

**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)

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
CONSOLIDATED COMMENTS ON ALL WORKSHOPS AND PROPOSALS**

Roger E. Collanton
General Counsel
Anthony Ivancovich
Deputy General Counsel
Anna A. McKenna
Assistant General Counsel
Jordan Pinjuv
Senior Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom California 95630
Tel.: (916) 351-4429
jpinjuv@caiso.com

Date: March 23, 2020

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I. Introduction

The California Independent System Operator Corporation (CAISO) submits comments on the workshop reports and Track 2 proposals pursuant to the *Assigned Commissioner's Scoping Memo and Ruling* dated January 22, 2020 and the *Administrative Law Judge's Ruling Modifying Track 2 Schedule* dated February 28, 2020.

II. Response to Proposals and Workshop Reports

A. Maximum Cumulative Capacity (MCC) Buckets

1. Introduction

Energy Division staff issued several options to update the maximum cumulative capacity (MCC) buckets as a priority to meet reliability because of the “significant increased penetration of intermittent and use-limited resources.”¹ The CAISO generally agrees with the need to update the MCC buckets. In particular, the CAISO supports Energy Division staff’s proposed option 4 to modify the existing MCC buckets. Option 4 provides much needed clarity, particularly regarding the amount of capacity that must be available as baseload energy. To further support CAISO operational needs, the MCC buckets should align with the CAISO’s proposed portfolio

¹ Energy Division Proposals for Proceeding R.19-11-009, Proposal A: Revising Maximum Cumulative Capacity Buckets, Feb 7, 2020, at p. 4, (Energy Division Proposal A).
<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M326/K933/326933860.PDF>

assessment,² which will provide Commission jurisdictional load-serving entities with procurement guidance to minimize the risk of CAISO backstop procurement. The options put forward by Energy Division staff are generally well-suited to achieve this goal, but the CAISO seeks additional clarity regarding resource availability requirements.

2. Clarification Regarding Dispatch Requirements and Availability

The CAISO recommends that the Commission clarify Energy Division staff's proposed six and 12 hour per month dispatch requirements for demand response (DR) resources. The Commission's currently effective MCC buckets require DR resources to be available for a minimum of 24 hours per month. The CAISO continues to support the current requirement. Energy Division staff's proposal provides significant detail regarding how it defines "availability." Specifically, Energy Division staff notes it does not consider a resource bidding "at prices that all but ensure it will not be called upon to operate" to be available.³ However, this is how some DR tends to and is expected to bid. For example, Commission and CAISO rules require reliability demand response resources (RDRRs) to bid between 95 and 100 percent of the bid cap in the CAISO real-time market.⁴ As a result, the CAISO requests that Energy Division staff provide additional details about the expectations and/or assumptions underlying the six and 12-hour requirements and how they differ from the 24 hours requirement that exists today.

As written, Energy Division staff's proposal seems to require fewer hours of minimum availability from DR resources than currently required. The CAISO asks that Energy Division staff clarify its proposal to explicitly note that DR resources that meet the six or 12 hour dispatch requirement in a month will not have reached their use-limitation. Instead, consistent with current rules, all DR resources should provide a minimum of 24 hours of dispatch in a month before they reach their use-limitation. This will ensure that DR resources do not submit Resource Adequacy Availability Incentive Mechanism (RAAIM) exempt outages after one to three days of dispatch of less than 24 hours. This clarification is necessary because heat storms generally span multiple days and can occur multiple times per month. The CAISO needs

² For the CAISO's current proposal, see <http://www.caiso.com/InitiativeDocuments/FourthRevisedStrawProposal-ResourceAdequacyEnhancements.pdf>, at pp. 9-11.

³ Energy Division Proposal A, at p. 4.

⁴ See CAISO Tariff Section 30.6.2.1.2 Real-Time Dispatch Options.

resources, including DR, to be available and dispatchable during multiple consecutive day events and more than one heat storm in a month. Thus, the Commission’s 24-hour availability rule per month for demand response should be preserved even in light of a minimum dispatch requirement.

3. Proposed Adjustments to the DR MCC Category

To determine the correct size of the DR MCC Category, the Commission must account for both supply-side resources and resources that the Commission directly credits against resource adequacy requirements. For example, RDRRs currently account for well over 1,000 MW of resource adequacy capacity, but load-serving entities do not include them in resource adequacy showings. Instead, load-serving entities receive resource adequacy credits for these resources that reduce their procurement requirements. To accurately capture the full impact of these resources, the CAISO requests the Commission clarify that the DR Category is to include *both* supply side resources and RA credited DR resources.

As a related issue, the CAISO recommends that the Commission consider modifying the DR MCC Category to include any resources with any significant use-limitations. For example, the Commission should include use-limited storage technologies in this MCC Category. The CAISO recommends that Energy Division staff’s proposed DR Category evolve to a “very use-limited bucket” to minimize reliance on resources that are only available under the most stressed and peak conditions.

4. Clarification Regarding Non-Summer Month Use of Category 1 Resources

Energy Division staff options 2 through 4 update Category 1 by “establishing 40 hours as the minimum availability for all summer months (May through September).”⁵ However, the proposal does not specify what, if any, limitations it would place on load-serving entities using Category 1 resources during non-summer months. Energy Division staff should clarify whether load-serving entities can use Category 1 resources during non-summer months and, if allowed, how such will be limited. The CAISO recommends that Energy Division staff clarify that load-serving entities cannot use Category 1 resources to meet resource adequacy requirements in non-

⁵ See, Energy Division Proposal A, at p. 6.

summer months. This is because Category 1 resources are highly use-limited and may not provide sufficient availability during non-summer months or may deplete use-limitations needed for meeting summer peaks. The CAISO also notes that load in non-summer months tend to have similar peaks across several days, which may even including weekends. If the Commission wishes to extend Category 1 to non-summer months, it must first define the number of hours of availability required by providing the same analysis used to derive the availability needs for the summer months.

The Commission should clarify the frequency and number of dispatches that it will require from resources in Categories 2 through 4. The Commission should clarify that resources in each Category must be both available and dispatchable for all hours that define the category. For example Category 2 resources must be available Monday through Friday for eight consecutive hours per day. Over the course of a month, a 100 MW Category 2 resources should be able to provide 16,000 MWh (*i.e.*, 5 days per week x 8 hours a day x 4 weeks per month).

Similarly, the Commission should clarify that each resource must meet each category's availability requirements. Energy Division staff's proposal focuses on a single resource meeting the capacity and energy needs within the bucket in which it is shown. For example, Energy Division staff's proposal does not allow two four-hour batteries to count as a single Category 2 resource, nor does it contemplate a single four-hour battery counting for half of its qualifying capacity as a Category 2 resource. The CAISO requests that the Commission clarify Energy Division staff's proposal to require that each eligible resource must sustain output for the duration of the Category for which it has been shown. In other words, a storage resource that can provide 100 MW for four hours should not be counted at 100 MW in Category 2 or 3. Instead, if the 100 MW storage resource can produce at 50 MW for an eight-hour availability period required for Category 2 resources, it should be able to count as 50 MW of resource adequacy if shown in Category 2. Similar rules should be developed for all Categories. This allows for a diversity of resources to provide resource adequacy, but also ensures that resources are not overvalued to meet the longer energy duration categories.

Understandably, Energy Division staff's MCC proposals focus on a resource's ability to produce output over consecutive hours. However, there is a growing need to consider resource needs over consecutive days as well. The Commission already requires DR resources to be

available for at least three consecutive days and Energy Division staff's proposal appears to leave this requirement unchanged for options 3 and 4. However, there are no similar requirements for other resources. The Commission should extend these minimum requirements to other resources, such as energy storage resources that may not have an opportunity to recharge during multiday weather events. Therefore, the CAISO recommends that each MCC Category should include minimum energy requirements over three consecutive days without charging. For example, a storage resource wishing to be shown for 100 MW in Category 3 must be able to provide 100 MW for eight hours for three consecutive days, or 2,400 MWh of stored energy. This ensures the resource will be available to the CAISO for multiday weather events that can impact its charging capability such as a cloudy and windless stretch in February.

B. Effective Load Carrying Capability (ELCC) Proposals

The CAISO suggests that the Commission use ELCC valuation methodologies based on the purpose the ELCC values are intended to serve. In the Integrated Resource Planning (IRP) proceeding, the CAISO supported using marginal ELCC values to determine investment in *new* resources. This is because the IRP calculates ELCC using a 10-year forward system assessment that takes into account loss of load expectation over an entire year. Marginal ELCC values provide guidance regarding how additional procurement will improve loss of load expectations. On the other hand, the resource adequacy proceeding assesses monthly portfolios for the upcoming year, largely for resources that already exist. As a result, the ELCC derived in IRP serves a different purpose than the ELCC values used in resource adequacy assessments, which complicates alignment.

As part of the CAISO Resource Adequacy Enhancements stakeholder process, the CAISO proposed to conduct a monthly system-level portfolio assessment using monthly resource adequacy showings to confirm that the shown resources ensure reliable grid operation during all hours of the month. The CAISO will not model marginal benefits to determine if resource adequacy showings have provided adequate capacity and energy. The timing of when a particular wind or solar resource came online relative to another resource is not important to the

reliability of the system. Therefore, an average ELCC value is the best metric to assess the adequacy of the wind and solar resources to meet resource adequacy requirements.⁶

However, the CAISO acknowledges that a marginal or relative ELCC value may be important to determine the adequacy of an individual load-serving entity's procurement. This is because the addition of new resources by one load-serving entity may impact the ELCC value of another entity's existing resources. Because individual load-serving entity procurement can impact other load-serving entities' procurement costs, deficiency charges, or backstop cost allocations, the Commission may need to use marginal ELCC values to determine fair and equitable resource adequacy attribution for load-serving entities while still using average ELCC values for resource adequacy capacity counting.

C. Demand Response Issues

1. DR Qualifying Capacity Values

The CAISO encourages the Commission to apply an ELCC methodology to determine fair, consistent, and transparent DR qualifying capacity values. Importantly, applying an ELCC methodology to demand response properly assesses the value of demand response relative to its contribution to reliability given other use- and availability-limited resources. Simply claiming a capacity value for demand response without considering its load serving capability ignores its ability to support reliability and offset the need for gas-fired generation, thereby reducing greenhouse gas emissions.

The CAISO is concerned that other parties' proposals, including the load impact protocol, do not adequately address how DR resources' variability and energy- and use-limited nature impacts their ability to provide the energy associated with the resource adequacy capacity. As the resource adequacy fleet transitions away from traditional gas-fired resources, it is important to assess the new fleet's ability to replace both the capacity and energy provided by the gas-fired generation fleet. In assessing DR resources, the Commission and the CAISO must clearly understand how effectively these resources can displace existing gas-fired generation and help

⁶ As part of the CAISO's Resource Adequacy Enhancements, the CAISO will likely establish a default cost allocation for backstop procurement cost allocation. This cost allocation will likely be based on using average ELCC values. However, the CAISO remains open to using an alternative methodology based on Local Regulatory Authority defined counting rules.

California achieve its carbon reduction goals. In other words, a 100 MW resource adequacy qualifying demand response program that operates 20 hours per year does not have the same value to the grid as a 100 MW resource adequacy resource that can run hundreds or thousands of hours per year.

Using an ELCC methodology to determine the qualifying capacity allows stakeholders to evaluate disparate types of resources on a level playing field. The ELCC approach considers the interactive effects of various resource types and it considers how variability and energy- and use-limitations impact the ability to maintain system reliability. As in the above example, if the Commission can direct the same dollar funding to either a 100 MW storage-backed demand response program that can run hundreds of hours per year or to a traditional or emergency-triggered demand response program that runs 20 hours or less per year, the investment decision for the grid and ratepayers should be clear. In other words, not all demand response programs are equal when considering reliability contributions. Applying ELCC to demand response will help inform such disparities and avoid the mistake of equating resources on a megawatt capacity basis only.

In their proposals, the Joint Parties and the Energy Division staff noted challenges in expanding the Load Impact Protocols to third party DR resources.⁷ Both parties proposed alternative methodologies using a stated qualifying capacity. The Joint Parties proposed providing supporting documentation to supplement the stated qualifying capacity.⁸ Energy Division staff proposed requiring a standardized model template for a performance contract between the demand response provider and the load-serving entity with specific requirements for testing, dispatch and performance, and penalties.⁹ As discussed above, neither of these proposals can adequately assess demand response's contribution to reliability; they can only provide a MW capacity value, which has limited meaning when assessing variable and use/availability-limited resources.

⁷ *Track 2 Proposal of California Efficiency + Demand Management Council, CP Power, Enel X North America, Inc., and Leapfrog Power*, February 21, 2020, at pp. 4-8, (Joint Parties Proposal), and Energy Division Proposals for Proceeding R.19-11-009, February 21, 2020, Proposals A-J, at pp. 6-7. (Energy Division Track 2 Proposals)

⁸ Joint Parties Proposal, at pp. 8-10.

⁹ Energy Division Track 2 Proposals, at pp. 7-8.

Instead, the Commission should adopt an ELCC methodology to determine qualifying capacity values for DR resources to best understand and determine contribution to system reliability. The Joint Parties and Energy Division staff proposals may effectively determine a single MW value that represents load reduction capability of a DR program, but the profile of the program's availability over time must be evaluated to determine the program's ability to respond when needed. The Commission should establish an ELCC methodology for DR and apply an ELCC value to the MW value of load reduction capability of a resource to incorporate the resource's effectiveness at serving system needs when needed.

The CAISO disagrees with the Joint Parties' contention that the Commission should only consider a resource's performance during the availability assessment hours to determine qualifying capacity values. In their proposal to modify the Load Impact Protocols for third party DR, the Joint Parties state, "To the extent that a DRP's portfolio will only be used for RA, the relevance of requiring these calculations for all 24 hours for each day type is unclear when the Availability Assessment Hours for System and Local Resource Adequacy are only 4:00p.m. – 9:00 p.m."¹⁰ This statement implies that the availability assessment hours are the only hours of need for a resource adequacy resource. This conclusion is plainly wrong and uninformed. Clearly, the resource adequacy portfolio must be capable of serving load all hours of the year, and not just during the defined availability assessment hours.

Resource adequacy needs are not restricted to the availability assessment hours. Therefore, the Commission should adopt qualifying capacity values based on the ability to provide energy whenever it is needed, particularly for resources such as DR with variable load curtailment capability and significant energy- and use-limitations. This is precisely why the ELCC is beneficial. The ELCC methodology will identify times when a resource is needed for system reliability and will determine whether the resource can provide energy (or load reduction) during those times based on its variability and energy- and use-limitations. Using an ELCC methodology to determine qualifying capacity for DR resources will provide a more accurate and informed understanding of DR resources' contribution to system reliability needs; simply deriving a megawatt capacity value as is done today for demand response does not inform

¹⁰ Joint Parties Proposal, at pp. 15-16.

reliability needs, which is becoming acutely important as the system grows more dependent on variable and use- and availability limited resources.

2. Minimum Testing and Dispatch Requirements for DR Resources

Energy Division staff and the Joint Parties propose minimum testing and dispatch requirements for certain DR resources.¹¹ Testing and dispatch requirements should be established to provide reasonable confidence that a DR resource can provide load reduction when needed. The CAISO supports minimum testing and dispatch requirements for DR resources and recommends any such requirements adopted align with the minimum availability requirements for a resource to provide resource adequacy. Specifically, the Commission should establish minimum dispatch or testing requirements for DR resources that require four-hour continuous response during the Availability Assessment Hours, at a minimum. In addition, the CAISO strongly prefers DR resources be dispatched through the market through economic bidding, rather than a test.¹²

While the CAISO prefers resources receive a market dispatch instead of a test, the buyer of a DR resource should retain the right to perform an unannounced test on the demand response resources they have procured. If a resource does not receive market dispatches or unannounced tests from the buyer that meet the minimum requirements, the CAISO recommends that the demand response provider must have a test conducted by the resource's scheduling coordinator as an alternative means to assess resource capability. These tests should be random and unannounced, to mimic market dispatch and they should be coordinated with the CAISO in advance, in accordance with CAISO testing procedures to ensure that tests reflect periods of high load such as the summer months. The Commission should direct that the results of the test be shared with the DR buyer, the Commission, CAISO, and demand response provider by the scheduling coordinator as the test administrator.

¹¹ Joint Parties Proposal, p. 11-12 and Energy Division Track 2 Proposals, at pp. 4-5.

¹² Per CAISO Tariff Section 30.6.1, proxy demand resources cannot self-schedule to ensure they receive a market dispatch to meet minimum dispatch requirements. However, proxy demand resources can bid at or above the net benefits test price threshold to be dispatched economically.

3. Eliminating the Planning Reserve Margin (PRM) Adder for DR Resources

Several parties propose changes or clarifications to the application of the PRM adder for DR resources. Energy Division staff clarifies that the 15 percent PRM adder for supply side demand response only applies to system resource adequacy. The Energy Division states that the adder is applied to demand response “to reflect that DR programs directly reduce the load that the system is required to support, and thus that load does not need planning reserves.”¹³ PG&E proposes that the Commission eliminate the 15 percent PRM adder, noting that it is unclear “whether supply side DR resources reduce the need for operating reserves or reduce peak demand in real-time with enough certainty to support a 15 percent gross up for RA counting purposes.”¹⁴ The CAISO agrees with PG&E and recommends that the Commission eliminate the 15 percent PRM adder in its entirety.

The Commission adds a 15 percent PRM to the load forecast to set system resource adequacy requirements to account for forced outages, forecast error, and operating reserves in the planning horizon. However, in real-time, the CAISO must procure sufficient supply and reserves to serve load and meet all applicable reliability criteria at all times, regardless of what the forecast was in the planning horizon. This includes load that is subject to curtailment by a supply-side DR resource. Including a PRM adder wrongly assumes that curtailable load does not exist on the system and does not need to be served in the first instance. At the February 24th Demand Response Counting Working Group, CLECA wrongly asserted that if supply-side DR is not grossed-up for PRM, it would result in the procurement of excess reserves that should not be procured.¹⁵ CLECA’s logic is flawed, because the CAISO must properly forecast and plan to serve all load in the *operational* timeframe. Likewise, the load-serving entity must procure and schedule the load that a demand response provider may curtail if economic to do so. In other words, the load is still there and must be served by the load-serving entity and CAISO (including procurement of operating reserves) in order for the supply-side DR resource to curtail it.

¹³ Energy Division Track 2 Proposals, at pp. 13-14.

¹⁴ Pacific Gas & Electric Company, *Track 2 Proposals of Pacific Gas & Electric Company (U 39 E)*, R.19-11-009, February 21, 2020., pp.4-5.

¹⁵ Demand Response Working Group Report Submitted by Pacific Gas & Electric Company (U 39 E), the Public Advocates, and CPower, R.19-11-009. March 11, 2020. pp. 25-26.

Fundamentally, applying the PRM adder to system resource adequacy demand response 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 but rather reduces the available resource adequacy needed.

4. Local DR Resource Adequacy Counting Issues

The CAISO developed its slow demand response dispatch methodology as an initial step to align Commission and CAISO treatment of local demand response and eliminate the confusion around DR local counting. However, other party proposals demonstrate that the Commission and the CAISO should continue to work together to clarify how DR resources can contribute toward local resource adequacy needs. As a next step, the Commission should require all DR to be included in resource adequacy showings, rather than crediting DR resources, as it does now.

As an example of the existing confusion, the CAISO notes OhmConnect’s proposals, which state that the CAISO does not explicitly list proxy demand resources (PDRs) on the net qualifying capacity (NQC) list but load-serving entities can count certain PDRs towards their local obligation. Separately, OhmConnect states that because PDRs are not listed as local on the NQC list, they are not counted toward a load-serving entity’s local obligation.¹⁶ The CAISO clarifies that it does not currently designate DR resources as local resources on its NQC list because the Commission “credits” all investor owned utility DR (both slow and fast) against the local resource adequacy requirements. The Energy Division staff established this process as a temporary measure to be in place until the slow demand response dispatch methodology is implemented. This means that although load-serving entities and suppliers do not show local DR resources to the CAISO on resource adequacy or supply plans to meet local requirements, they are subtracted from the load-serving entities’ resource adequacy requirement in the form of a “credit” given by Energy Division staff.

The Commission should adopt the CAISO’s slow demand response proposal to eliminate these discrepancies between the Commission’s DR counting and the CAISO’s slow DR dispatch

¹⁶ OhmConnect, *OhmConnect Inc., Track 2 Proposal*, R.19-11-009, February 21, 2020. pp. 3-4.

solution. As the CAISO’s proposal recommends, the Commission should end the “crediting” practice with the CAISO’s implementation of its slow DR dispatch methodology for resource adequacy year 2021. At that point, PDRs should be shown as local resources on resource adequacy and supply plans to allow the CAISO to identify which resources are available to be used in its slow DR dispatch methodology. The CAISO also recommends that all investor owned utility PDR should be included on supply plans in order for it to count towards resource adequacy requirements to create a level playing field among DR participants, and other resource adequacy resources, as outlined in the CAISO proposal.¹⁷ The CAISO encourages collaboration between the Commission, DRPs, and the CAISO to ensure there is a clear process for DR to count towards local requirements through resource adequacy showings.

5. Qualifying Capacity for Load Modifying Resources

Sunrun and the Joint Parties suggest that the Commission consider giving new behind-the-meter technologies qualifying capacity values while also treating them as load modifiers.¹⁸ These proposals violate the bifurcation principles adopted in Commission Decision 14-03-026 (Bifurcation Decision). The Bifurcation Decision appropriately recognized only two types of demand response: (1) load modifying resources that reshape or reduce the net load curve or (2) supply resources that are integrated into the CAISO markets. Load modifying resources are embedded into the California Energy Commission’s demand forecast. The CAISO dispatches supply-side DR resources and, as a result, they receive a qualifying capacity value for resource adequacy purposes. Additionally, supply-side demand response dispatches are reconstituted (added back into the load) by the California Energy Commission so that the forecasts are not skewed by the actions of supply-side demand response.

Load modifying resources should not receive a qualifying capacity value as the Joint Parties and Sunrun suggest. Creating a third type of demand response that receives a qualifying capacity but is not integrated into the CAISO market would erode the tenants of the resource adequacy program. For example, load modifying resources do not have the availability

¹⁷ CAISO, *California Independent System Operator Corporation, Track 2 Proposals*, R.19-11-009, February 21, 2020, pp. 5-6.

¹⁸ Sunrun, *Track 2 Proposal of Sunrun, Inc.*, R.19-11-009, February 21, 2020, pp. 8-9, and Joint Parties Proposal, p.13.

requirements of a supply-side resource adequacy resource, including the must offer obligation, or the ability for the CAISO to dispatch the resource. Additionally, there would be the possibility of double counting. The resource is counted once as load modifying demand response to reduce peak demand and, therefore, the basis for setting the resource adequacy requirement, and then twice for receiving resource adequacy credit as a supply-side resource. This third approach of treating load modifying resources as supply-side resource adequacy resources was debated extensively and rejected by the Commission.¹⁹ Consistent with the bifurcation principles, the Commission must not provide a resource adequacy qualifying capacity value for resources that are not integrated into and dispatchable by the CAISO market.

D. Hydro Resource Qualifying Capacity Counting

The CAISO strongly supports the joint proposal for hydro qualifying capacity counting methodology outlined in Appendix B of the Southern California Edison (SCE) Company (U 338-E) and California Independent Systems Operator Corporation's Joint Report (Hydro Joint Proposal) for the Track 2 Hydro Counting Working Group.²⁰ The Hydro Joint Proposal establishes a formula to determine hydro qualifying capacity values using ten years of historic availability and applies a weight of 80 percent on the 50 percent exceedance value and a weight of 20 percent on the 10 percent exceedance value. The CAISO supports this hybrid exceedance methodology because the resulting qualifying capacity values are relatively stable from year-to-year.

The CAISO supports adopting this new methodology as an optional approach that supplements the current methodology. Hydro resources owners may either elect the new counting methodology or continue to use the existing counting methodology. It is appropriate to allow hydro resources the ability to elect to retain the existing counting methodology or adopt this methodology, thereby allowing all hydro resources to be no worse off if the Commission adopts the Hydro Joint Proposal.

¹⁹ See CPUC Proceeding Rulemaking 13-09-011. For example, *see*: Comments of Olivine, Inc, December 13, 2013 and Reply Comments of Southern California Edison, December 31, 2013. *See also* CPUC D. 15-11-042, p. 17.

²⁰ Southern California Edison Company (U 338-E) and California Independent System Operator Corporation's Joint Report for the Track 2 Hydro Counting Working Group, R.19-11-009, March 11, 2020, Appendix B.

The proposed methodology encourages resources to bid as much capacity as possible because qualifying capacity is directly tied to historical bidding during availability assessment hours. This is a desired mechanism within a qualifying capacity counting methodology and largely obviates the need to apply RAAIM to these resources. Therefore, the CAISO supports eliminating application of RAAIM to hydro resources for water related outages that adopt this alternate hydro counting methodology. The CAISO also supports retaining RAAIM for mechanical outages.

The CAISO acknowledges that local requirements are set based on actual qualifying capacity values for resources within local areas. If some hydro resources have a lower qualifying capacity in 2021 due to electing the new proposed counting methodology, load-serving entities may show less capacity compared to requirements. This could result in a local resource adequacy shortfall and may require waivers from the Commission. The need for these waivers should not persist into future years, as the updated capacity values for these hydro resources will feed into future local requirements. The CAISO encourages the Commission to acknowledge that waivers may be required as a result of the proposed hydro qualifying capacity methodology. The CAISO believes waivers are the most appropriate mechanism as the level of reduced qualifying capacity is not known at this time.

Finally, the CAISO recommends that the Commission adopt these changes and implement them for the 2021 resource adequacy year. These changes are crucial for the Commission and the CAISO to have clarity regarding actual availability from the hydro fleet. Currently, hydro resources may be shown for significantly more qualifying capacity than they are capable of consistently delivering to the electricity market. This is concerning from a reliability perspective and may also expose these resources to significant RAAIM exposure, if load-serving entities are unable to procure substitute capacity.

E. Hybrid and Co-Located Resource Qualifying Capacity Counting Rules

The CAISO continues to support adopting interim qualifying capacity counting rules for co-located storage and generation resources. For the purpose of discussing hybrid and co-located resource proposals, the CAISO uses its proposed definitions, which distinguish between “co-located” resources—which have two or more Resource IDs—and “hybrid” resources—which have a single Resource ID. Maintaining different Commission and CAISO definitions could be

problematic because the CAISO is proposing distinct must offer obligations tied to the definitions.

After reviewing Track 2 proposals, the CAISO recommends that the Commission adopt SCE's modified "Additive Methodology" as the interim methodology to establish qualifying capacity values for both co-located and hybrid resources with ITC charging restrictions. SCE's proposal would potentially derate the renewable generation component to recognize the need to ensure that the storage component of a hybrid resource is fully charged prior to peak load hours and that the charging energy is provided by the renewable resource portion of the hybrid. The CAISO recommends that the Commission adopt SCE's additive methodology until it has the opportunity to adopt a more permanent qualifying capacity methodology for co-located resources. For the permanent methodology, the CAISO continues to recommend the Commission explore an exceedance methodology that properly incentivizes co-located resources to bid consistent with CAISO must offer obligations. SCE's additive methodology provides an appropriate interim methodology to provide data that the Commission could later use to develop an appropriate exceedance methodology.

III. Conclusion

The CAISO appreciates the opportunity to comment and looks forward to working with the Commission and parties.

Respectfully submitted

By: /s/ Jordan Pinjuv

Roger E. Collanton

General Counsel

Anthony Ivancovich

Deputy General Counsel

Anna A. McKenna

Assistant General Counsel

Jordan Pinjuv

Senior Counsel

California Independent System

Operator Corporation

250 Outcropping Way

Folsom California 95630

Tel.: (916) 351-4429

jpinjuv@caiso.com

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