



## Stakeholder Comments Template

### Resource Adequacy Enhancements

This template has been created for submission of stakeholder comments on the Resource Adequacy Enhancements third revised straw proposal that was published on December 20, 2019. The proposal, stakeholder meeting presentation, and other information related to this initiative may be found on the initiative webpage at: <http://www.caiso.com/StakeholderProcesses/Resource-Adequacy-Enhancements>

Upon completion of this template, please submit it to [initiativecomments@caiso.com](mailto:initiativecomments@caiso.com). Submissions are requested by close of business on **January 27, 2020**.

Submitted by	Organization	Date Submitted
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Energy Division Staff (hereafter, “ED Staff” or “Staff”) continues to appreciate the CAISO’s efforts to coordinate its RA enhancements initiative with the CPUC’s RA program (and other local regulatory authorities). Particularly, Staff appreciates the CAISO pushing its schedule back to align more realistically with the CPUC’s processes.

The stakeholder engagement plan schedule published in the Revised Straw Proposal reflects Board approval in Q1 of 2021. ED Staff would like CAISO to clarify how it envisions coordination of the implementation of its enhancements with a CPUC decision-making process that would consider / endeavor to align with these enhancements to prevent Load Serving Entities in California from facing two different reliability compliance requirements. Staff continues to stress that is critical that the CAISO and CPUC RA requirements remain aligned. The consequences of having two separate reliability programs would be extremely confusing to market participants and costly to ratepayers.

On January 22, 2020, the CPUC issued a Scoping Memo ruling in its new RA proceeding (R.19-11-009) that describes issues that will be addressed in the proceeding, including qualifying capacity methodologies, import rules and more complex structural changes to the RA program. The Scoping Memo divides the proceeding into four tracks. Staff acknowledges that the CAISO’s RA enhancements initiative may span across multiple tracks of the RA proceeding and encourages the CAISO to work closely with the CPUC in each of these tracks to ensure that the RA framework and accounting rules are aligned.

#### 1. System Resource Adequacy/UCAP Framework

In general, Staff sees the value of moving to a UCAP framework, however, the effects of doing so need to be clearly known and evaluated against the status quo. Staff has three primary concerns with the UCAP proposal, in addition to several requests for further analysis.

### **Existing contracts that are based on current RA value metrics need to be addressed**

First, Staff is concerned that the framework fails to address the potential impacts on existing contracts for which, payments may be based on current RA value metrics. This will potentially increase costs to ratepayers without providing any incentive for generators to maintain their facilities.

Since the goal of moving to a UCAP framework is to provide an effective incentive for generators to maintain their facilities so they have fewer forced outages, then a transitional or grandfathering provision is needed to account for existing contracts that do not provide for this incentive to be passed on to the generator. Staff requests the CAISO consider this transition component in any final proposal since ignoring it will result in additional costs to ratepayers without any maintenance incentive being borne by generators.

### **Changes made to the reliability criteria need to be coordinated (and lead) in the CPUC's long term procurement planning process in order to ensure that sufficient supply is available to meet UCAP requirements**

Second, Staff is concerned that changes to reliability criteria, such as planning reserve margin and forced outage rates need to be aligned with the CPUC's IRP proceeding before being adopted to meet short-term RA requirements. In its most recent proposal, CAISO states:

CAISO believes that the UCAP requirement should be set at a minimum of 110 percent of forecasted peak. This number accounts for forecast load, reserves, and forecast error. The value used for the forecast error is derived from comparing the low, mid, and high load forecasts from the CEC's 2018 final Integrated Energy Policy Report (IEPR). The IEPR mid-load forecast was approximately between one to three percent higher than the low-load forecast. The high-load forecast was between four and seven percent higher. To account for forecast error, the planning reserve margin likely would need an additional two to six percentage points. The CAISO has selected four percent as a reasonable starting point.<sup>1</sup>

CAISO is proposing to increase the planning reserve margin (PRM) for the short-term RA planning process. However, this could be inconsistent with the CA agencies' agreement to use a 1-in-2 planning standard for system RA. In addition, increasing the reliability standard in the short-term planning process before providing the long-term planning process time to prepare for it will only serve to exacerbate the tight supply conditions recognized in the recent IRP near term procurement decision (D.19-11-016), . It is critical that the long-term planning process standards align with (and lead) the short term process so that sufficient levels of supply are available to meet our short-term reliability needs.

Staff proposes that if CAISO seeks to increase the planning reserve margin to include load forecast uncertainty that it raise these requests to the IRP process, as well as the RA proceeding. Currently, the IRP expansion model "Resolve" assumes a 1-in-2 weather year and a 15% planning reserve margin when it calculates the Reference System Plan (RSP). SERVVM then validates the reliability of the RSP through a Loss of Load Expectancy (LOLE) study. The LOLE studies are calculated based on the expected value across a range of weather years. They also

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<sup>1</sup> CAISO Third Revised Straw Proposal at 15

use a 1-in-2 peak load forecast and a 0.1 LOLE (one day in ten years) reliability criteria. Any changes made to the PRM need to be coordinated (and lead) in the CPUC's long term procurement planning process in order to first ensure that sufficient supply is available to meet (CAISO and CPUC) RA requirements.

### **Adding a load forecast error to the UCAP PRM is not appropriate**

Third, Staff does not support the CAISO adding four percent to the UCAP planning reserve margin (PRM) to account for load forecast error. CAISO has not provided sufficient evidence that this increase to the reliability criteria is warranted. Additionally, Staff believes that load forecast uncertainty may already be included in operating reserves and the weather normalization process that accounts for the prior five years of historical data. Further, Staff does not believe that the PRM is the appropriate instrument to account for load forecast error. Staff believes that load forecast uncertainty due to weather uncertainty should be addressed in the reference weather year forecast used to determine System RA requirement (i.e. 1-in-2, 1-in-5, 1-in-10), rather than incorporated into the PRM.

### **More Data Analysis is Necessary to Fully Vet the UCAP Framework**

In addition to these primary concerns, Staff also believes more analysis of outage rates is needed. Staff requests CAISO clarify what data (e.g., GADs, OMS) it is using to produce the outage rates provided in its proposal. Staff requests clarification on the data set being used to calculate the forced outage rates, because this data set should also align with the proposed solution. That is, if we are attempting to address issues raised based on OMS forced outage rates but are using GADs data to address the problem, then this will quite likely result in an inaccurate assessment.

Staff also requests additional granularity in the forced outage data provided. Specifically, Staff requests forced outage rates reported by resource technologies, vintage of the resource, and the nature of work category (e.g., ambient derate). Staff also requests information regarding which facilities on forced outage were previously scheduled for a planned outage. This level of detail will help parties to understand any key drivers and potential trends that may be useful in designing an effective UCAP framework. It will also be helpful to compare these statistics with the outage rates being used by SERVVM in the LOLE studies used in the CPUC's IRP Proceeding.

### **Unforced Capacity Evaluations**

CAISO proposes to calculate UCAP values for all resource types that do not rely on the CPUC's effective load carrying capability methodology for determining Qualifying Capacity (QC) value. Staff notes that resources whose QC values are based on CPUC's exceedance methodology should also be exempt from this UCAP calculation, since it would double penalize resources for forced outages already included in the exceedance methodology.

The QC methodology for non-dispatchable resources is based on historical production/generation data. When the production is zero, due to a forced or planned outage, that value that gets averaged in to the QC value. Therefore, the QC value for non-dispatchable resources should also be exempt from a forced outage derate.

Staff also notes that QC values for dispatchable resources may also already include certain derates (that the generator has asked for) embedded in the QC value. For example, a generator with a pmax value of 50 MW may ask to be given an QC value of 45 MW to account for foreseen ambient derates. Staff is concerned that these derates may also be recorded as outages that will

lower the facilities RA value further. Therefore, Staff requests that CAISO further examine this issue before finalizing its proposal.

With regards to Demand Response (DR) resources, CAISO proposes that if the QC methodology is not based on ELCC, then the DR QC value should be derated based on historical performance. Staff notes that the QC value for all DR resources (except for the resources procured in the Demand Response Auction Mechanism (DRAM) till 2023) is currently based on the Load Impact Protocols (LIPs) which use a resource's past performance (ex-post) results for to calculate its Qualifying Capacity (Ex-ante) values.

As a result, by applying a UCAP methodology or derating DR resources based on historical performance CAISO would be potentially double de-rating DR resources. Staff requests that CAISO further explain how the proposed UCAP methodology or use of historical performance data would not double derate these resources.

### **Forced outage and derate data should align with data used in the LOLE studies used in the IRP**

In its recent proposal, CAISO state that it:

[P]roposes to rely on GADS data as a transitional approach to establish initial UCAP values. The CAISO proposes requiring all resources to submit five years of GADS data to the CAISO, or as many years of data as the resource has available in GADS. The CAISO would then use these values to generate resource specific UCAP values. Finally, the CAISO proposes to reconfigure its OMS system or to develop an alternative system to accurately track resource's forced outages and derates to generate resource specific UCAP values once the process has been established using the available GADS data to begin the initial UCAP implementation process. This would require the CAISO to make changes to the OMS system and nature of work outage cards.

Staff does not oppose this approach to outage accounting; however, it is critical that the same approach be taken in the IRP's LOLE studies. Currently SERVM uses historical GADs data. Staff requests that CAISO compare what is being used in the LOLE studies that determine system reliability with what is being proposed to be used for short term planning needs.

### ***CAISO should provide stakeholders with a mockup of 2020 UCAP RA requirements and the impacts that its proposed forced outage derates would have on the current NQC list, as requested in prior comments***

For transparency and planning purposes, CAISO should provide stakeholders with a mockup and comparison of the 2020 requirements under a UCAP framework versus the current construct. This will allow parties to understand the expected changes to RA procurement requirements and estimated costs to customers. Specifically, Staff requests that CAISO include a draft UCAP resource list for 2020 and aggregated UCAP RA requirements. This dataset could be produced using forced outage derate percentages by resource technology and then applying those to the current NQC list. This type of comparison will help stakeholders understand the potential costs of additional procurement compared to the potential avoided costs of RAIM.

## **2. Flexible Resource Adequacy**

Staff is generally supportive of changes that would simplify an over complex framework that may be providing very little added value to the grid. Although Staff is supportive of simplicity (moving from three buckets to one) and allowing imports to count, Staff requests further analysis before taking a position on the proposed flexible framework. Staff would like the CAISO to provide a mock-up of how the proposed changes would change the current flexible capacity structure. Specifically, Staff requests that the next iteration of the flexible capacity proposal include a calculation of what the flexible capacity requirement would have been for 2020 had the CAISO employed this new flexible requirement calculation. Additionally, CAISO should provide a mockup of the 2020 EFC list. This will allow parties to see both the eligible capacity in relation to the forecasted requirements.

In addition, Staff has three main concerns with the current proposal. First, CPUC Staff continues to have concerns with the load shapes being used to develop the flex requirements in the flexible capacity study. As noted in its comments to the 2020 Flexible capacity study:

CPUC Staff continue to have questions about whether it is appropriate to use renewables profiles that do not match the load shapes of the days when they occurred since all three are correlated with weather. It appears possible that pairing solar output from hot, sunny days with the very low load days that drive the maximum net load ramps could exaggerate the maximum net load ramps seen in CAISO's study. Staff will continue to investigate this, as well as alternate methods for deriving load shapes, and look forward to collaborating with CAISO on improvements to the flexible capacity study methodology in order to achieve our mutual goals of saving ratepayer monies and supporting the reliability of the grid.<sup>2</sup>

Second, Staff is concerned with the potential for double compensation for flexible resources— including revenue from the imbalance reserve market as well as through a flexible capacity payment. Staff request the CAISO explain how the concern of double payment is being addressed in its proposed flexible capacity framework.

Finally, Staff has overall concerns with speculative supply as it relates to unspecified import capacity. As discussed in the import section below, Staff is concerned that the CAISO's current Import proposal will not address the speculative supply and double counting issue. This will result in speculative supply/double counting issues flowing into the flexible RA requirement realm. The CPUC's current RA proceeding will be addressing import RA rules in Track 1 as identified in the recent January 22, 2020 Scoping Memo. To ensure alignment, the outcome of a Track 1 decision should be incorporated into the flexible capacity thinking/proposal for import resources.

### **3. Local Resource Adequacy**

Staff takes no position at this time.

### **4. Backstop Capacity Procurement Provisions**

**Changes to the RA framework need to be made in coordination with CAISO Portfolio Sufficiency Test**

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<sup>2</sup> CPUC Staff Comment on CAISOs 2020 Flexible Capacity Study May 20219  
<http://www.caiso.com/Documents/CPUCStaffComments-2020DraftFlexibleCapacityNeedsAssessment.pdf>

Staff conditionally supports a collective portfolio sufficiency test that will inform backstop procurement, provided there is a comparable change to the RA framework that will identify the energy needs that CAISO will be backstopping to. Having a procurement requirement in place that signals the right portfolio of resource upfront, will result in more effective efficient procurement that will minimize total system costs.

Once a use-limited RA framework (updates to the MCC buckets or energy requirements) is designed, Staff would be open to CAISO allocating backstop costs to the deficient LSEs prior to the collective LSEs, as is currently being proposed. This would provide LSEs an additional incentive to procure the right resources.

Staff notes that the recent January 22, 2020 RA Scoping Memo identified modifications to the MCC buckets within the scope of Track 2. Staff looks forward to working with CAISO to refine the existing MCC Bucket structure in Track 2 so that it reflects the operational energy needs defined in CAISO's portfolio sufficiency test.

Staff raises one issue, however, and that is whether the portfolio sufficiency test will be based on historical bidding or historical availability. For example, an import resource might be available and bidding all hours of the year, but if bids at the cap and provides no energy, how should it count in the portfolio sufficiency test?

### **The proposed RA incentive tool undermines and is duplicative of the CPUC's RA compliance program**

CAISO is proposing an incentive tool that is not coordinated with the CPUC's RA compliance program and would undermine/duplicate the CPUC's jurisdictional authority to enforce the RA program. Staff requests CAISO clarify in its next proposal how the CPUC's RA compliance program would work in coordination with this tool and in coordination with its current CPM mechanism.

Below Staff reiterates what it has said in prior comments on the proposed tool.

CAISO also proposes to develop a new individual RA showing incentive tool, which is intended to provide an incentive for LSEs to show above their UCAP obligations. This tool would penalize LSEs that show less than their UCAP requirement and then distribute those penalties to LSEs that show above their UCAP requirements. Staff is not supportive of this tool for several reasons. First, it oversteps/duplicates the RA requirement enforcement jurisdiction of the CPUC. And secondly, it is duplicative of the CAISO's monthly CPM Competitive Solicitation Process.

In particular, Staff is concerned that CAISO's proposal potentially penalizes LSEs for non-compliance and that this is duplicative of the penalties that the CPUC assesses as part of its enforcement responsibilities under Section 380 of the Public Utilities Code, which states:

The commission shall implement and enforce the resource adequacy requirements established in accordance to this section in a non-discriminatory manner. ... The commission shall exercise its enforcement powers to ensure compliance by all load-serving entities.<sup>3</sup>

## **5. Additional Comments**

### **Imports**

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<sup>3</sup> §PUC 380 (e)

CAISO states “With the potential extension of the day-ahead market to EIM entities, the CAISO believes that, at minimum, RA import resources must specify the source BA. The proposed modification would allow the CAISO to ensure that RA imports are not double counted for EIM entities’ resource sufficiency tests.” However, Staff does not see how this added requirement will mitigate speculative supply and double counting. In order to ensure that the resource is not over committed one have to know the native BA’s load requirements and firm forward commitments.

Staff proposes that for non-specified resources that are not dynamically scheduled, CAISO require that the import have a firm energy contract. Staff would like to explore what type of energy contract would be necessary to ensure that the import is not recallable to the native Balancing Area (BA) and can be relied on to meet California’s reliability needs.

A workshop on imports will be held at the CPUC as part of the Track 1 RA Proceeding schedule on February 14, 2021. Staff encourages CAISO to work with parties in that process to ensure that future changes to RA import rules are aligned at the CPUC and the CAISO. Staff looks forward to working with CAISO and other parties to minimize speculative supply and double counting issues as they relate to imports.

### Operationalizing Energy Storage

#### Scope

CPUC requests that CAISO move this item to the ESDER 4 initiative. Staff believes that inserting this proposal into the RA enhancements initiative is not appropriate. CAISO has an ongoing initiative to develop the rules for storage market participation. Such rules should not be developed or introduced in other forums where relevant stakeholders may not be present or engaged and able to contribute.

CAISO first included a section on operationalizing energy storage in their RA enhancements second revised straw proposal published on October 3, 2019. Since then, they have held two meetings in the ESDER 4 initiative without mentioning this set of proposals for significant modification to participation for energy storage. By including this proposal in the RA enhancements initiative, CAISO risks losing feedback from storage market participants that do not have the time or staff to follow all of their initiatives. As such, CPUC requests that discussion of this be removed from RA enhancements and that this issue be introduced and discussed in the ESDER 4 initiative.

#### Proposal

CAISO’s proposal seems to be an attempt to compensate for the real time market’s inability to effectively schedule energy storage resources. However, it is one that may severely limit the opportunities to energy storage resources and limit their usefulness to the system as a whole. Staff agree with CAISO that the shortcomings of the real time market need to be considered and addressed, but we do not support this method of doing so.

CAISO’s real time market does not consider a long enough time period to optimize the charging and discharging of energy storage resources in a typical day. In particular, it cannot simultaneously consider the high and low points of net load in a typical day. The current proposal seeks to work around this limitation by assuming that the day ahead market had chosen the optimal times for discharge of the energy storage and then constraining the activities in the real time market to ensure the resource is capable of meeting the day ahead discharge profile. One

implication of this constraint is that if the day-ahead market schedules a resource to discharge starting at hour end (HE) 20, and then in real time the grid needs the resource at HE 19, the resource will not be able to discharge optimally in HE 19 because the state of charge will be maintained to be able to meet the day ahead schedule in HE 20. It is possible that in such a situation the resource could end up not being needed in HE 20 and not discharging at all. This could entail significant opportunity costs to energy storage resources.

In addition to the fact that this proposal severely and unfairly limits the market behavior of energy storage resources, many details are missing from the CAISO's proposal. Notably, treatment of bid cost recovery in the circumstances where resources charge or fail to discharge due to CAISO imposed constraints and issues about establishing state of charge in the first hour of each new day-ahead run. We do appreciate the CAISO's consideration of this issue but cannot support the forum or the proposal as they currently stand.