ELCC methodology should not consider reliability events on weekends and outside of the availability assessment hours (AAH).<sup>8</sup> The CAISO clarifies that the purpose of ELCC is not to measure how well demand response programs follow its specific program design; its purpose is to value their reliability contribution across all hours of the year so the Commission can better understand and appropriately value the reliability and ratepayer benefits a particular demand response program provides relative to other resource types or demand response program designs. Importantly, the risk of loss of load events exists on weekends as demonstrated by the August 15, 2020 outage, which occurred on a Saturday, and the tight conditions over the entire Labor Day 2020 weekend, including Sunday. Appropriately, resource adequacy resources that are unavailable on weekends or across the net load peak period should have a lower capacity value relative to resources that are available and can cover these periods. The ELCC methodology helpfully identifies such deficiencies in program attributes and design, and provides the Commission critical information about how to alter a demand response program design to gain a higher ELCC value.

### **2. Clarifications on the ELCC Results and the CAISO's Proposed Application of the Results.**

California Efficiency + Demand Management Council (CEDMC) stated that it is unclear to CEDMC how to apply the CAISO's proposed results.<sup>9</sup> CLECA also raises concerns with applying the aggregated derate to all programs equally.<sup>10</sup> To clarify, the CAISO recommends the Commission use the aggregate derate values by IOU by month but provide the IOUs flexibility to determine program-level derates to arrive at the desired IOU-level derate in aggregate.<sup>11</sup> For example, if a base interruptible program performed better than certain other programs, the IOU could assign that higher performing program a lower derate than other programs, as long as the

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<sup>8</sup> SCE Opening Comments, p. 5; SDG&E, Comments on Refreshed Effective Load Carrying Capability Study Results, July 19, 2021, p. 2.

<sup>9</sup> CEDMC, Opening Comments on Refreshed Effective Load Carrying Capability Study Results, July 19, 2021, p. 2. (CEDMC Opening Comments)

<sup>10</sup> CLECA Opening Comments, p. 4.

<sup>11</sup> CAISO, Comments on Refreshed Effective Load Carrying Capability Study Results, July 19, 2021, p. 2.

total aggregate derate for all programs for that IOU reflects the aggregated derate value by month.

CLECA<sup>12</sup> and PG&E<sup>13</sup> also raise concerns with the program-level results. The CAISO clarifies that a program-level result over 100% (which means the ELCC MW result was greater than the program's QC) is not illogical. This result reflects a program that bids consistently higher than its QC value during loss of load expectation hours. It does not mean the resource is valued higher than "perfect capacity," as CLECA and PG&E incorrectly state.

CLECA also raises a concern about the loss of load probability (LOLP) data underlying the heat map on page 19 of the ELCC study results.<sup>14,15</sup> The data was made publicly available per CLECA's request following the June 24<sup>th</sup> workshop.<sup>16</sup> CLECA states that the LOLP heat map is inconsistent with ELCC results because the results show an ELCC derate in July when there is a 0% LOLP in July. The CAISO clarifies that ELCC is bid-based. If a program does not bid its QC value, its ELCC value would obviously be less than its QC value regardless of loss of load events. Therefore, it is possible to receive an ELCC derate in a month with no LOLP. Again, ELCC provides logical outputs and brings greater transparency to the effectiveness of DR program designs and DR resources' behavior.

CEDMC questions how IOUs and demand response providers can test the sensitivity of the analysis to determine the optimal program design to achieve the highest ELCC factor.<sup>17</sup> The CAISO reiterates that ELCC results depend on loss of load expectations and bids. ELCC values can increase by improving program availability (*i.e.*, including weekends and additional hours) and bidding more megawatts during the hours of highest system stress. A low ELCC values simply means a certain program is not consistently bidding its QC value, and its attributes and program designs are not covering all loss of load expectation events, such as not being available on weekends. ELCC study results are very informative and provide greater transparency about program design shortcomings and a DR resource's relative value compared to other resource types.

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<sup>12</sup> CLECA Opening Comments, p. 4.

<sup>13</sup> PG&E, Comments on Effective Load Carrying Capability (ELCC) Study Results for Demand Response (DR) Resources, p. 1-2

<sup>14</sup> CLECA Opening Comments, p. 5.

<sup>15</sup> <http://www.caiso.com/Documents/E3-CAISODemandResponseELCCStudyUpdate2021-Combined-.pdf>

<sup>16</sup> <http://www.caiso.com/Documents/SupplementalDataPursuant-StakeholderRequest.xlsx>

<sup>17</sup> CEDMC Opening Comments, p. 2.

### **3. Clarifications on the ELCC inputs and assumptions.**

The CAISO reiterates that the assumptions Energy and Environmental Economics (E3) used in setting up the study are the same as those used in the Commission's integrated resource plan (IRP) proceeding and the CAISO's Transmission Planning Process. The Commission-developed resource portfolio was a foundational assumption and input into E3's RECAP model used to calculate the ELCC values.

SDG&E raises concern with the weather data input into ELCC.<sup>18</sup> The CAISO clarifies that using 68 weather years as input into probabilistic analysis captures greater variability than the alternative load impact protocol (LIP) approach of a static assessment under a 1-in-2 weather year at the utility and CAISO system levels. The probabilistic methodology of ELCC better accounts for increasingly extreme weather patterns, contrary to the parties' claims. ELCC is a more robust and full analysis given the depth of weather data it considers, the breadth of hours it covers, and how it informs resources' interaction with one another on a portfolio basis, which is what really matters when considering the level of a system's resource adequacy.

### **4. SDG&E misrepresents CAISO Statement as Supporting a RAAIM Exemption for LIP-valued DR.**

SDG&E states: "It would be improper to penalize SDG&E for its compliance prior to adopting amendments to the RA process. The CAISO acknowledges this fact, noting in its ELCC proposal that 'CAISO believes that is appropriate to exempt DR RA resources from RAAIM if their QC is established using an ELCC, or similar, counting methodology that considers DR's contribution reliability and saturation effects.'"<sup>19</sup>

SDG&E incorrectly implies that the CAISO supports a RAAIM exemption for SDG&E demand response resources based on SDG&E's compliance with current resource adequacy valuation methodology. The quoted statement, taken from the CAISO's final proposal in its stakeholder initiative to create a RAAIM exemption option for demand response resources, did not imply the LIP-informed QC methodology qualified as an ELCC or similar counting methodology that considers demand response' contribution to reliability and saturation effects.<sup>20</sup>

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<sup>18</sup> SDG&E, Comments on Refreshed Effective Load Carrying Capability Study Results, July 19, 2021, (SDG&E Comments) p. 7; Protect Our Communities Foundation, Comments on Refreshed Effective Load Carrying Capability Study Results, July 19, 2021, p. 3.

<sup>19</sup> SDG&E Comments, p. 4.

<sup>20</sup> <http://www.caiso.com/Documents/RevisedFinalProposal-RAAIMExemptionOption-DRResources.pdf>

LIP-informed QC values do not accurately represent demand response's contribution to reliability across the year and do not incorporate saturation effects.

### **III. Conclusion**

The CAISO looks forward to working with the Commission and parties to ensure a reliability-based counting methodology for IOU demand response and ensure supply plans show these resources for the 2022 resource adequacy compliance year.

Respectfully submitted

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