

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Oversee the
Resource Adequacy Program, Consider
Program Refinements, and Establish Forward
Resource Adequacy Procurement Obligations

Rulemaking 19-11-009
(Filed November 7, 2019)

**OPENING COMMENTS ON PROPOSED DECISION OF THE CALIFORNIA
INDEPENDENT SYSTEM OPERATOR CORPORATION**

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I. Introduction

The California Independent System Operator Corporation (CAISO) hereby provides opening comments on the *Proposed Decision Adopting Local Capacity Obligations for 2021-2023, Adopting Flexible Capacity Obligations for 2021, and Refining the Resource Adequacy Program* (Proposed Decision) issued in this proceeding on May 22, 2020. The CAISO appreciates this opportunity to provide opening comments.

II. Discussion

A. Local Capacity Requirement Study Issues

The Proposed Decision adopts the CAISO's 2021 local capacity requirements for all local areas, but adopts lower requirements for 2022 and 2023 for the Greater Bay Area. The Proposed Decision also seeks to establish a working group to consider local resource adequacy capacity issues, including re-evaluation of the CAISO's Local Capacity Technical Study criteria. The CAISO does not oppose adopting lower local capacity requirements for the Greater Bay Area for 2022 and 2023, especially in light of ongoing PG&E and CAISO efforts to reduce requirements going forward. Similarly, the CAISO does not oppose convening a local resource adequacy working group and will participate as necessary, but the CAISO is not open to co-leading the working group.

1. Greater Bay Area Local Capacity Requirements

The Proposed Decision adopts 2021 Greater Bay Area local capacity requirements based on the CAISO's 2021 Local Capacity Technical Study, but adopts substantially lower requirements for 2022 and 2023 based on the prior year's local capacity study. This is

reasonable, as PG&E and the CAISO continue to assess transmission system improvements that may ultimately reduce the Greater Bay Area requirements. To date, however, the CAISO and PG&E have not determined a viable solution to reduce overall Greater Bay Area local requirements. PG&E can propose new transmission projects through the 2020-2021 transmission planning process and, if economic, the CAISO can approve a solution that will reduce future local capacity requirements. The actual year of reduction will depend on PG&E's proposed and achievable in-service date for any necessary transmission system improvements.

The CAISO notes that it fully considered PG&E's spare replacement strategy in developing the Greater Bay Area local capacity requirements. The Proposed Decision articulates PG&E's concern that the "CAISO's consideration of a double three-phase transformer bank outage in the LCR study does not align with NERC and FERC requirements."¹ PG&E previously asserted that the CAISO's local capacity study failed to fully consider PG&E's spare replacement strategy.² This claim is incorrect as CAISO did consider PG&E's spare replacement strategy, and local capacity requirements assume this sparing strategy is in place. Per TPL-001-4 section 2.1.5, without the sparing strategy, the NERC standard would require PG&E (as the participating transmission owner) and the CAISO to consider the loss of a first transformer as an N-0 condition (*i.e.*, the starting point for analysis).³ The CAISO would still need resources to meet the contingency conditions identified in the NERC standard.

2. Local Resource Adequacy Working Group

The Proposed Decision recommends establishing a local resource adequacy working group, co-led by the CAISO and an investor owned utility, to evaluate and provide recommendations on the following issues:

- (1) Evaluation of the newly adopted CAISO reliability criteria in relation to NERC and WECC mandatory reliability standards;
- (2) Interpretation and implementation of CAISO's reliability standards, mandatory NERC and WECC reliability standards, and the associated reliability benefits and costs;

¹ Proposed Decision, p. 13.

² *Comments of Pacific Gas & Electric Company (U 39 E) on the Draft 2021 Local Capacity Technical Study*, April 17, 2020, p. 3-4.

³ NERC TPL-001-4, Section 2.1.5 provides "When an entity's spare equipment strategy could result in the unavailability of major Transmission equipment that has a lead time of one year or more (such as a transformer), the impact of this possible unavailability on System performance shall be studied. The studies shall be performed for the P0, P1, and P2 categories identified in Table 1 with the conditions that the System is expected to experience during the possible unavailability of the long lead time equipment."

- (3) Benefits and costs of the change from the old reliability criteria “Option 2/Category C” to CAISO’s newly adopted reliability criteria;
- (4) Potential modifications to the current LCR timeline or processes to allow more meaningful vetting of the LCR study results;
- (5) Inclusion of energy storage limits in the LCR report and its implications on future resource procurement; and
- (6) How best to address harmonize the Commission’s and CAISO’s local resource accounting rules.⁴

The CAISO led a thorough stakeholder initiative in 2019 to review and adopt the updated local capacity criteria, and the record in that initiative supports the criteria updates. The CAISO and stakeholders fully considered items (1) through (3) during this stakeholder process and the CAISO does not believe these issues should be reconsidered in a Commission-directed working group. The CAISO recommends that the Commission narrow the working group directives to focus on issues (4) through (6).

Issues (4) through (6) are germane to this resource adequacy proceeding, because they primarily address refinements to the Commission’s processes. The CAISO will participate in the working group as necessary to explain and, if possible, resolve any issues regarding the CAISO Local Capacity Technical Study. However, the CAISO recommends that Energy Division staff lead the working group to ensure the Commission’s concerns are adequately addressed. The CAISO also recommends the working group focus on how to best meet the local capacity requirements and better harmonize the CAISO and Commission local resource adequacy counting rules.

The CAISO is responsible for grid reliability and is listed under the national regulations as a Reliability Coordinator, Transmission Operator, and Planning Authority. The CAISO ultimately is obligated to follow its tariff requirements for local resource adequacy requirements, and will exercise its backstop authority as necessary to comply with those requirements when they are not otherwise met.

B. MCC Bucket Issues

1. The CAISO Supports the Proposed Decision’s Clarifications Regarding MCC Bucket Availability and Dispatch Requirements.

The CAISO appreciates the Proposed Decision’s clarification that “resources in each

⁴ Proposed Decision, p. 14.

[MCC] category should be available and dispatchable for all hours that define the category.”⁵ This will help ensure both energy and capacity sufficiency. The CAISO also supports the Proposed Decision’s effort to define “availability” for MCC bucket purposes but seeks further clarity. The Proposed Decision defines MCC bucket “availability” as follows:

- (1) Holding aside use limitations or outages, a resource is physically capable of dispatching the entire capacity designated in the given bucket in any and all hours associated with the minimum criteria for that bucket;
- (2) Holding aside use limitations or outages, the resource will economically bid or self-schedule (in the CAISO markets) the entire capacity designated in the given bucket in any and all hours associated with the minimum criteria for that bucket; and
- (3) If the resource has use limitations, those limitations would not prevent bidding, self-scheduling, and dispatch during regular, specific hours associated with the minimum criteria for that bucket.⁶

The CAISO recommends the Commission expand the third prong of this “availability” definition to clarify that use limitations cannot prevent bidding, self-scheduling, and dispatch during *all* regular, specific hours associated with the minimum criteria for that bucket *for the entirety of the month for which it has been shown*. In other words, the use limitation should not be more binding than the overall energy requirements for every day the resource is required to be available. For example, the Commission should clarify that resources with significant monthly start limitations (*i.e.*, as few as five starts per month) but an eight-consecutive hour runtime should not be allowed to provide capacity as a Category 2 resource. This will ensure resources are available and able to provide adequate energy for the entire month and avoid over-reliance on use-limited resources in any given MCC bucket.

2. The Commission Should Set the Demand Response MCC Category Maximum at 5.3%.

The CAISO generally agrees with the Proposed Decision’s approach to updating the MCC buckets by incorporating the 2016-2019 load curves and setting a cap on the demand response bucket based on assumed dispatch availability. The Proposed Decision favorably cites the Energy Division’s MCC bucket Option 4b, which would have set the demand response MCC bucket maximum at 5.3% based on the assumption the demand response resources may be

⁵ Proposed Decision, p. 48.

⁶ Proposed Decision, p. 49

available up to 12 hours per month.⁷ However, the Proposed Decision then sets the demand response MCC bucket maximum at 8.3% based on the logic that demand response resources must be “available” for a minimum of 24 hours per month. The Proposed Decision clarifies that “availability” in the context of MCC buckets means that “a resource is physically capable of dispatching the entire capacity designated in the given bucket in any and all hours associated with the minimum criteria for that bucket.”

Increasing the demand response MCC bucket percentage, as recommended in the Proposed Decision, is inappropriate. There is no basis for a finding that existing demand response resources can provide sustained output for 24 hours per month. Besides the lack of support for calculating the demand response MCC bucket, the logic behind the change is flawed. Energy Division’s original Option 4b proposal correctly assumes that demand response resources are generally dispatched far less frequently than the minimum availability requirements specified in the contract or tariff provisions. Reliability Demand Response Resources are even more limited, as the CAISO typically can only dispatch these resources after a declaration of a warning or emergency, which rarely happens.⁸ This further limits the dispatch of demand response resources. The Commission should adopt Option 4b with the originally proposed cap on demand response at 5.3%, which assumes demand response is dispatched 12 hours per month.

C. Slow Demand Response Technical Solution

The CAISO developed a technical solution to operationalize slow demand response as a local resource through pre-contingency dispatch during stressed grid conditions. To implement this technical solution and ensure the CAISO can meet applicable reliability standards, the CAISO explained that the Commission must (1) cease crediting demand response against resource adequacy requirements and (2) require load serving entities to show demand response resources on their resource adequacy plans. Showing demand response resources on resource adequacy plans enables the CAISO to “see” and exceptionally dispatch these resources pre-contingency to meet local area reliability needs. The CAISO also requested that the Commission stop counting slow Reliability Demand Response Resources for local resource adequacy capacity

⁷ Energy Division’s Option 4b 5.3% demand response MCC bucket maximum was based on the assumption that demand response resources could be dispatched up to 12 hours per month.

⁸ Summary of historic warnings and emergencies:

http://www.caiso.com/Documents/Alert_WarningandEmergenciesRecord.pdf

because those resources can neither respond within the 20-minute time requirement nor be operationalized through pre-contingency dispatch because they require an emergency declaration, which the CAISO cannot issue on a pre-contingency basis.

The CAISO's Track 2 proposal to operationalize slow demand response was the culmination of the CAISO's 2016 Business Practice Manual (BPM) appeals decision regarding 20-minute response requirements. In that decision, the CAISO committed to a stakeholder process to implement a pre-contingency dispatch process for demand response resources to meet local capacity needs.⁹ During the BPM appeals committee process, the CAISO agreed not to exercise its annual local backstop due to differences between CAISO and Commission local capacity counting rules for demand response. After the CAISO implements the slow demand response technical solution this fall, the CAISO will have fulfilled its commitments outlined in the BPM appeals decision and the CAISO will no longer defer its annual backstop process on the basis of differing counting rules. Slow demand response resources that are not shown on resource adequacy plans will not be available for pre-contingency dispatch and, as a result, will not effectively meet local contingencies and cannot be relied upon as local resource adequacy capacity. As such, the CAISO reserves its right to exercise its annual and monthly backstop procurement authority under its capacity procurement mechanism if a deficiency occurs due to demand response resource adequacy counting differences between the Commission and the CAISO.

D. System Planning Reserve Margin and Loss of Load Expectation Issues

The CAISO strongly supports reviewing the system planning reserve margin (PRM) in Track 3 of this proceeding. This review should be coordinated with the CAISO's Resource Adequacy Enhancements stakeholder efforts, including forced outage rates and the CAISO's proposed Resource Adequacy portfolio assessment. Given the monthly nature of the Commission's resource adequacy program, any loss of load expectation (LOLE) assessment should use monthly LOLEs that sum to the equivalent of a 1-in-10 annual LOLE. Additionally, the Commission should direct the working group to verify the stability of any PRM using various shown resource adequacy portfolio mixes.

⁹ See <http://www.caiso.com/Documents/BPMChangeManagementAppealsCommitteeDecisionPRR854.pdf#search=pr%20854>

Because a fixed PRM may no longer be relevant or achievable, the Commission should consider adopting a new PRM or another alternative procurement requirement target as determined by the LOLE study and working group input.

E. Hydro Qualifying Capacity Counting Rules

The CAISO strongly supports the Proposed Decision’s adoption of the consensus hydro counting methodology as an optional counting methodology. The Commission asked the CAISO to develop a framework to allow hydro resources that elect this option to be exempt from resource adequacy availability incentive mechanism (RAAIM) penalties for outages related to water availability.¹⁰ The CAISO agrees and has already submitted a filing to the Federal Energy Regulatory Commission on April 17, 2020 asking for permission to implement this change effective January 1, 2021.¹¹ The CAISO also agrees with the Proposed Decision that it may be challenging to acquire ten full years of historical data and should allow Commission Energy Division staff flexibility to use as many years of historical data as is available.¹²

F. Hybrid Qualifying Capacity Counting Rules

1. The CAISO Supports the Proposed Definitions for “Hybrid” and “Co-located” Resources.

The CAISO strongly supports adopting terminology distinguishing between “hybrid” and “co-located” resources and providing formal definitions. Establishing these definitions will reduce confusion and align resource adequacy counting with bidding and market participation requirements established by the CAISO.

2. Co-located Resources Will Retain Separate Qualifying Capacity Values Based on the Underlying Individual Resources.

The CAISO supports the Proposed Decision’s approach for valuing hybrid resource qualifying capacity values, which is based on SCE’s initial hybrid qualifying capacity counting proposal. The CAISO notes that even if the Commission adopts this proposal there will be an important distinction between hybrid resources and co-located resources. Namely, the CAISO will continue to have a unique Resource ID for each underlying resource within a single co-location, but there will only be a single Resource ID for each hybrid resource. The Proposed

¹⁰ Proposed Decision, p. 22.

¹¹ See <http://www.caiso.com/Documents/Apr17-2020-TariffAmendment-ClarifyResourceAdequacyObligationsfromCommitmentCostsEnhancements-3-ER20-1592.pdf>.

¹² Proposed Decision, pp. 22-23.

Decision includes a reasonable approach for valuing hybrid resource qualifying capacity with a single Resource ID, but does not provide a specific methodology for establish qualifying capacity for co-located resources. Each individual resource comprising a co-located resource will still need a separate qualifying capacity value, instead of a single qualifying capacity value for the underlying resources. Each co-located resource should therefore have a qualifying capacity value consistent with current practices.

For example, if a co-located resource includes a solar resource paired with a storage resource, the solar resource would continue to receive qualifying capacity according to the existing ELCC methodology, and the storage resource would receive credit for the amount of energy that it can consistently deliver to the grid for a four-hour period. A similar hybrid resource, again with a single Resource ID, could have a single qualifying capacity calculation generated by the new hybrid qualifying capacity methodology.

3. The Commission Should Cap Hybrid Resource Qualifying Capacity Values at the Point of Interconnection Limit.

The CAISO notes that the total capacity at the point of interconnection for hybrid and co-located resources will impact the total net qualifying capacity (NQC) for these resources. Today the Commission provides the CAISO qualifying capacity values for the entire fleet. The CAISO then determines NQC values for each of these resources based on deliverability, Pmax, and Interconnection Agreements. The CAISO will continue to do this in the future for both hybrid and co-located resources (and all other resources). Some hybrid and co-located resources may have their NQC constrained by availability at the point of interconnection. In such cases, the CAISO will reduce NQC values to reflect these limits. For hybrid resources, this process is relatively straightforward—the single resource will simply not be eligible for credit above interconnection limits. Similarly, the NQC levels for co-located resources must also respect interconnection limits, although the management of those levels can be more complex.

G. Planning Reserve Margin Adder for Demand Response

The Proposed Decision adopts Energy Division’s clarification that the 15 percent PRM adder for supply-side- demand response applies only for system, not local, resource adequacy purposes. The CAISO agrees that the PRM adder should not apply for local resource adequacy purposes. However, the CAISO also recommends the Commission eliminate the PRM adder for system purposes because demand response resource do not reduce reserve requirements. In day-

ahead and real-time, the CAISO must procure sufficient supply and reserves to serve all load and meet all applicable reliability criteria at all times, regardless of what the forecast was in the planning horizon. This includes buying the supply and reserves for load that may be curtailed as supply-side demand response. Including a PRM adder for demand response wrongly assumes that curtailable load does not exist on the system and does not need to be served in the first instance. Load-serving entities must first procure and schedule the load that a demand response provider may curtail if economic to do so. In other words, energy to serve the load (including operating reserves) must be purchased and scheduled with the CAISO by the load-serving entity for the demand response provider to curtail that load, if dispatched to do so.

Fundamentally, applying the PRM adder to demand response for system resource adequacy demand purposes is flawed. If the load-serving entity and CAISO did not schedule and procure load and associated reserves, there would be no “demand response” load to curtail; it would already be curtailed and off the system. Thus, demand response does not reduce the CAISO’s reserve requirements or costs; it merely reduces the available resource adequacy needed.

Additionally, the proposed system PRM adder for demand response will essentially create two qualifying capacity values for demand response resources—a system value and a local value. Bifurcating system and local resource adequacy values will create numerous implementation challenges. The CAISO tariff and systems only recognize a single NQC and EFC value for each resource. As a result, if the Commission allows for two different values, the CAISO’s systems can only accept and assess the lower local value. The CAISO noted this challenge numerous times in attempting to address the slow demand response issue. The Commission’s resource adequacy systems are designed similar to CAISO systems and it is unclear whether the Commission’s own systems can accept different system and local qualifying capacity values. The CAISO continues to suggest that demand response resources either (1) count for both system and local capacity at the lower local capacity level or (2) be eligible only for system resource adequacy at the higher value.¹³

¹³ Though whether the resource can reliably provide local capacity and energy that meets planning and operational needs is a separate issue to be considered.

H. Including October as a Summer Month for Resource Adequacy Showings

The Proposed Decision notes that it will “account for October as a summer month” for purposes of assessing resource adequacy deficiency penalties.¹⁴ The CAISO requests additional clarity regarding whether load-serving entities will be required to make year-ahead showings for October. If the Commission is proposing to include October as a summer month for purposes of the penalty, then the Commission should also include October as a summer month for purposes of the year-ahead resource adequacy showings.

III. Conclusion

The CAISO appreciates the opportunity to provide comments on the Proposed Decision and looks forward to working with the Commission to adopt effective resource adequacy import rules.

Respectfully submitted,

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¹⁴ Proposed Decision at p. 54.