



Stakeholder Comments Template

Effective Load Carrying Capability (ELCC) Study Results for Demand Response (DR) Resources

This template has been created for submission of stakeholder comments on the updated ELCC study results for DR resources, which was published on June 18, 2021. The Stakeholder meeting presentation and other information related to the discussion, may be found on the initiative webpage at:

<http://www.caiso.com/informed/Pages/MeetingsEvents/MiscellaneousStakeholderMeetings/Default.aspx>.

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **June 28, 2021**.

Submitted by	Organization	Date Submitted
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Please provide your organization's comments on the following issues and questions.

1. ELCC Updated Study Results

Please provide your organization's feedback on the updated ELCC study results for DR resources.

On June 24, 2021, the Commission did not adopt the replacement of the Load Impact Protocols (LIP) with Effective Load Carrying Capability (ELCC) for determining qualifying capacity (QC) for demand response (DR). Instead, the Commission established a working group process with the California Energy Commission (CEC) to review methodologies, including ELCC, for determining qualifying capacity for DR beginning with the 2023 Resource Adequacy (RA) compliance year.¹ In addition, the Commission concluded the following regarding the use of ELCC for DR:

¹ CPUC D.21-06-029 at 35-36.

We find that ELCC has not at this point been proven to be superior to LIPs or any other methodology at this time for DR. Further, the Commission cannot adopt a study or methodology that has not been thoroughly reviewed.”²

On June 3, 2021, Commission President Batjer issued a Ruling that outlined a process for the Commission to consider using the CAISO’s updated ELCC study, performed by the consulting firm E3, instead of the currently-adopted Load Impact Protocols (LIP) for determining qualifying capacity for utility DR programs, for only the 2022 RA compliance year. The Commissioner’s Ruling specified the following requirements for the Commission to consider ELCC to be utilized for 2022:

If the CAISO and the IOUs complete the refreshed ELCC study results, the study results should be served via the service list in this proceeding. Parties should be given an opportunity to participate in a workshop on the study results and to provide written comments on the study results. CAISO and the IOUS should then submit a report to the Commission with a summary of the workshop and parties’ comments (as well as attached parties’ comments).

As such, a compliant filing or submission to the Commission shall include the following:

(1) Refreshed study results based upon 2020 bid data from PG&E, SCE, as well as from San Diego Gas & Electric Company (SDG&E);

(2) Thorough documentation of study methodology and assumptions, and explanation of how data from Load Impact Protocol (LIP) filings, if any, were utilized in or informed the study, as well as updated runs of the study (as needed);

(3) To facilitate expedited party analysis and input, a summary of the key differences between LIP inputs and calculations versus the proposed ELCC method;

(4) A workshop report that summarizes parties’ comments on the study methodology and results and attaches parties’ comments. CAISO and/or an IOU shall provide parties (via the service list in this proceeding): (1) a minimum 7 days’ notice of any workshop, and (2) a minimum of 10 days’ notice to provide written comments to CAISO and the IOUs on the study results. Any workshop or related stakeholder process shall be run by CAISO and/or the IOUs in consultation with Energy Division.

If a compliant filing is submitted or filed with the Commission by July 1, 2021, the Commission will consider the study results.

² CPUC D.21-06-029 at 37.

On June 18, 2021, the CAISO posted on its website a presentation entitled “Effective Load Carrying Capability (ELCC) Study Results for Demand Response (DR) Resources”. (CAISO DR ELCC Study.) On June 24, 2021, the CAISO posted a revised version of the presentation that was used for the workshop held on the same day. The CAISO has not met the requirements outlined in the Commissioner Ruling, because the documents provided in response to items 2 and 3 in the Ruling are inadequate for the Commission to make a determination of the cost impacts to replace DR capacity, which may be unnecessary, by using the ELCC results from the CAISO study. Furthermore, the presentation makes no explicit recommendations as to how the results of the presentation would be used to “adjust” the qualifying capacity of DR for the 2022 RA compliance year. If such a recommendation were to be made in the July 1 submission to the Commission, there would be no opportunity for parties to respond to that recommendation.

CLECA is concerned that CAISO scheduled only 2 hours for the workshop on a study that, if implemented as envisioned by the CAISO, could require 20% of DR capacity to be replaced by less preferred resources. The lack of adequate time for the workshop resulted in parties having remaining questions that went unanswered.

The CAISO’s presentation of work by the consulting firm E3 does highlight one significant problem in the current RA process. There is long delay between when the qualifying capacity of DR is determined by the Commission through the use of the LIP based on DR performance in a previous year (i.e., April 1, 2021 LIP was based on performance in 2020), and its use in annual and monthly RA filings (in this case for RA compliance year 2022). As a result of the delay, any customer departures or additions to DR programs are not reflected in the qualifying capacity for the RA showings. (It should be noted this problem would exist whether using LIP or ELCC to determine qualifying capacity.) It is unclear if the misalignment creates a reliability problem because it depends on the underlying cause of customer departure from, or additional customer participation in, DR programs. DR is a special case when it is treated as a supply-side resource because the DR provides its own capacity during peak conditions. If load and its associated DR departs from the system entirely, the

misalignment does not create a reliability problem. because the load that needs to be served will be lower. In other words, the difference between the net qualifying capacity and DR bid is less than the reduction in load caused by the customer departure from the system. However, if the customer departs from the DR program, but its load remains on the system, then that does create a reliability problem. This calls for the ability to update the qualifying capacity of DR regularly so that load serving entities (LSEs) can make appropriate adjustments to RA procurement; this is another reason to allow LSEs to adjust bids based on the amount of DR they think they have in addition to weather variation.

CAISO's conclusion that there is a reliability problem due to the difference between net qualifying capacity and bid amounts is based on the assumption that the DR does not exist but the load from the customer remains. Unfortunately, due to the unique nature of 2020, CAISO's assumption may not be correct.

The year 2020 was particularly problematic for businesses participating in DR, and the ability for IOUs to determine the quantity to bid into the CAISO markets. The impact of COVID-19 on businesses often led them to reduce their loads due to shutdowns, reduce hours, or go out of business. The LIP results posted in April 2021 reflect the impacts of such adjustments in load.³ It is unclear if the observation that bids in 2020 were lower than the qualifying capacity will continue in 2022 for two reasons. First, the Reliability OIR adopted program changes, such as increased incentives, which could encourage more customer DR enrollment in 2021-2022, compared to the forecast used by the LIP. Second, the LIP incorporates historical performance in establishing the updated values. Applying a second derate based upon the same historical data would lead to a double penalty.

Another factor that the Commission should consider regarding temporarily adopting ELCC for DR QC for 2022, is the fact it has already adopted increased procurement requirements to achieve an effective 17.5% planning reserve margin, which provides additional cushion. In addition, and most importantly, the Commission

³ 2020 Load Impact Evaluation of California Statewide base Interruptible Program (BIP) for Non-Residential Customers, Christensen Associates, April 1, 2021 at 34-38.

has already reduced DR qualifying capacity by 6% due to the removal of the operating reserve from the planning reserve margin.⁴ Therefore, should the Commission adopt any derate based upon the DR ELCC study, the 6% reduction to DR already ordered should be considered.

In CLECA's opinion, the CAISO DR ELCC study's results have not been properly validated. However, should the Commission decide that it is still appropriate to utilize the recent CAISO ELCC study to adjust the qualifying capacity for DR for 2022, it should utilize the 95% ELCC result from average ELCC as a function of DR capacity.⁵ If the Commission adopts a 95% ELCC, the total reduction to future qualifying capacity of DR for 2022 will be 11% compared to the current approach, because of the reduction of the planning reserve margin added by 6 percent.

1. CAISO's Presentation Does not Meet the Standard of Thorough Documentation, nor Did It Meet All The Requirements in the Ruling

The purpose of a presentation is to summarize information, it is not to document all the inputs, assumptions, and steps taken to validate the results of a technical study. Missing from CAISO's documents is any information on what steps were taken to validate the results, or sufficiently detailed information so that parties can independently validate the results. An ELCC study is dependent on the distribution of loss of load expectation (LOLE), yet no detailed information on the monthly, weekday/weekend, and hourly distribution of LOLE was provided. This is commonly shown graphically as a heatmap with different colors showing magnitude, and with a supporting worksheet of numerical details. The only heatmap provided in CAISO's presentation was for September, comparing the duration of LOLE in 2020 and 2030. At the workshop, the presenter from E3 said LOLE did exist in other months in the study. A proper validation would include a comparison of an LOLE heatmap to a similar heatmap of DR bids. This would help to understand when DR was not able to avoid LOLE; no such information has been provided. This type of

⁴ CPUC D.21-06-029 at 41.

⁵ See CAISO DR ELCC Study presentation, June 24, 2021, at 35. This is assuming all the utility DR programs are available at least 4 hours per call and have 4 calls per year.

detailed information could also assist in developing DR programs to address periods of LOLE concern.

The Base Interruptible Program (BIP) for Southern California Edison consists of high load factor customers, and the program is available to be called for 6 hours per event, 24 hours per day, and up to 10 events per month. Slide 37 of the June 24, 2021, version of the presentation indicates that for 2019 there were no more than two events per year, and a loss of load event did not exceed five hours. Therefore, based upon this information, BIP should be able to avoid all the LOLE hours. However, the E3 results for CAISO for SCE's BIP on Slide 30 show derates of 20-35%. There is insufficient data to determine if the ELCC results are being caused by changes in customer enrollment between the determination of qualifying capacity and the bids, or if the load pattern for BIP participants does not align with the LOLE hours. If the cause is due to changes in customer enrollment, the reason for the departure must be examined for a program that consists of many customers with loads exceeding 10 MW. The departure of a single customer from the system with a load of 50 MW could significantly impact the ELCC results; yet there is no evidence in the next compliance year (which will incorporate the loss of 50 MW) that another 50 MW would depart. A weakness of CAISO's approach is an over-reliance on historical customer enrollment instead of customer performance. In contrast, the LIP uses historical performance to make adjustments to load reductions per customer, which are then applied to estimated customer enrollment for the compliance year.⁶

CAISO's DR ELCC Study does not meet the requirements of item 3: "a summary of the key differences between LIP inputs and calculations versus the proposed ELCC method." There is no comparison of qualifying capacity for each DR program based upon LIP and ELCC, nor an explanation of the key differences to explain the different results. Instead, utility bids are compared to proposed ELCC results. It is not exactly clear how the DR ELCC Study would be applied by the Commission. When asked for more clarity on this issue at the workshop, the CAISO responded it did not have a specific proposal, but the study was to inform the

⁶ The utilities should investigate if their forecasts of customer enrollment are being too optimistic.

Commission when establishing DR qualifying capacity. Without more detailed information the Commission cannot evaluate the cost versus benefit impact to customers of having to replace possibly 20% of DR with less preferred resources. This 20% figure is based on Slides 26 and 28 in the presentation, although there was no explicit recommendation for such a derate.

2. Applying CAISO's ELCC Results to the Load Impact Protocols Results in a Double Penalty

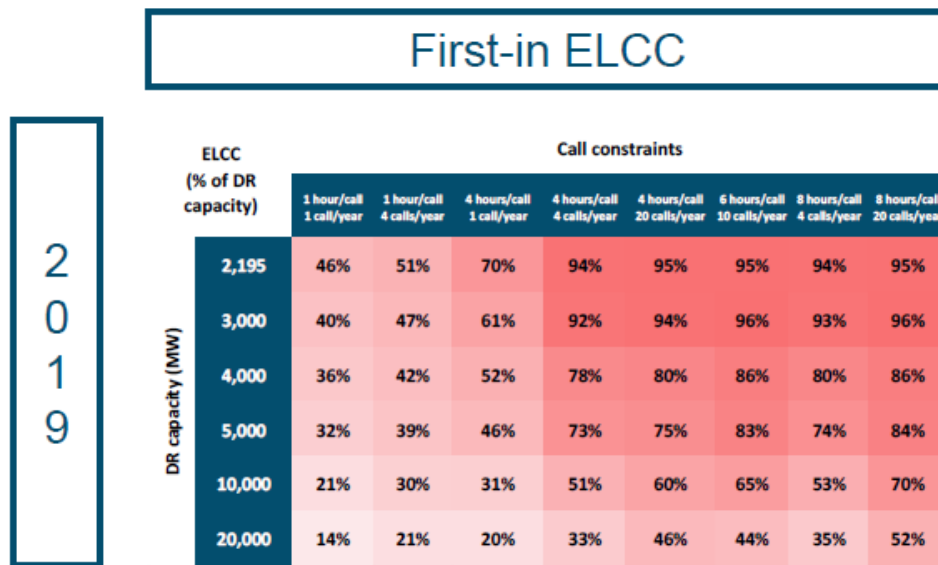
The recent LIP study utilized 2020 data to develop load impacts for use in 2021, which incorporates the observed customer performance. To the extent a customer failed to reduce load, it is included in the analysis. Also included in the LIP results is customer departure from reliability DR resources (RDRR) due to customer fatigue caused by frequent DR events in 2020. The ELCC results include in the derate the impact of customer departure that occurred between 2019 LIP results and 2020. Meanwhile, the Commission in the Reliability OIR ordered changes to some programs. For example, the incentives for BIP were increased, and enrollment during any month is allowed; both could increase customer enrollment that may not be reflected in the LIP. In this situation, the adopted qualifying capacity based upon LIP may undercount actual customer enrollment. Therefore, applying a derate based upon misalignment of customer enrolment reflected in the CAISO DR ELCC from 2020 observations study may unfairly doubly penalize DR.

3. Average ELCC as a Function of DR Capacity on the System

The CAISO DR ELCC Study in the appendix presented the results of average ELCC as a function of DR capacity on the system.⁷ These results are based upon program design of hours per call, and calls per year limitations. For 2019, for total DR capacity of 2,195 MW, for a program of at least 4 hours per call and at least 4 calls per year, the ELCC would be at 94% or higher. It is unclear why 2,195 MW was selected

⁷ CAISO DR ELCC Study, June 24, 2021 version at 35.

as the bookend, as it exceeds by about 1,000 MW the amount of current utility DR. Therefore, if saturation is a concern, the 94% value understates the ELCC, because actual DR is 1,000 MW less than 2,195 MW. There is also an anomaly in the results, because a program with 8 hours per call and 4 calls per year has a lower ELCC than programs with more limited hours but more events. The data on Slide 37 for 2019 indicate there are only 2 loss of load events per year, up to 5 hours in duration. (See excerpt from CAISO’s presentation, Slide 35, below.) Therefore, the 6-hour and 8-hour programs with at least 2 calls per year should have the same ELCC; there is no explanation of this anomaly.



Despite the problems in the CAISO ELCC study, should the Commission decide that is appropriate to utilize the recent CAISO ELCC study to adjust the qualifying capacity for DR, it should utilize the 95% ELCC result from average ELCC as a function of DR capacity, as shown on Slide 35.⁸

⁸ This is assuming all the utility DR programs are available at least 5 hours per call, and have at least 4 calls per year.

4. A Last-In ELCC Contradicts the Commission's Preference for Demand Response

The concept of the first-in and last-in for DR in the CAISO/E3 study is inconsistent with the Commission's preference for energy efficiency and demand response over other, even renewable, resources. If CAISO is concerned about saturation, the Commission has already recognized the concern of over-relying on too much DR, as it set limits on how much DR can be used in RA showings through the maximum cumulative capacity buckets. Therefore, counting DR as if it was introduced after other resources would tend to lower ELCC values. This would discourage DR, which is a preferred resource. Therefore, the Commission should not use the last-in results in determining qualifying capacity for DR.