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CALIFORNIA COMMUNITY CHOICE ASSOCIATION'S COMMENTS ON THE STAFF WORKSHOP ON SUMMER AND MIDTERM RELIABILITY
May 20, 2022

Docket 21-ESR-01
Energy System Reliability

I. INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

California Community Choice Association (CalCCA)[1] submits these comments on the *Staff Workshop on Summer and Midterm Reliability (*Workshop), conducted on May 20, 2022. CalCCA appreciates the informative presentations by California Energy Commission (Commission) staff and other parties regarding the summer stack analysis, the Tracking Energy Development (TED) task force, supply chain impacts on new projects, and interconnection issues. The Stack Analysis[2] presented by Commission staff provides useful data points regarding the ability of the expected resource fleet to meet load under specific "average" and "extreme" conditions. The usefulness of the Stack Analysis, however, is limited without an updated Planning Reserve Margin (PRM) to inform the level of reliability the stack is attempting to meet. For this reason, CalCCA urges the Commission and other state agencies to perform an updated loss-of-load expectation (LOLE) study as soon as possible and avoid informing procurement decisions on

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[1] California Community Choice Association represents the interests of 23 community choice electricity providers in California: Apple Valley Choice Energy, Central Coast Community Energy, Clean Energy Alliance, Clean Power Alliance, CleanPowerSF, Desert Community Energy, East Bay Community Energy, Lancaster Choice Energy, Marin Clean Energy, Orange County Power Authority, Peninsula Clean Energy, Pico Rivera Innovative Municipal Energy, Pioneer Community Energy, Pomona Choice Energy, Rancho Mirage Energy Authority, Redwood Coast Energy Authority, San Diego Community Power, San Jacinto Power, San José Clean Energy, Santa Barbara Clean Energy, Silicon Valley Clean Energy, Sonoma Clean Power, and Valley Clean Energy.

[2] https://efiling.energy.ca.gov/GetDocument.aspx?tn=243173&DocumentContentId=76874

the 22.5 percent PRM until the level of reliability met by this standard can be validated through the LOLE analysis and vetted with stakeholders. The level of PRM and amount of new contingency measures should be established in the context of the level of reliability each provides, and the costs associated with achieving that standard. With this in mind, CalCCA makes the following recommendations:

- Stack analyses inform a snapshot in time under specific scenarios, but should not be relied upon to set procurement targets;
- The Commission should base the "average" and "extreme" cases used in a stack analysis on an updated LOLE study to ensure the stack analysis targets the level of reliability planned for in the PRM;
- The Commission should provide further information regarding the magnitude of the contingency events' estimated impact on energy reliability; and
- The Commission should clarify assumptions used in the Stack Analysis.

II. COMMENTS

A. Stack Analyses Inform a Snapshot in Time Under Specific Scenarios, but Should not be Relied Upon to set Procurement Targets

The Stack Analysis presented by the Commission provides useful information about potential summer reliability risks under a specific set of load and resource conditions. However, this work cannot take the place of traditional reliability modeling used to set procurement targets. Stack analyses cannot account for uncertainty about supply, demand, weather, renewable generation, and the complexities of storage dispatch because stack analyses by their nature only provide a single-point estimate of capacity sufficiency. LOLE models capture the complexities of actual system operation and can model many different scenarios. This gives a much better picture of actual risk and provides more accurate metrics about the probability of a resource shortfall in any given hour, which is crucial information for decision-making. For these reasons, the Commission and other state agencies should reserve the use of stack analyses as information only to demonstrate potential reliability risks and focus efforts on LOLE analysis to determine the appropriate level of PRM to ensure the resource fleet can meet a defined reliability standard (*e.g.*, 1 event-in-10 years).

B. The Commission Should Base the "Average" and "Extreme" Cases Used in a Stack Analysis on an Updated LOLE Study to Ensure the Stack Analysis Targets the Level of Reliability Planned for in the PRM

Without up-to-date LOLE modeling, it is not clear the target level of reliability the resource stack is measured against in the "average" or "extreme" cases. The 15 percent PRM was originally set by the California Public Utilities Commission (CPUC) in Decision (D.) 04-01-050 and has not been revised since then.[3] Since D.04-01-050 was adopted in 2004, the load and resource mix has changed significantly, and it is not clear that 15 percent is still the appropriate metric to use. In the Proposed Decision[4] in the Resource Adequacy (RA) proceeding, the CPUC proposed to increase the PRM to 16 percent in 2023, and 17 percent in 2024. The Proposed Decision, however, notes that additional work is needed in the Integrated Resource Plan (IRP) proceeding to base the PRM on LOLE modeling. Within the CPUC IRP proceeding, the resulting LOLEs were significantly lower than a 1-in-10 reliability standard when the 22.5 percent PRM was used in the Preferred System Plan.[5] Before addressing gaps between the resource stack and the 22.5 percent PRM through additional procurement orders, the Commission and other state agencies must first determine the targeted level of reliability the state should plan for (*e.g.*, 1-in-10 or something else).

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3 CPUC D.04-01-050: https://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/33625.PDF

4 See CPUC Proposed Decision Adopting Local Capacity Obligations For 2023 - 2025, Flexible Capacity Obligations For 2023, And Reform Track Framework, R.21-10-002 (May 20, 2022), at 20-22: https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M478/K084/478084163.PDF

5 CPUC D.22-02-044: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M451/K412/451412947.PDF

C. The Commission Should Provide Further Information Regarding the Magnitude of the Contingency Events' Estimated Impact on Energy Reliability

In the Reliability Workshop Overview presentation, Energy Assessments Division staff provided an estimate of resources available to respond to contingency events that fall outside of traditional planning targets.[6] These events include a lag in the incorporation of updated demand forecasts and policy goals in the traditional planning metrics, extreme weather and fire risks, and project delays. The presentation indicates there is a risk of needing roughly 7,000 megawatts (MW) and 10,000 MW should these contingency events happen simultaneously, while the contingency measures available equate to only roughly 2,000 MW. The presentation and discussion in the workshop frame these events as partially or fully beyond what is captured in traditional 1-in-10 planning standards.

Traditional planning standards that should be used to derive the PRM, such as the 1-in-10 planning standard, represent the state's risk tolerance to electricity outages (*e.g.*, 1 outage in 10 years). This target should be chosen balancing both reliability and affordability objectives, as increasing the PRM lowers reliability risk but also increases procurement costs that are ultimately borne by ratepayers. This same balance should be considered when evaluating contingency events and mitigating measures. Further discussion is required to establish a methodical approach for planning for contingencies beyond the 1-in-10 planning standard that balances both reliability and affordability. To advance this discussion, more information is needed to determine the full magnitude of potential contingency events, including the following:

- **How does the Commission estimate extreme weather and fire risks not captured in a 1-in-10?**

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6 https://efiling.energy.ca.gov/GetDocument.aspx?tn=243171&DocumentContentId=76872

Slide 8 of the Reliability Workshop Overview presentation indicates that there could be 4,000 to 5,000 MW impact of extreme weather and fire risk to energy assets not completely captured in 1-in-10 planning efforts. The Commission should clarify how this range was derived. Specifically, how did the Commission determine what portion of risks to energy assets from extreme weather and wildfire is captured in the 1-in-10 planning standard and what portion is not? It appears the contingency numbers provided in the presentation could align with the loss of the California-Oregon Intertie (COI), a source of reliability challenges in 2021, but a number of combinations of transmission outages could also occur that fit within this range. Planning for contingencies requires an understanding of the assumptions around what is currently covered by traditional planning standards to assess the level of reliability risk that exists without taking contingency measures and the level of reliability risk that can be achieved by taking contingency measures.

- **How is the magnitude of project delays estimated (e.g., compared to the total resource stack or compared to procurement orders?)**

The Reliability Workshop Overview describes "Project Development Delay Scenarios" that impact energy reliability, ranging from 600 MW in 2022 to a range of 1,600-3,800 MW in 2025.[7] However, it is unclear how these numbers were derived and what their exact significance is. The Commission should therefore clarify the following items: First, whether these numbers are nameplate values or instead an estimated contribution to available capacity at system peak (*i.e.*, Net Qualifying Capacity). Second, the methodology for deriving these values: The Commission should confirm if they were calculated by summing up MW that would "miss" a certain online date, or another method. For example, the 600 MW in 2022 could have been calculated by first

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7 https://efiling.energy.ca.gov/GetDocument.aspx?tn=243171&DocumentContentId=76872, at 8.

taking the set of MW that was originally scheduled to be online by July 1st, and then subtracting the MW that are supposed to be online by July 1st given new "delayed" commercial operating dates (per CPUC data). Third, if the delays are relative to total procured MW or relative to the amount of procurement ordered by the CPUC in the 2019 Procurement Order and the June 2021 Midterm Reliability order. Fourth, the reason for the large range of 1,600–3,800 MW in 2025, rather than a point estimate.

D. The Commission Should Clarify the Following Assumptions Used in the Stack Analysis:

- **The unplanned outage and demand variability assumptions in the extreme case**

The Summer Stack Analysis presentation indicates the purpose of the stack analysis is to assess average and extreme conditions and inform the need for contingency measures.[8] For the average case, the Commission assumed six percent operating reserves, five percent unplanned outages, and four percent demand variability. This is generally consistent with the current PRM, which assumes six percent operating reserves and some level of unplanned outages and demand variability to total fifteen percent. For the extreme case, the Commission assumed six percent operating reserves, 7.5 percent unplanned outages, and nine percent demand variability. The Commission should clarify how it determined its assumptions around unplanned outages and demand variability. For example, for unplanned outages, did the Commission use forced outage data from the CAISO during the months of study or some other metric? For demand variability, the nine percent demand variability assumption equates to 50.5 GW of demand, which would set a new CAISO peak load record.[9] This is a much more conservative assumption than what is used

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8 https://efiling.energy.ca.gov/GetDocument.aspx?tn=243173&DocumentContentId=76874, at 2.

9 https://www.caiso.com/documents/californiaisopeakloadhistory.pdf

in the average case, and therefore should be carefully considered before taking contingency measures to plan for this condition.

- **The 4-hour battery discharge assumption**

The stack analysis includes battery resources with a 4-hour discharge limitation, but it is not clear how their discharge is incorporated into the stack analysis, which analyzes the hours from 4 PM to 10 PM. For example, most batteries that CCAs are procuring have a duration of four hours or less,[10] and batteries are required to have 4-hour duration to qualify as RA. This does not cover the full six hours (4 PM – 10 PM) of the analysis—meaning the batteries could be depleted at critical hours. Therefore, the Commission should clarify its assumptions for how much and when the batteries are discharging. The Commission could use data from the CAISO[11] to validate their assumptions (though they should supplement these data with an assumption for non-CAISO entities, as CAISO does not cover the whole state).

- **The Commission should clarify how non-CAISO LSE data is incorporated into the analysis**

Presumably, the scope of the stack analysis is California-wide. However, the supply stack appears to be derived solely from CPUC-jurisdictional LSEs.[12] The Commission should clarify how non-CPUC jurisdictional entities' (such as publicly owned utilities') supply-side resources are factored into the analysis.

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[10] Based on an analysis of publicly available CCA Power Purchase Agreements, located at: https://cal-cca.org/wp-content/uploads/2021/11/CCA-Clean-Energy-PPAs-November-2021-2.pdf

[11] https://www.caiso.com/todaysoutlook/Pages/supply.html#section-batteries-trend

[12] https://efiling.energy.ca.gov/GetDocument.aspx?tn=243173&DocumentContentId=76874, at 10: "New resources for 2022-2023 based on procurement status forms filed with and compiled by CPUC staff. Resources for 2024-2026 based on procurement orders from 2019 and 2021 using Preferred System Plan ratios."

The Commission should publish underlying hourly data to the charts[13] included in the stack analysis, including total generation by resource type (solar, wind, battery, etc.) and hourly loads. This is similar to the data published in the last stack analysis,[14] but broken out all resource types, batteries, etc.

III. CONCLUSION

CalCCA appreciates the opportunity to comment on the workshop and looks forward to further collaboration with the Commission and stakeholders to inform future summer reliability assessments.

Date: May 27, 2022

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13 *Id.* at 14-21.
14 https://efiling.energy.ca.gov/GetDocument.aspx?tn=241146&DocumentContentId=74991