# Southern California Edison Comments
# Effective Load Carrying Capability (ELCC) Study Results for Demand Response (DR) Resources

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On June 3, an Assigned Commissioner's Ruling (ACR) on effective load carrying capability (ELCC) study results was issued in the Resource Adequacy (RA) proceeding. The ACR provides guidance for submission of the refreshed ELCC study results prepared by Energy + Environmental Economics (E3) using 2020 DR data from the investor-owned utilities (IOUs) to determine qualifying capacity (QC) of IOU DR resources for the 2022 RA compliance year. With updated ELCC study data approved by the California Public Utilities Commission (Commission), a QC counting methodology (acceptable to the CAISO) could be implemented to provide Variable Energy Resource status and a Resource Adequacy Availability Incentive Mechanism exemption to DR resources. On June 24, CAISO hosted a workshop with E3 and parties to discuss results of the refreshed ELCC data.

## ELCC Updated Study Results

SCE appreciates the collaboration with E3 and the CAISO to review the results of the study to get a better understanding of the model; however, given the short timeframe of the study, SCE has a couple areas of concern. Specifically, there are two issues with the net qualifying capacity (NQC) used to calculate the ELCC %.

### 1. Use the most updated enrollment and average load impact per customer impacts

For the 2022 RA compliance year, SCE recommends that the Commission use Ex Ante MW from the 2020 Interruptible Load Programs (ILP) and DR Report[1] to calculate the DR portfolio ELCC %. As noted in E3's ELCC presentation, the ELCC study refresh used Commission staff's 2020 DR RA NQC values, as determined by the Load Impact Protocol (LIP) process in program year 2018, to calculate each IOU's portfolio ELCC %.[2]
Using the 2020 ILP report Ex Ante values provides two major benefits over the 2020 DR RA NQC values used in the ELCC study: (1) they reflect the actual, not forecasted,

[1] R1309011-SCE Monthly ILP and DR Report 202012-Public, Appendix A-1, Table I-1. https://edisonintl.sharepoint.com/:b:/t/Public/regpublic/ER4ku5rhSmRJq3bpMr5MwggBRCf3guicmvNCro1IBuvgPQ

[2] Effective Load Carrying Capability (ELCC) Study Results for Demand Response (DR) Resources, slide 48. http://www.caiso.com/Documents/Presentation-E3-CAISODemandResponseELCCStudyUpdate-Jun172021.pdf

enrollment of each DR program in 2020; and (2) they reflect the updated average load impact per customer from the most recent April 1st filing.

The table below provides an August 2020 example on how an inflated NQC misrepresents the capability of SCE's DR portfolio when 2020 actual bids are used as inputs to the ELCC study. E3's method to calculate ELCC % results in 79%, but this is not an apples-to-apples comparison because the 942 MW NQC is based on outdated enrollment forecasts from nearly two years ago. SCE's method to use the ILP report to calculate ELCC % results in 86%, which appropriately applies the 869 MW NQC based on the actual 2020 program enrollment.

| Method to Calculate ELCC % | RECAP ELCC MW | August 2020 NQC | August 2020 Enrollment | August ELCC as a % of NQC |
|---|---|---|---|---|
| E3's Recommendation (program year 2018 LIP) | 745 | 942 | 278,725 | 79% |
| SCE's Recommendation (ILP report ex-ante values) | | 869 | 252,431 | 86% |

Based on SCE's calculations, using this updated information will reduce SCE's overall DR portfolio's July-September ELCC % by approximately 5%[3] compared to using the 2020 DR RA NQC values, as it will appropriately allocate enrollment and average load impact per customer information in the 2020 DR RA NQC values.

SCE would also like to use this opportunity to point out that starting in 2021, SCE has been providing bi-annual QC updates to Energy Division – once in April and once in July – to update load impacts that were previously submitted to determine QC of SCE's DR energy resources.[4] The 2021 DR QC value is based on average load impacts per customer (MW/customer) from PY 2019.[5] This process is conducted twice a year to ensure that all 2021 DR QC monthly values reflect current enrollment forecasts.

Given SCE's understanding of E3's model, SCE concludes that updates of DR QC bi-annually and use of average load impact per customer (MW/customer) from the most recent program year, should reconcile discrepancies between DR QC and reliability contributions for the most recent program year.

[3] This 5% was calculated by dividing the June-September 2020 ILP ex-value values by Commission staff's 2020 DR RA NQC values.

[4] California Public Utilities Commission (CPUC). Table 1: Schedule for Obtaining Demand Response Qualifying Capacity Through the Load Impact Protocols (LIP). "Guide to CPUC's Load Impact Protocols (LIP) Process." Page 5-6. February 10, 2021.

[5] To update the 2021 DR QC, in compliance with Energy Division's interpretation of Decision (D.) 20-06-021, the monthly average load impact per customer (MW/customer) from PY 2019 is multiplied by actual monthly customer enrollments in 2021, up until the most current month (i.e., June). For months for which actual monthly enrollments are not yet available, the monthly average load impact per customer from PY 2019 is multiplied by enrollment forecasts from PY 2020.

## 2. Address misalignment of day types and hours used to assess contribution of supply-side DR energy resources in meeting system reliability

The ELCC results are predicated on 2020 bid data for all hours of the year, including weekends and holidays. With the exception of weekend event days, reference loads and load impacts on weekends or holidays are typically lower than those on weekdays. Study results that consider or encompass contributions of supply-side DR energy resources in meeting weekend reliability needs would necessarily render lower ELCC values (higher derate of QC) than those that only consider contributions of supply-side DR resources during the Commission's Availability Assessment Hours (AAH) of monthly peak days or typical event days.

DR QC, on the other hand, is based upon equally-weighted average Ex Ante load impacts (MW) across the AAH (hour ending (HE) 17 – 21) for either the system peak load day of the forecasted month or the typical event day (i.e., August day) of the forecasted year, as stipulated by the *DR Load Impact Evaluation Protocols*.[6]

Before ELCC values that are aggregated by supply-side DR energy resource and region could be applied to the 2022 DR RA QC calculation, there is a number of discrepancies that must be reconciled. One way to do so would be to calculate ELCC values to encompass contributions of DR resource to system reliability only during AAH. This modification would likely result in increases to ELCC values or a lower derate of QC from the current study. An alternative would be to report load impacts during AAH by day type (i.e., weekday versus weekend) during load impact evaluation per LIP for the most recent program year, and then apply the appropriate ELCC factors to adjust the QC (i.e., contributions of DR energy resources in meeting reliability needs during weekday separated from contributions of resources during weekend AAH).

[6] California Public Utilities Commission (CPUC) – Energy Division (ED). Protocol 22. 6. Ex Ante Estimation. "Attachment A: Load Impact Estimation for Demand Response: Protocols and Regulatory Guidance." Page 96 – 98. April 2008.