

**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)

**REPLY COMMENTS ON THE LOSS OF LOAD EXPECTATION STUDY OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

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I. Introduction

The California Independent System Operator Corporation (CAISO) provides its reply comments on the March 11, 2022 submissions regarding the Loss of Load Expectation Study (Energy Division Study) and the Local Capacity Requirement Working Group Report (LCR Report).

The CAISO appreciates the positive step the Commission has taken to develop a stochastic loss of load expectation (LOLE) study to calculate planning reserve margin (PRM) and effective load carrying capability (ELCC) values. The CAISO agrees with party comments that additional analyses are needed before adopting a LOLE study methodology and deriving the PRM and ELCC values. Despite these open questions, the Energy Division Study validates the PRM increase in the IRP and Emergency Reliability¹ proceedings and establishing the appropriate PRM is critical to maintaining a safe and reliable grid and reducing reliance on non-resource adequacy or contingency measures.² Although parties have asked for a delay in this analysis until discussions in the resource adequacy proceeding Reform Track have matured, such delay is unnecessary because updating the PRM and ELCC values can be used directly under today's resource adequacy program and the core methodology is also foundational to the IRP proceeding

¹ Order Instituting Rulemaking to Establish Policies, Processes, and Rules to Ensure Reliable Electric Service in California in the Event of an Extreme Weather Event in 2021, R. 20-11-003.

² Calpine Opening Comments, pp. 1-2.

and other analyses. Therefore, the CAISO urges the Commission to prioritize this important work so that the resultant values can be used as soon as practical. The CAISO agrees that additional consideration is needed to conform the LOLE study and its outputs to the direction ultimately taken in the Reform Track.

The CAISO has no further comments on the LCR Report or its recommendations at this time. The CAISO respectfully requests all comments and requests regarding the LCR criteria, methodology, assumptions, and results and reports to be directed to the CAISO in its LCR process.³ As a courtesy, the comments on the draft LCR study results are due on March 23, 2022, and the draft final study results are due to post on April 1, 2022. The CAISO has scheduled a stakeholder meeting for April 12, 2022, and comments on the draft final study results and posting are due on April 29, 2022.

II. Discussion

The CAISO provides reply comments regarding the LOLE study recommending the Commission:

- Ensure the stochastic LOLE study meets a 0.1 LOLE target;
- Align the underlying study portfolio with realistically expected resource adequacy portfolios;
- Consider how such an LOLE analysis could be used to conduct a prospective and/or retrospective assessment of the shown resource adequacy fleet to ensure the shown resource adequacy fleet is reliable;
- Adopt a single annual static PRM based on the 0.1 LOLE target;
- Calculate ELCC values based on the same underlying analysis used to calculate the PRM; and
- Retain deliverability requirements.

The CAISO discusses these recommendations in detail below.

³ <https://stakeholdercenter.caiso.com/RecurringStakeholderProcesses/Local-capacity-requirements-process-2023>

A. The Commission Should Ensure the Stochastic LOLE Study Meets a 0.1 LOLE Target.

The CAISO shares parties' concerns that the Energy Division Study did not target the industry standard 0.1 LOLE threshold, but rather a higher 0.16 LOLE.⁴ The Energy Division Study does not provide any analysis to validate whether a higher LOLE in the summer months and a lower LOLE in the non-summer months will "average out" to an annual 0.1 LOLE target. The Commission should instead conduct the study on an annual basis targeting a 0.1 LOLE threshold.

B. The Commission Should Use a Scenario That Most Closely Aligns With Load Serving Entity Showings.

To use such a study process for the purpose of the RA program, the Commission should ensure the portfolio used to conduct the stochastic LOLE study is based on load serving entity (LSE) resource adequacy compliance showings. The CAISO agrees with parties' comments that recommend using either the Scenarios C or D portfolios or a similar portfolio that aligns with realistically expected resource adequacy showings.⁵ The resource adequacy program tracks near-term compliance and is fundamentally different than the integrated resource plan (IRP) proceeding, which is forward looking and sets the course for future procurement. Therefore, the LOLE analysis used for resource adequacy purposes should not include RESOLVE capacity expansion modeling results, unless LSEs will be showing those resources. As discussed below, the CAISO supports using the same *modeling methodologies* between IRP and resource adequacy LOLE studies but certain assumptions—such as the underlying portfolio—should appropriately deviate to align with each proceeding's objective.

CAISO also recommends the Commission consider how such an LOLE study could be used either in the resource adequacy proceeding prospectively and/or retrospectively, to ensure the shown fleet is reliable. As discussed above, the Commission could use a realistically expected portfolio to conduct the prospective run of the stochastic LOLE study targeting a 0.1 LOLE threshold. Depending on the selected

⁴ Calpine Opening Comments, p. 2 and MRP Opening Comments, p. 2.

⁵ CESA Opening Comments, pp. 5-6; REV Opening Comments, p. 2; Calpine Opening Comments, p. 2; IEP Opening Comments, p. 2; American Clean Power – California Opening Comments, p. 2; NRDC Opening Comments, p. 2.

framework, such values could be used to establish the PRM and ELCC values (and could also be incorporated in the current resource adequacy program). It could also identify any capacity shortfalls that should be addressed before showings are made if the realistically expected portfolio does not achieve a 0.1 LOLE threshold.⁶ After LSEs make resource adequacy showings, the Commission could then also conduct another LOLE study or similar analysis to validate that LSEs have not individually and/or collectively deviated significantly from expected showings.

C. The Commission Should Ensure a Single Annual Static PRM Based on a 0.1 LOLE Target

The CAISO agrees with party comments supporting or open to using a single annual static PRM.⁷ Importantly, this value should be the result of a stochastic LOLE analysis with a 0.1 LOLE target based on a portfolio that LSEs are reasonably expected to show for resource adequacy compliance. The current study does not meet these requirements, as the CAISO outlined in the sections above, but despite these deficiencies, the analysis is a positive first step that validates the PRM increase in the IRP and Emergency Reliability⁸ proceedings. The Commission should update the LOLE analysis to ensure it meets an annual 0.1 LOLE target before adopting the final methodology. The Commission should then use the updated analysis to set an updated PRM value as soon as practical.

Establishing the appropriate PRM is critical to maintaining a safe and reliable grid and reducing reliance on non-resource adequacy or contingency measures such as back-up diesel generators.⁹ Some parties have asked for a delay in addressing the LOLE analysis and its outputs until discussions in the resource adequacy proceeding Reform Track have matured.¹⁰ Such delay is unnecessary. Given the many issues still to be addressed in the Reform Track, it is uncertain whether resource adequacy reform can be

⁶ As discussed later, the CAISO recognizes that additional consideration is needed to conform the LOLE study and its outputs to the ultimate outcome of the Reform Track.

⁷ AReM Opening Comments, p. 8; CalAdvocates Opening Comments, p. 16; Calpine Opening Comments, p. 7; Middle River Power Opening Comments, p. A-3.

⁸ Order Instituting Rulemaking to Establish Policies, Processes, and Rules to Ensure Reliable Electric Service in California in the Event of an Extreme Weather Event in 2021, R. 20-11-003.

⁹ Calpine Opening Comments, pp. 1-2.

¹⁰ SCE Opening Comments, p. 7.

implemented for the 2024 compliance year. There is no justification to delay updating the PRM value because it can be used directly under today's resource adequacy program. The CAISO urges the Commission to prioritize this important work so an updated PRM value can be used as soon as practical under the current resource adequacy construct, rather than waiting for the resolution of the Reform Track. Furthermore, the core methodology can be applied in the IRP proceeding and other analyses without delay. The CAISO agrees that additional consideration is needed to conform the LOLE study and its outputs to the direction ultimately taken in the Reform Track.

D. The Commission Should Calculate ELCC Values Based on the Same Underlying Analysis Used to Calculate the PRM.

The Commission should derive ELCC values from the stochastic LOLE analysis used to calculate the PRM. The CAISO agrees with parties' comments that ELCC and PRM values are interdependent.¹¹ ELCC values reflect the reliability contribution of resources interacting within a specific portfolio to establish a specific PRM. ELCC and PRM values calculated from different portfolios or assumptions are incompatible.

Notwithstanding this recommendation, the CAISO does not support adopting the ELCC values from the current LOLE study to establish qualifying capacity values. The CAISO agrees with party comments that additional analyses are needed before adopting the ELCC values from the Energy Division Study.¹² In particular, the CAISO shares concerns over the lack of transparency and details provided about the modified Delta Method.¹³ For example: (1) the "modified Delta method" used inconsistent resource portfolios in the first-in and last-in marginal ELCC calculations; (2) the Energy Division Study did not provide proof that the average of the first-in and last-in marginal ELCC values is the average ELCC value of a specific technology; and (3) the diversity adjustment ratio is a single number in each month and is applied uniformly to all technologies.

¹¹ Middle River Power Opening Comments, pp. 4-5.

¹² SCE Opening Comments, p. 2; PG&E Opening Comments, p. 6; CalCCA Opening Comments, pp. 4-5; Calpine Opening Comments, p. 3; IEP Opening Comments, p. 5; REV Renewables LLC Opening Comments, p. 7; and Union of Concerned Scientists Opening Comments, p. 1 and p. 4.

¹³ Calpine Opening Comments, p. 3; IEP Opening Comments, p. 5; UCS Opening Comments, pp. 4-5.

As noted above, the CAISO urges the Commission to prioritize corrections and improvements to its current methodology so the LOLE study is rerun to provide updated ELCC values for the current resource adequacy program as soon as practical.

E. The Commission Should Respect Deliverability Requirements in its LOLE Study.

The CAISO agrees with parties' comments that deliverability requirements should not be removed from the LOLE study. The CAISO relies on deliverability analyses to maintain reliability.¹⁴ Several parties request coordination with the CAISO to assess additional deliverability hours or to "relax" the deliverability constraints.¹⁵ As CAISO explained in opening comments, assessing deliverability any time other than the peak will likely result in reduced resourced deliverability. It is unclear to the CAISO what "relaxing" the deliverability constraint means and how that would provide for a reliable assessment of the energy able to serve load under peak conditions. The Commission should not remove deliverability from its study or otherwise seek to relax the current requirements without further engagement with the CAISO on ramifications of such changes. For example, the rationale for removing or "relaxing" deliverability is based on a fundamentally flawed understanding of deliverability and mistaken belief there is "more" deliverability outside of the peak period. The fundamentals of deliverability do not change under a slice-of-day construct and therefore the Commission should not revisit this erroneous assumption in the Reform Track.

III. Conclusion

The CAISO appreciates the opportunity to comment on the Energy Division Study. The CAISO respectfully requests all comments and requests regarding the LCR

¹⁴ Calpine Opening Comments, p. 5; Middle River Power Opening Comments, p. A-2; PG&E Opening Comments, p. 5; SDG&E Opening Comments, p. 3.

¹⁵ Calpine Opening Comments, p. 5; ACP-California Opening Comments, p. 4; PG&E Opening Comments, p. 5; IEP Opening Comments, p. 4; CalCCA Opening Comments, p. 10.

criteria, methodology, assumptions, and results and reports to be directed to the CAISO in its LCR process.

Respectfully submitted

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