



## Comments on Preliminary Portfolio Analysis

Initiative: Resource adequacy enhancements

### Comment period

Nov 12, 2020, 08:00 am - Nov 25, 2020, 05:00 pm

### Submitting organizations

- California Community Choice Association (CalCCA)

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Submitted on behalf of  
CalCCA

### Contact

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### 1. Provide a summary of your organization's comments on the preliminary portfolio analysis:

CalCCA appreciates the CAISO's efforts in setting up, performing and sharing the results of the RA Enhancements Preliminary Portfolio Analysis (Portfolio Analysis). It is obvious that a lot of effort and thought was put into this work. We offer below some observations and questions related to the Portfolio Analysis.

### 2. Provide your organization's feedback on the Overview of the CAISO's Production Simulation Model topic as described in section 4:

CalCCA continues to support the use of a modified version of the production simulation model CAISO uses for the Summer Assessment for the portfolio assessment. CalCCA believes, however, that there is considerable value in modeling only the shown RA resources in all hours (i.e., peak and off-peak), as well as a scenario that includes all WECC resources, in and outside of California. The purpose of the portfolio assessment is to identify instances in which the shown RA resources would not be able meet the performance metric, which cannot be ascertained if non-RA resources are included in the assessment. At the same time, it is critical to understand the impact of including all WECC resources, which have every incentive to offer their available energy and capacity into the CAISO markets due to regional and diurnal diversity. The performance of the entire WECC portfolio thus should be considered when determining the appropriate service level reliability target in this stakeholder process, and understanding both scenarios is critical to understanding the risks of not meeting the performance target solely with the RA Portfolio. CalCCA also believes including the Thermal Portfolio provides a useful benchmark for comparison.

**3. Provide your organization’s feedback on the defining “deficiency” topic as described in section 4.1:**

CalCCA supports the use of a metric to identify resource deficiencies that would have triggered a Stage Two Emergency but suggests CAISO refrain from characterizing this as a loss of load expectation as these are not equivalent concepts. Nevertheless, it seems reasonable to identify instances in which the model shows there would be inadequate capacity to meet load plus non-spinning reserves plus spinning reserves plus regulation, since CAISO would need to obtain emergency supply in these circumstances. As CAISO has noted, the service level reliability criteria to apply and the cost tradeoffs are critical elements that need further investigation in coordination with local regulatory authorities, since these entities are responsible for making the cost/benefit determination in consultation with CAISO as the Balancing Authority.

**4. Provide your organization’s feedback on the iterations and output topic as described in section 4.2:**

CalCCA understands that the Portfolio Assessment modeled performance of the July 2020 shown RA fleet using stochastic production simulation with 2,000 month-long iterations to compute the probability of a portfolio deficiency with hourly, daily and monthly granularity. The hourly level data can be used to assess the hours in which CAISO is most likely to need additional capacity and the duration of the deficiencies. The daily level results show the probability of a deficiency within a day and identifies the magnitude of the largest daily deficiency. CalCCA understands that the more granular data increases the robustness of the simulation results.

**5. Provide your organization’s feedback on the model details topic as described in section 4.3 and all relevant subsections:**

Section 4.3.1 CAISO System: CalCCA supports the use of a WECC-wide model to capture regional interactions that have a critical impact on CAISO’s access to external resources. While CAISO does not have access to the same level of detailed information about the non-CAISO loads and resources, the regional model data is readily available to CAISO and already is used extensively by CAISO in the transmission planning process and as part of its operational planning. CalCCA suggests net imports be limited to the amount of Shown RA resources during both peak and off-peak hours for at least one of the scenarios. If imports are thus limited, CAISO may be able to consider running a California-only model for the Shown RA portfolio analysis, since the remaining WECC resources will not be relevant to the analysis. This reduction in the model should significantly reduce model run-time and thus allow for potentially more complex modeling assumptions, such as the correlation between loads and intermittent resource availability. CalCCA supports focusing on system level requirements and continuing to separately use the specialized assessment performed for local capacity requirements. We note, however, that in many local capacity areas/sub-areas, CAISO needs all or nearly all available local resources and these resources might not be included on RA showings. If CAISO ultimately is likely to have access to these resources (e.g., via backstop procurement), the impact of these resources ultimately being procured needs to be factored in to avoid over procurement of system resources. That is, parties should not be encouraged to cure system resource adequacy deficiencies that would then be rendered moot by CAISO’s backstop procurement of needed local capacity resources.

Section 4.3.2 Load Inputs: CAISO has developed 175 hourly load profiles based on historical weather data. The distribution of loads depicted in Figure 1 for the July production simulation appear to be a reasonable representation of the distribution of potential load outcomes. CalCCA expects that if CAISO applies a similar approach to developing the load distributions for other months, it

likewise will result in reasonable representations of the range of potential outcomes to include in future simulations.

Section 4.3.3 Resource Inputs: CalCCA understands that CAISO has included historical production profiles for wind and solar resources in the RA Scenario, rather than using the ELCC MW for these resources. We agree that this is an appropriate approach for evaluating the impact of these Shown RA resources. Applying the ELCC MW would understate their expected impact during some hours and overstate their impact during other hours, greatly reducing the meaningfulness of the analysis. For the Thermal Scenario, CAISO has replaced the wind and solar resources with a representative mix of thermal resources, grossed up for the 15% planning reserve margin. CalCCA suggests that a more appropriate approach would be to replace the shown wind and solar ELCC MW with the thermal resources on a MW-for-ELCC MW basis. Had the wind and solar resources not been available to be shown, parties could have met their RA obligation by providing an equivalent MW amount of thermal resources without having to account for the actual production profile of the solar/wind resources and without having to account for the planning reserve margin beyond the amount already incorporated into the RA requirement.

In addition to the RA and Thermal Scenarios, CalCCA suggests CAISO should include two additional scenarios. The first would attempt to model the anticipated impact of the RA Enhancements UCAP proposal by grossing up the amount of conventional resources to address the expected increase in the RA requirement to account for the UCAP outages. We understand that this would be a hypothetical scenario and might also need to consider an adjustment to the overall obligation related to the potential decrease in the PRM from 15% to 10% associated with implementation of UCAP. We believe, however, that it would be a useful scenario for parties to consider informing the discussions related to development of the service level reliability criteria. The second scenario would be one in which all WECC-wide loads and resources would be modeled, whether or not they were included in RA showings. This scenario would be similar to the approach taken for the summer assessment to aid in identifying the potential risks related to the Shown RA deficiencies identified in the other scenarios.

CalCCA understands CAISO intends to model Hydro resources using similar water year production. This appears to be a reasonable approach, but if CAISO were to perform the portfolio modeling following the annual showings (rather than just for monthly showings), additional hydro uncertainty might need to be introduced into the modeling.

## **6. Provide your organization's feedback on the results topic as described in section 5:**

CalCCA appreciates the CAISO's presentation of the results for the RA Scenario and the Thermal Scenario, which illustrate how the performance of the different RA fleets differ throughout the day (and, presumably, would differ throughout the year). These type of results (supplemented with additional analysis of portfolio performance in other months) help provide guidance for future procurement to help address the identified deficiencies. For example, the finding that over 90% of the days with deficiencies in both scenarios had deficiencies less than four hours duration suggests that four-hour storage resources could be useful for mitigating a large portion of the deficiencies.

The results suggest that the additional output of the modeled solar and wind resources above their ELCC contribute to reduced chances of RA deficiencies during some intervals, while the converse is true during other intervals. As noted in response to question 5, modeling a UCAP scenario in which the amount of shown RA resources is increased to align with the increased UCAP RA requirements is likely to show there will be reduced levels of deficiencies once UCAP is implemented as part of the RA Enhancements. CalCCA believes that it is important for CAISO to include such a UCAP scenario in future analyses so parties can evaluate portfolio performance that incorporates this key

element of the RA Enhancements proposal.

**7. Provide your organization's feedback on the interim needs topic as described in section 6:**

CalCCA appreciates that the CAISO agrees that a net-load peak RA requirement is essential, as proposed by SCE and CalCCA in Track 3b of the CPUC RA proceeding. Our expectation is that with the SCE/CalCCA approach, the gross load peak requirement will no longer be needed. Additional portfolio modeling that includes representative RA portfolios that would meet such a net-load requirement would be useful to ascertain whether it is likely to be necessary to maintain a gross load peak requirement. However, CalCCA is concerned that CAISO's proposal to develop an interim net-load peak RA requirement for the 2022 RA year lacks specificity and a proposed means of implementation and will divert resources from finalizing the RA Enhancements needed for the 2023 RA year implementation. Under such a short timeframe, the proposal is also not likely to have a meaningful impact on the amount of new RA resources that can be procured by the 2022 RA year. LSEs need an appropriate amount of lead-time to comply with such a requirement, which should be developed in concert with the CPUC.

**8. Provide your organization's feedback on the proposed foundational framework as described in section 7:**

CalCCA appreciates CAISO's discussion of the granularity of the RA program as a necessary component for determining the appropriate reliability standard and agrees that California's monthly RA construct introduces complexities in the application of that standard. Further, the monthly compliance construct leaves very little time for deficiencies to be addressed if identified in a month-ahead assessment. An annual standard could provide greater efficiency in RA procurement and a longer runway for addressing potential shortfalls. Finally, as noted in CAISO's report, even under a monthly construct an annual standard is required to ensure all months are bound by a single guiding reliability standard. While CalCCA supports further exploration of the relative advantages of an annual standard, the RA period chosen must ultimately be consistent between the CPUC and CAISO.

**9. Additional comments on the preliminary portfolio analysis:**