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**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)

**TRACK 4 PROPOSALS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

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I. Introduction

The California Independent System Operator Corporation (CAISO) hereby provides its Track 4 proposal per the December 11, 2020 *Assigned Commissioner’s Amended Track 3B and Track 4 Scoping Memo and Ruling* (Amended Scoping Memo).

II. Discussion

A. Resource Adequacy Crediting and Demand Response Counting Issues

In Track 2 of this proceeding, the CAISO proposed a technical solution that enables dispatch of demand response with slow response times (slow DR) to effectively meet local capacity needs. This technical solution allows the CAISO to dispatch slow responding proxy demand resources after the completion of the CAISO’s day-ahead market run as a preventive measure to maintain local capacity area requirements in the event of a potential contingency. To align Commission practices with the CAISO’s technical solution, the CAISO proposed the Commission discontinue “crediting” demand response resources against resource adequacy requirements. The CAISO’s proposals also recommended the Commission stop counting slow reliability demand response resources (RDRR) towards meeting local capacity requirements.

The Commission’s Track 2 decision¹ deferred consideration of slow demand response proposals until Track 4, recognizing the CAISO’s right to exercise its annual backstop authority

¹ Decision (D.) 20-06-031.

if a deficiency occurs due to DR local resource adequacy counting differences between the Commission and CAISO.² Since D.20-06-031, the CAISO has implemented a technical solution to enable pre-contingency dispatch of slow proxy demand response resource adequacy resources that are shown as local resource adequacy capacity on supply plans. However, to make the technical solution work and ensure CAISO's systems "see" these resources, certain open issues must be resolved, including the broader issue of crediting resources without showing them on a resource adequacy supply plan. The only way in which the CAISO can recognize resource adequacy capacity is if such capacity is shown on a supply plan. In addition, showing the resource on a supply plan enables the CAISO to use its new technical solution to dispatch slow proxy demand response resources prior to a contingency.

1. The Commission Should Discontinue All Non-Net Neutral Credits and Require All Resources Counting for Resource Adequacy to be Shown on Supply Plans.

Currently, the Commission "credits" certain resources toward meeting a portion of its load serving entities' resource adequacy requirements, including investor-owned utility demand response programs. Load serving entities do not show these credited resources on resource adequacy supply plans. In the slow demand response proposals in Track 2, the CAISO explained that to identify which resources to exceptionally dispatch under the slow demand response technical solution, the resources must be shown on a supply plan. The CAISO cannot identify and dispatch resources as resource adequacy if not shown on a supply plan. This remains true, but the CAISO also emphasizes that "crediting" concerns extend beyond slow DR resources. Although questions regarding local regulatory authority (LRA) crediting were highlighted in the Slow Demand Response initiative, concerns on this matter cut across all aspects of resource adequacy and have been raised in multiple forums, including this resource adequacy proceeding and the Commission's Supply-Side Working Group.³

Processing LRA-provided resource adequacy credits for resources not listed on resource adequacy plans or supply plans raises operational, capacity sufficiency, accountability, and regulatory compliance concerns. Although the CAISO previously allowed these credits to meet

² <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M342/K083/342083913.PDF>

³ Supply-Side Working Group Final Report, June 28, 2019 at pp.43-45.

a load serving entity's resource adequacy obligations as a business practice, these credits are not equivalent to resource adequacy resources. Unlike resource adequacy resources, these "credited" resources are not shown on a supply plan and are not subject to CAISO resource adequacy tariff provisions, including the must offer obligation.⁴

Because the credited resources are not shown on a supply plan, the CAISO system does not have any linkage to the actual resources supporting the credit. Even if these resources are registered in the CAISO's Master File,⁵ they are not subject to the resource adequacy must-offer obligation, substitute capacity obligations, or the resource adequacy availability incentive mechanism (RAAIM) incentives because they are not shown on a supply plan. Thus, these credited resources have no tariff obligation to bid into the CAISO markets to enable the CAISO to meet its reliability needs, and if they do not perform or underperform, they are not subject to RAAIM Non-Availability Charges. They do not have the same incentives or obligations to perform as resource adequacy resources. Additionally, if the credited resources are not backed by actual participating resources on the CAISO grid, they are not subject to exceptional dispatch and are not visible to the CAISO's resource adequacy-related systems. The practice of crediting resources not subject to resource adequacy tariff obligations undermines the program's efficacy and jeopardizes reliability.

To ensure equal and non-discriminatory treatment of all resource adequacy resources under the CAISO tariff and to ensure all resource adequacy resources follow the CAISO tariff, the CAISO initiated Business Practice Manual (BPM) Proposed Revision Request 1280 (PRR 1280) process. This BPM revision would have rejected any non-net-neutral credits that lower an LRA's resource adequacy requirement without a resource shown on a supply plan.⁶ Several

⁴ Resources not shown on supply plans do not meet the definition of RA Capacity, RA Resource, or Local Capacity Area Resources under the CAISO tariff, thus raising compliance issues. In that regard, the CAISO tariff (in Appendix A) defines Resource Adequacy Capacity as "the supply capacity of a Resource Adequacy Resource listed on a Resource Adequacy Plan and a Supply Plan." The tariff (in Appendix A) defines a Resource Adequacy Resource as "a resource designated on a Supply Plan to provide Resource Adequacy Capacity." The tariff defines a Local Capacity Area Resource as "Resource Adequacy Capacity... that is located in a Local Capacity Area capable of contributing toward the amount of capacity required in a particular Local Capacity Area." See: <http://www.aiso.com/Documents/AppendixA-MasterDefinitionSupplement-asof-Jan1-2021.pdf>

⁵ CAISO's Master File contains data for all resources (resource adequacy or non-resource adequacy) participating in the CAISO markets.

⁶ See CAISO tariff definition of "Resource Adequacy Capacity" at <http://www.aiso.com/Documents/AppendixA-MasterDefinitionSupplement-asof-Jan1-2021.pdf>.

entities appealed PRR 1280 and the CAISO's BPM Appeals Committee ultimately decided to hold PRR 1280 in abeyance until the Committee renders a future decision on or after August 1, 2021 to allow time for the CAISO to collaborate with the Commission and other LRAs to address this important RA issue.⁷ The BPM Appeals Committee decision recognized the CAISO's and Commission's agreement to work constructively and collaboratively to resolve the crediting issues by August 1, 2021. The decision stated the agreed upon collaborative process had the potential to alleviate the CAISO's concerns, while addressing the concerns raised by stakeholders in the appeal. The CAISO's proposal to remove non-net-neutral RA crediting, coupled with the recognition of demand response as a variable resource, will address the CAISO's reliability concerns with crediting and stakeholder concerns around requiring DR on supply plans.

Within the CAISO's PRR process and Track 2 of this resource adequacy proceeding, the Commission and its jurisdictional entities expressed concern with eliminating crediting for investor-owned utility demand response programs not listed on resource adequacy supply plans. In the PRR process, parties raised several concerns with eliminating non-net-neutral credits. In addition to procedural issues, stakeholders expressed concern over potential RAAIM consequences that could occur if demand response are included on supply plans. For example, PG&E stated in its reply brief that "Demand Response is a variable energy resource which should be treated similar to other variable energy resources and be exempt from Resource Adequacy Availability Incentive Mechanism (RAAIM) charges."⁸ As expressed in Track 3B.1 proposals, the CAISO agrees that demand response is a variable energy resource and should be treated and valued as such. However, as discussed further below, the current qualifying capacity counting methodology does not reflect demand response resources' variability. Accordingly, it is inappropriate to exempt them from RAAIM while the existing qualifying capacity counting methodology remains in place. Further, if a credited resource is unwilling or incapable of accepting the responsibilities of being RA Capacity, it raises concerns about the capability and dependability of that resource and bolsters the CAISO's concern about inaccurate capacity

⁷ CAISO BPM Appeals Committee Decision on Appeal of PRR 1280:

<http://www.aiso.com/Documents/ExecutiveAppealsCommitteeDecision-PRR1280-Dec092020.pdf>

⁸ PG&E Reply Brief: http://www.aiso.com/Documents/PG_EReReplyBrief-PRR1280-Nov232020.pdf;

SCE Reply Brief: <http://www.aiso.com/Documents/SCEReReplyBrief-PRR1280-Nov232020.pdf>.

valuation and possible capacity leaning. If the IOU DR programs are incapable of delivering their RA capacity value for which they are deemed, then, as the CAISO has been petitioning, the Commission should formally recognize that fact and begin treating and valuing DR as a variable energy RA resource. If DR were evaluated like other variable resources under an ELCC methodology, then a RAAIM exemption might be appropriate. Until that time, DR is a fixed capacity resource subject to RAAIM like all other similarly situated RA resources.

In Track 2 comments, Southern California Edison Company (SCE) expressed similar concerns and urged the Commission not to require it to show its demand response programs on resource adequacy supply plans. SCE argued its demand response programs have a better track record—in terms of bidding behavior and performance—than demand response resources on supply plans.⁹ SCE also argued that the Commission should not require it to show demand response resources on its supply plans because its demand response programs are subject to least-cost dispatch rules and oversight. These arguments do not support continuing crediting. Past performance does not exempt resources from resource adequacy showing requirements and it does not ensure resource adequacy tariff compliance. Least cost dispatch rules and oversight do not serve as a substitute for robust resource adequacy showing requirements and compliance with a must offer obligation. Further, scheduling coordinators for third party demand response providers operating under the Demand Response Auction Mechanism (DRAM) are required to show their proxy demand resources on supply plans. Crediting load serving entity demand response programs creates an uneven playing field and allows preferential and discriminatory treatment.

SCE's prior comments also noted that:

“[t]he main issue is that inclusion of [demand response] resources on CAISO supply plans would require bidding resources’ in the CAISO markets at their net qualifying capacity (‘NQC’), which is static for the entire month, or be subject to RAAIM charges... [t]he output of [demand response] resources is largely variable throughout the month (potentially daily) and could range from zero MW to above PMAX during those timeframes. The CAISO’s MOO, however, does not recognize the Commission’s allowance for resources to be available at differing amounts provided

⁹ SCE Comments on Workshop on Track 2 Proposals, Track 2 Proposals, and Track 2 Working Group Reports, R.19-11-009, March 23, 2020, p. 13.

the resource is available at its peak value for four consecutive hours and three consecutive days.¹⁰

This does not support retaining crediting. The Commission's resource adequacy program—which does not recognize demand response resource variability—establishes the qualifying capacity for demand response resources. The CAISO uses the Commission-provided qualifying capacity values to establish its must offer obligation. Consistent with this framework, third-party DRAM resources currently have must offer obligations based on a fixed qualifying capacity value, regardless of whether the underlying resources are variable and/or weather sensitive. There is no justification for treating credited demand response programs differently than third-party demand response. This is especially true given the resources serve the same operational and reliability purposes and are sourced from similar aggregations of customers and customer loads. Such treatment is unduly discriminatory.

In addition to incentivizing performance, a key outcome of eliminating non-net-neutral credits is to ensure consistent treatment of all resource adequacy resources under the CAISO tariff. This requires all resources meeting resource adequacy obligations to be shown on supply plans. This outcome is indifferent to the resource type and ensures consistent and non-discriminatory treatment among all resources providing resource adequacy capacity. The CAISO agrees the Commission's qualifying capacity counting rules should address variable-output demand response resources as noted CAISO's Track 3B.1 filing, but this important issue is independent of how resource adequacy demand response resources should participate in a fair and non-discriminatory way under current Commission-sanctioned resource adequacy rules.

2. Reliability Demand Response Resources Capable of Partial Fast Response Do Not Meet Local Capacity Needs.

In addition to the crediting proposal, the Commission should also adopt the CAISO's slow RDRR resource adequacy counting proposal. As the CAISO explained in its slow demand response proposal, the CAISO cannot pre-contingency dispatch slow RDRRs because these resources can only be dispatched after the CAISO has declared an emergency or warning event.

¹⁰ SCE Comments on Workshop on Track 2 Proposals, Track 2 Proposals, and Track 2 Working Group Reports, R.19-11-009, March 23, 2020, p. 13.

As a result, the CAISO can only rely on “fast” RDRR to effectively meet local capacity contingency needs. “Fast” demand response resources are those that can fully respond within 20 minutes of a contingency event.¹¹

In Track 2, SCE and the California Large Energy Consumers Association (CLECA) assert that some slow RDRRs can partially respond within the 20-minute window and therefore should partially count toward meeting local capacity needs. For example, SCE contends that its BIP-30 program provides

an increasing load drop from the moment of dispatch, through the 30-minute mark when full performance is expected. Such programs should get credit for the significant number of MW they can contribute within the 20-minute timeframe. The 20-minute response MW amount could be estimated based on the resource’s historical test and dispatch performance.¹²

The CAISO has detailed the shortcomings of this partial counting approach on numerous occasions.¹³ In summary, the partial counting approach (1) is inconsistent with the current Commission resource adequacy rules, and (2) does not ensure a firm response within the 20-minute timeframe.

First, the partial counting approach is inconsistent with the Commission’s current resource adequacy program because it would require a single resource to have different local and system qualifying capacity values. The portion of a resource that could respond within 20 minutes would represent the local qualifying value, which would differ from the qualifying capacity value for system requirements. The Commission’s resource adequacy program is not designed to accommodate decoupling system and local qualifying capacity values. The Commission would need to develop the record to understand and weigh the impact of decoupling system and local capacity values. This decoupling would affect how resources would be

¹¹ NERC standards and the CAISO tariff section 40.3.1.1(1) specify a maximum manual adjustment time of 30 minutes after a first Contingency event for the CAISO to prepare the system for a subsequent Contingency. To manually readjust the system within the NERC-mandated 30-minute window, some amount of time must be reserved for operator action and market dispatch. Based on operational experience, the CAISO has determined that CAISO operators need 10 minutes to identify the Contingency and assess the problem, identify a solution, and then redispatch the system, which means full resource response must occur within 20 minutes post contingency.

¹² SCE Comments, p. 9.

¹³ See, e.g., *Comments of the California Independent System Operator Corporation*, R.14-10-010, January 29, 2016, p. 7.
http://www.caiso.com/Documents/Jan29_2016_Comments_2017Track1Proposals_ResourceAdequacyProgram_R14-10-010.pdf.

evaluated for compliance with resource adequacy requirements, how procurement works under such a paradigm, and would require implementation changes.

Second, there are no safeguards in place to ensure 20-minute response from a portion of a demand response program. SCE and CLECA state certain portions of the resource can reliably respond within 20 minutes due to the nature of underlying loads or as informed by statistics, but there is no contractual requirement or performance incentive to ensure the “fast” portion of the demand response resource will perform as needed. Instead, SCE states the fast responding portion can be “estimated” based on historical test and dispatch performance, which, in reality, would likely draw from an extremely limited data set.

Although the CAISO cannot utilize slow RDRR to meet local capacity needs, it continues to recommend demand response providers create separate resources that distinguish between fast and slow responding resources. CLECA explains that BIP resources “will begin almost immediately the process of shutting down their operations to get to their firm service levels within the program requirements. Therefore, some response will occur relatively quickly.”¹⁴ If this is accurate, the BIP provider and the relevant investor-owned utility could work together to identify processes that can be shut down within the 20-minute response period. The BIP provider can then segregate those processes as “fast” response resources, to the extent it can distinguish metering and performance evaluation. The BIP provider could then identify those processes that cannot be shut down within 20 minutes and classify those resources as slow RDRRs.

In any event, SCE and CLECA’s partial counting proposals should not prevent the Commission from recognizing the CAISO’s slow demand response dispatch solution as a significant step toward meeting local capacity requirements with slow demand response resources. Accordingly, the Commission should discontinue crediting demand response programs toward meeting load-serving entity resource adequacy requirements and, instead, require load-serving entities to show all demand response resources on resource adequacy supply plans as all other resource adequacy resources must do.

¹⁴ CLECA, *Opening Comments of the California Large Energy Consumers Association on Party Proposals on Track 2*, R.19-11-009, March 23, 2020, p. 4.

3. The Commission Should Stop Including a Planning Reserve Margin Adder in Demand Response Capacity Values.

In Track 2, PG&E recommended the Commission eliminate the 15 percent planning reserve margin (PRM) adder noting 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.”¹⁵ The Track 2 decision stated the Commission would consider the PRM adder issue for demand response in Track 4 in conjunction with the slow DR issue.¹⁶ The CAISO agrees with PG&E and recommends the Commission eliminate the PRM adder in its entirety.¹⁷ 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 that time, 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 curtailable load does not exist on the system and does not need to be served in the first instance, *i.e.*, essentially treating it like “energy efficiency.” The CAISO forecasts and plans to serve all load in the operational timeframe, even load that may be curtailed if dispatched as demand response. Likewise, the load-serving entity must procure and schedule the load that a demand response provider may curtail if economic to do so or if no emergency is called, which is the case with BIP. In other words, the load that may be curtailed must be served by the load-serving entity and CAISO (which also must procure operating reserves) in the first instance for the supply-side DR resource to be curtailed.

Furthermore, the PRM accounts for forecast error and forced outages. It is unclear and unexplained how RA demand response resources reduce system forecast error and forced outages. Fundamentally, the PRM adder given to resource adequacy demand response resources is built on flawed and unsupported premises. If the load-serving entity and CAISO did not schedule and procure load and associated reserves, there would be no “demand response” load to

¹⁵ 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.

¹⁶ Decision 20-06-031 at 85: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M342/K083/342083913.PDF>.

¹⁷ This applies to the current 15 percent PRM as well as any future changes to the PRM level.

curtail; it would already be “off the system.” Thus, demand response does not reduce the CAISO’s reserve requirements or costs, and there is no evidence demand response lowers the system forecast error or lowers the system average forced outage rate. On the other hand, the PRM adder inappropriately reduces the available resource adequacy capacity needed by the system.

III. Conclusion

The CAISO appreciates the opportunity to submit these Track 4 proposals.

Respectfully submitted

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