



Submit comment on 2023 Local Capacity Requirements Study Criteria, Methodology, and Assumptions

Local capacity requirements process - 2023

1. Provide a summary of your organization's comments on the 2023 Local Capacity Requirements Study Criteria, Methodology, and Assumptions:

The California Energy Storage Alliance (CESA) appreciates the ISO's efforts to conduct thorough studies that ensure the reliability of transmission- and/or generation-constrained Local Reliability Areas (LRAs). As California advances towards an increasingly decarbonized grid, the ISO's Local Capacity Technical Studies (LCTS) should provide market participants a robust understanding of the capacity outlook in LRAs, and the type and magnitude of preferred resources that can be accommodated in those load pockets. In this context, CESA's comments can be summarized as follows:

- The ISO should revise its energy margin assumption for storage resources since it does not apply to other technologies.
- The ISO should assess energy storage under several round-trip efficiency (RTE) assumptions.
- The ISO should consider studying an LCTS sensitivity that assesses sufficiency based on the unforced capacity (UCAP) methodology.

2. Provide your organization's comments on the charging for storage used as local RA resources topic, as described in slides 36-40:

The ISO should revise its energy margin assumption for storage resources since it does not apply to other technologies

In the presentation shared by the ISO ahead of the October 27, 2021 stakeholder meeting, Staff describes its methodological approach to represent energy storage and its charging within the LCTS. One of the key assumptions utilized in this approach includes an hourly energy margin of 5% or 10 MW – the larger of the two – that is applied to both the charging and discharging need.¹ The ISO noted that this was incorporated to represent the lack of perfect foresight as well as the fact that storage is seldom dispatched continuously, instead being dispatched in 5 MW increments, for example.

CESA finds that the reasoning behind the ISO's assumption does not apply exclusively to energy storage or resources that participate under the non-generator resource (NGR) pathway. As such, it is

¹ CAISO, *2023 ISO LCR Study Criteria, Methodology, and Assumptions*, at 39.

unclear why the ISO would only take these incremental steps to represent the bidding/dispatch behavior of these assets when the majority of local capacity requirements (LCRs) are met by conventional thermal generators. Thus, CESA requests that the ISO remove this assumption as it does not seem to be applied fairly across fuel types and participation pathways within the LCTS.

The ISO should assess energy storage under several round-trip efficiency (RTE) assumptions

At the stakeholder meeting, staff explained that it will assume a charge/discharge efficiency of 85% in its assessment of energy storage. The ISO argues that this assumption is reasonable as it is “based on the general battery efficiency.”² CESA understands that, in the last decade, the vast majority of the energy storage assets deployed within the CAISO’s footprint have been lithium-ion batteries. CESA thus understands the ISO’s decision to use 85% RTE as a starting point for its evaluation of storage assets. While the conclusions derived from these assumptions will provide some insight to market participants, evaluating storage capacity and energy limits under a wide array of RTEs would prove much more valuable, especially considering the growing interest in long duration energy storage (LDES).

In the Integrated Resource Planning (IRP) proceeding, the California Public Utilities Commission (CPUC) has directed jurisdictional load-serving entities (LSEs) to collectively procure at least 1 GW of LDES resources by 2026.³ This requirement is expected to be met by a variety of technologies with different operational characteristics. To this end, the LCTS has the potential to provide substantial insight into how these solutions can be deployed in local areas, thus minimizing ratepayer costs by meeting both IRP and LCTS requirements. Thus, CESA requests the ISO the potential for energy storage energy and capacity by LRA under several RTE assumptions. Based on CESA’s collaboration with Strategen Consulting,⁴ CESA recommends considering 50%, 65%, and 75% RTEs, in addition to 85% as described during the stakeholder meeting.

3. Additional comments on the on the 2023 Local Capacity Requirements Study Criteria, Methodology, and Assumptions and October 27 stakeholder call discussion:

The ISO should consider studying an LCTS sensitivity that assesses sufficiency based on the UCAP methodology

Within the Resource Adequacy (RA) Enhancements Initiative, the ISO has developed a substantive record for the modification of the capacity counting methodology to one that internalizes the likelihood of forced outages. This approach, UCAP, has been socialized both in said initiative and the CPUC’s RA proceeding, where it will be considered in the context of framework reforms for Fall 2023. To calculate UCAP, CAISO proposes assessing availability *ex post*, looking at the top 20% of hours with the tightest supply conditions.⁵ Preliminary data shows that UCAP would represent a significant reduction in capacity contributions for natural gas generators, with weighted seasonal availability

² *Ibid*, at 39.

³ See CPUC, Decision (D.) 21-06-035. LDES is defined as a storage resource capable of discharging at its maximum power output for 8 hours or more.

⁴ Strategen Consulting, *Long Duration Energy Storage for California’s Clean, Reliable Grid*, December 2020, 28-33. Available at https://static1.squarespace.com/static/5b96538250a54f9cd7751faa/t/5fcf9815caa95a391e73d053/1607440419530/LDES_CA_12.08.2020.pdf

⁵ CAISO, *Day 1 Presentation of the RA Enhancements Draft Final Proposal and Sixth Revised Straw Proposal*, January 2021, at 40. Available at <http://www.caiso.com/InitiativeDocuments/Day1Presentation-ResourceAdequacyEnhancements-DraftFinalPropsoal-SixthRevisedStrawProposal.pdf>

factors of about 87.5% during peak months.⁶ Since the UCAP framework is actively being considered and could be adopted for the 2024 RA Year, CESA requests the ISO evaluate a sensitivity case in which it counts existing capacity and communicates LCRs in terms of UCAP, not NQC. This is timely as it will provide stakeholders with a clear panorama of the resource deficiency associated with solely relying on existing thermal generation.

⁶ *Ibid*, at 84.