

**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 23-10-011

**TRACK 1 PROPOSALS OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

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Dated: January 19, 2024

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**I. Introduction**

Pursuant to the *Assigned Commissioner’s Scoping Memo and Ruling* (Ruling), issued on December 18, 2023, the California Independent System Operator Corporation (CAISO) hereby submits its Track 1 proposal to the California Public Utilities Commission (Commission).

**II. Discussion**

**A. The Commission Should Commit to Stress Testing the Planning Reserve Margin to Meet a 0.1 Loss of Load Expectation Across the Year.**

Before the Commission adopts the planning reserve margin (PRM) for a given resource adequacy (RA) year, the Commission should stress test the PRM to ensure it meets a 0.1 loss of load expectation (LOLE) across the year. A 0.1 LOLE reliability target is an industry-accepted measure of supply sufficiency and can help prevent capacity shortfalls. As such, stress testing is critical to confirm the PRM achieves a reliable RA portfolio.

Decision (D.) 22-06-050 adopted a single annual PRM construct for initial implementation of the Slice of Day framework.<sup>1</sup> In Slice of Day workshops in 2022, Energy Division and its consultant, Astrape, conducted stress tests of a single annual PRM based on the peak month of the year (September). Test results for this PRM approach showed that loss of

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<sup>1</sup> D.22-06-050, p. 131.

load risk surfaced across other months of the year and produced a 0.4 LOLE, much higher than the industry standard 0.1 LOLE target.<sup>2</sup> This outcome raised concerns for several parties. Throughout 2023, parties including the CAISO urged Energy Division to conduct PRM stress testing as part of the PRM calibration process to ensure a reliable PRM under the Slice of Day framework.<sup>3</sup> For the 2024 Slice of Day test year, Energy Division selected a single annual PRM based on the peak month of the year, taking largely the same approach from the 2022 Slice of Day workshops that resulted in a 0.4 LOLE.<sup>4</sup> However, Energy Division did not perform a stress test before adopting the test year PRM. Therefore, it is unknown whether the PRM selected (15.43%) meets a 0.1 LOLE and produces a reliable portfolio.

Before the Commission adopts the PRM for a given RA year, the Commission should stress test the PRM to meet a 0.1 LOLE on an annual basis. Including stress testing in the PRM calibration process will allow the Commission to determine whether the single annual PRM approach for Slice of Day is sufficient to achieve reliability targets. Specifically, Energy Division should test monthly portfolios that meet monthly load forecasts plus the PRM selected through the PRM translation process in SERVVM to determine whether the Slice of Day portfolio meets a 0.1 LOLE target.

The CAISO supports the general framework for PRM stress testing proposed by Calpine Corporation (Calpine) in informal comments on various Slice of Day implementation milestones and subsequent material updates<sup>5</sup>:

- 1) Start with a PRM derived from the CPUC's proposed translation approach for September or another month;
- 2) Identify monthly portfolios that meet the Slice of Day requirements implied by that PRM;

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<sup>2</sup> Energy Division, Slice of Day – Load Forecast Process Update and Loss of Load Studies Translation for RA Proceeding Update, October 6, 2022: [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/resource-adequacy-homepage/resource-adequacy-compliance-materials/resource-adequacy-history/10-6-2022-wrap-up/workshop-10\\_energy-division\\_221006.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/resource-adequacy-homepage/resource-adequacy-compliance-materials/resource-adequacy-history/10-6-2022-wrap-up/workshop-10_energy-division_221006.pdf).

<sup>3</sup> CAISO, Opening Comments on Proposed Decision, R.21-10-002, June 14, 2023, p. 6; Calpine. Slice of Day Implementation – Final Round of Informal Comments, December 23, 2023, p. 2; Additionally, parties discussed PRM testing processes in Energy Division's Slice of Day Planning Reserve Margin (PRM) Calibration Tool workshop on October 25, 2023.

<sup>4</sup> The 2024 test year uses a 15.43% PRM, based on the PRM translation process presented in an Energy Division workshop on October 25, 2023, and updated and corrected based on files served to the R.23-10-011 service list on November 17, 2023.

<sup>5</sup> Calpine, Slice of Day Implementation – Final Round of Informal Comments, December 23, 2023, p. 2.

- 3) Test that those 12 monthly portfolios in combination yield 1-in-10 LOLE on an annual basis in SERVVM;
- 4) If step 3 fails, repeat steps 2 and 3 with a higher PRM.

If stress testing reveals the PRM falls below a level that supports a 0.1 LOLE, the Commission should adjust the PRM to a level that meets the 0.1 LOLE reliability target. The CAISO recognizes, however, that if step 4 above requires a higher PRM in the peak load month, the Commission must consider whether there will be sufficient resources to meet a higher PRM (*i.e.*, whether a higher PRM in the peak load month exceeds the resources planned for by the Commission). Alternatively, if step 4 finds that a non-peak month requires a higher PRM, then the Commission might consider whether different PRMs may be necessary for different months. This approach with multiple PRMs across the year would require the Commission to revisit the single annual PRM construct adopted in D.22-06-050. The CAISO looks forward to discussing PRM stress test details (and how to resolve gaps in the PRM if stress testing finds the PRM selected is not sufficient to meet a 0.1 LOLE across the year) with Energy Division and parties in this proceeding.

### **III. Conclusion**

The CAISO appreciates the opportunity to submit this proposal and looks forward to collaborating with the Commission and parties to further develop the CAISO's proposal and enhance the resource adequacy program.

Respectfully submitted

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