

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

Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local and Flexible Procurement Obligations for the 2016 and 2017 Compliance Years

Rulemaking 14-10-010
(Filed October 16, 2014)

**COMMENTS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

I. Introduction

The California Independent System Operator Corporation (CAISO) files these comments regarding the 2017 Track 1 resource adequacy (RA) proposals submitted on January 15, 2016.

The CAISO addresses the following proposals in these comments:

- A. Energy Division Staff Proposal 2: Demand Response Time Requirement for Qualification as Local Area Resource;
- B. Energy Division Staff Proposal regarding Effective Local Carrying Capability (ELCC) of Wind and Solar Resources;
- C. Southern California Edison Company's (SCE's) proposal regarding RA credit for partially integrated demand response resources; and
- D. The Joint DR Parties' proposal for a two-hour maximum cumulative capacity (MCC) product.

A. Energy Division Proposal 2: DR Response Time Requirement for Qualification as a Local RA Resource

As the CAISO explained in its opening comments filed on January 15, 2016, in which it set forth its proposal regarding local capacity resource response requirements, the CAISO believes that the Commission should align its local RA requirements with CAISO's Local Capacity Technical Study. As a result, the CAISO does not support the Energy Division's proposal.

The CAISO believes that the Energy Division proposal has several flaws. First, the Energy Division suggests that demand response resources could be "notified in the week ahead,"

and then actually dispatched day-ahead to ensure that the demand response resource load would be off-line the following day in anticipation of a contingency.¹ It is unclear what Energy Division envisions by notification “in the week ahead” or what CAISO market or processes would be used in this manner. Even if the CAISO could provide a week-ahead notification, such notification would not be meaningful. Notifying and dispatching a resource in anticipation of a contingency (pre-contingency) is different than dispatching a resource post-contingency. Advanced notification and dispatch of resources allows the CAISO to position resources so that the local area can be repositioned within safe operating limits in 30 minutes should a contingency occur. For slow responding generators (and many are) this means having these generators started and on-line at an output that allows the resource to ramp to its local capacity value within the 30 minutes. For a slow responding demand response resource, this means having the load off-line, so that the local area remains within safe loading conditions. This means slow responding demand response resources will be dispatched and curtailed in preparation for a contingency, though most of the time the contingency will not occur, thereby consuming limited available resource hours and fatiguing customers that have to interrupt critical loads. This is why fast responding demand response resources in local capacity areas are highly desirable.

The CAISO supports including in its Local Capacity Technical Study slower responding local capacity resources that have sufficient energy and availability to be dispatched on a pre-contingency basis. Many resources fall into this category. Demand response resources, in particular, present a challenge in this respect because it is difficult to find accurate information about the true capability and availability of such resources that the CAISO could use to incorporate and test in its Local Capacity Technical Study.

The CAISO also takes issue with the proposal’s statement that “there is no physical ramping constraint to DR resources.” This statement is unsubstantiated and overly broad. There are myriad types of loads and industrial processes that make up demand response resources. The veracity of this claim requires substantive evidence.

Finally, the proposal states that “many renewable resources do not have “perfect” deliverability because they are inherently variable, and CAISO has not proposed changing their

¹ Energy Division Demand Response-Related Proposals, p. 6.

local RA value through a specific dispatch requirement.”² In this respect, the proposal conflates how resource QC is set and used for planning purposes versus how resources are operated and dispatched. Relative to nameplate capacity, renewable resources receive a much lower QC value than traditional thermal resources and demand response. The QC value for renewable resources is set based on a reasonable level of assurance that the energy behind the qualifying capacity will be available when and where needed *despite* the variability of the resource. For instance, if a contingency occurs during high load conditions, based on the Commission’s QC methodology there is a high expectation that a solar resource will deliver energy at or above its QC value. This is not comparable to a non-variable resource that has a QC value equal to its nameplate capacity, but cannot deliver energy when and where needed due to use and availability limitations. Again, the Energy Division proposal confuses resource qualifying capacity values with resource capabilities and dispatch.

The proposal states that:

[w]hile CAISO, pursuant to a variety of NERC standards, must rebalance the overall system within 30 minutes of the occurrence of a contingency, the ramifications on the individual start times of resource is unexplained. The result is that opaque technical study assumptions are turning into de facto requirements without a sufficient record in this proceeding that these requirements are necessary and appropriate.³

The CAISO is concerned that the Energy Division proposal acknowledges NERC standards and the required time to reposition the system after a contingency, yet fails to acknowledge there is clear connection between meeting reliability standards and procuring resources with the right attributes to meet these standards. Additionally, the proposal asserts the CAISO’s Local Capacity Technical Study is “opaque.” However, the local capacity technical analysis and process, which the CAISO has conducted and followed for years and the CPUC staff has been a part of, remains significantly unchanged and follows the provisions for the local capacity technical analysis as specified in CAISO tariff section 40, which clearly states:

The Local Capacity Technical Study will determine the minimum amount of Local Capacity Area Resources needed to address the Contingencies identified in Section 40.3.1.2. In performing the Local Capacity Technical Study, the CAISO

² Id. p. 6.

³ Id. p. 5.

will apply those methods for resolving Contingencies considered appropriate for the performance level that corresponds to a particular studied Contingency, as provided in NERC Planning Standards. TPL-001-0, TPL-002-0, TPL003-0, and TPL-004-0, as augmented by the CAISO Reliability Criteria in accordance with the Transmission Control Agreement and Section 24.2.1. The CAISO Reliability Criteria shall include:

- (1) Time Allowed for Manual Readjustment: This is the amount of time required for the Operator to take all actions necessary to prepare the system for the next Contingency. This time should not be more than thirty (30) minutes.⁴

These statements are not opaque. The CAISO tariff clearly states that the CAISO must plan the system so that there are sufficient resources available in a local capacity area so it can reposition the system within 30 minutes to be prepared for the next contingency. The CAISO tariff defines Local Capacity Area Resources as “Resource Adequacy Capacity from a Generating Unit listed in the technical study or Participating Load or Proxy Demand Response Resource or Reliability Demand Response Resource that is located within a Local Capacity Area capable of contributing toward the amount of capacity required in a Local Capacity Area.” If resources cannot meet the requirements of the Local Capacity Technical Study, then they are not “capable of contributing toward the amount of capacity required in a Local Capacity Area.”

The CAISO’s local capacity technical analysis assumptions are not “de facto resource adequacy requirements.” However, under the tariff, they constitute requirements for which the CAISO must plan and may procure backstop capacity if necessary to comply with applicable reliability criteria. Only the Commission can change its resource adequacy program rules and requirements. It is the Commission’s prerogative to make such changes, or not. Similarly, the CAISO has a mandate to maintain grid reliability and ensure it meets all the applicable reliability standards within its balancing authority area. It is highly desirable for the CAISO’s grid reliability mandate and the Commission’s energy and resource procurement requirements to align, but it is not obligatory. However, to the extent resources adequacy resource are not sufficient to enable the CAISO to meet applicable reliability criteria, the CAISO can procure backstop capacity through its capacity procurement mechanism.

In fact, the Energy Division proposal would have the Commission exercise its right to not impose a response time requirement on demand response that can be called in the local capacity

⁴ CAISO tariff section 40.3.1.1.

areas. The proposal states “ED staff proposes that existing DR programs continue to receive Local RA credit regardless of their notification time as has been the practice since 2006.” As this demonstrates, the Commission’s local RA rules and the CAISO’s Local Capacity Technical Study have not been aligned for some time. In other words, the Commission has allowed certain RA resources to count as Local Capacity Resources that cannot be reasonably evaluated in the CAISO’s local capacity technical analysis, and there have been no financial consequences to ratepayers to date from CAISO based actions. It is not practical to continue to perpetuate this discrepancy, but the Commission has the authority to do so and the CAISO cannot impose new requirements on the Commission’s resource adequacy program or its load-serving entities. To date, the CAISO has not had to exercise its backstop capacity procurement mechanism authority to cure a local capacity deficiency because load serving entities in aggregate generally have shown sufficient Local Capacity Area Resources that meet the CAISO’s requirements in their resource adequacy showings. To the extent the Commission’s resource adequacy program prevents this in the future, the CAISO would be forced to procure backstop capacity.

In any event, the CAISO believes it is important to clearly state how it will study resources with limited energy and availability in its Local Capacity Technical Study. If the CAISO identifies an uncured local capacity deficiency, it may exercise its CPM authority to cure the deficiency and comply with NERC operational requirements. The Energy Division Proposal acknowledges the risk of CPM, but recommends not modifying the resource adequacy program at this time, suggesting it has carefully weighed the risks of a CPM designation and made an informed decision on behalf of ratepayers.

The CAISO also clarifies two errors made in the Energy Division proposal. First, the proposal incorrectly states that the CAISO only supported Calpine Corporation’s original 20-minute local capacity proposal, but did not originally file comments on its own concerning this issue in the 2015 resource adequacy proceeding.⁵ To the contrary, the CAISO raised the 20-minute local capacity resource response time in its opening comments on resource adequacy proposals in the 2015 resource adequacy proceeding R.14-10-010.⁶ The CAISO’s opening

⁵ Energy Division Demand Response-Related Proposals, p. 4.

⁶ Comments and Proposals of the CAISO, R.14-10-010, January 16, 2015, pp. 3-4.

comments in this proceeding also noted that the CAISO raised this issue in the 2015 resource adequacy proceeding.⁷

The second error in the ED proposal is the statement that “[s]ince the June 2015 decision, steps have been taken by the CAISO to implement a 20 minute rule.”⁸ To be clear, the CAISO has applied this criteria consistently in its Local Capacity Technical Study and has raised it in different Commission forums since 2012. In addition to raising the issue in the 2015 resource adequacy proceeding, the CAISO has raised the issue in the long-term planning proceeding (R.13-12-010, R.12-03-014), the demand response rulemaking (R.13-09-011), and this resource adequacy proceeding (R.14-10-010). The CAISO has not taken steps to implement a new rule change. Rather, the CAISO has merely taken steps to clarify existing practice under its FERC-approved tariff, by proposing a corresponding change to its business practice manual.

B. Energy Division ELCC Methodology and Proposal

The CAISO continues to support the efforts of Energy Division to establish ELCC values for wind and solar resources. The CAISO does not have specific comments on the proposal at this time and instead seeks additional detail from Energy Division regarding the implications of some of the assumptions utilized in the study methodology. Specifically, the CAISO seeks additional explanation for the following:

- 1) Why Energy Division removed 4,716 MW of existing capacity and how Energy Division selected this capacity.⁹ Many of the removed resources are located in local capacity areas and, thus, are not likely to be unavailable or would impact local reliability.
- 2) Energy Division states that these resources have been removed to “lower the probability weighted average expected LOLE of the CAISO system to an ‘annual LOLE’ of 0.1.”¹⁰
 - a. Are the resources listed on page ten of the ELCC Proposal the only combination of resources that achieved this objective?

⁷ CAISO Comments filed January 15, 2016, p. 1.

⁸ Energy Division Demand Response-Related Proposals, p. 4.

⁹ Energy Division ELCC Proposal, p. 10.

¹⁰ Energy Division ELCC Proposal, p. 10.

- b. Are the ELCC results sensitive to the portfolio of resources that have been removed (*i.e.* if different resources were removed, would the ELCC calculations for wind and solar resources change)?
- c. Why were resources removed? For year-ahead resource adequacy purposes, why would it be unreasonable to proceed with all existing resources? What would be the impact on the ELCC of wind and solar resources if all capacity was left in the simulation?

The CAISO hopes Energy Division will address these questions and continue to provide greater detail on the assumptions used for the study methodology.

C. SCE’s Proposal to Give Full RA Credit Resources Only Partially Integrated into the CAISO Market

SCE recommends a demand response program attributing full resource adequacy credit for demand response resources integrated into the CAISO market, even though “less than 100% of participating customer Service Accounts may be registered with the CAISO for a variety of reasons.”¹¹ This proposal would be unreasonable, discriminatory, and sets bad precedent.

This proposal is discriminatory because other similarly situated resources are not treated in this manner. For example, a Combined Heat and Power (CHP) resource may have a total capacity greater than the portion integrated into the CAISO market, but the Commission attributes resource adequacy credit only to the portion of capacity that is available for participation in the wholesale market. A five megawatt (MW) CHP may have a three MW contract with its host customer, meaning it has two MW of excess capacity available to the market. If an LSE acquired the two MW of excess capacity from the CHP, it could not claim the entire five MW of capacity for resource adequacy credit from that resource. Only the two MW subject to the resource adequacy must offer obligation and able to be scheduled in the CAISO market and respond to CAISO dispatch instructions is counted for resource adequacy credit. Similarly, only that portion of a demand response resource integrated into the CAISO market is subject to the must offer obligation and performance obligations. The non-integrated portion of

¹¹ Southern California Edison Company’s Proposals on ELCC and Refinements to the Resource Adequacy Programs, p. 2.

the demand response resource is not subject to the same requirements and obligations and therefore should not be counted toward resource adequacy requirements.

The issue presented by partially integrated demand response resources can be addressed without changing the resource adequacy rules. SCE reasons that some demand response program customers “may not meet the [CAISO’s] minimum resource size criteria if they have less than 100 kW of load drop potential in a specific area.”¹² This problem can be remedied by increasing the flexibility of SCE’s demand response programs. First, SCE should combine its underlying demand response programs into supply-side demand response resources in a manner that allows for effective and creative program combinations. This way, more and diverse customers can be aggregated together to create larger, more robust and more flexible resources. Instead, SCE’s current strategy appears to follow a rigid one program, one resource model, which could lead to these minimum resource size problems. There is no CAISO requirement that individual resources within an aggregation be from the same demand response program. SCE and other demand response aggregators should take advantage of this flexibility.

The CAISO intentionally designed its 100 kW minimum resource size to be a very low threshold and a reasonable resource attribute to enable participation in the CAISO market.¹³ The minimum resource size threshold is trivial with respect to actual SCE program results and enrollment figures. For instance, SCE’s Summer Discount Plan (AC cycling program) load impacts are 4.2 kW per commercial customer and 0.7 kW per residential customer. To reach the CAISO’s 100 kW resource size threshold, it takes only 24 commercial customers or 142 residential customers, out of 11,975 and 314,939 commercial and residential customers enrolled in the SDP program, respectively.¹⁴ In other words, it takes 0.045% of SCE’s SDP residential customer enrollment and 0.2% of SCE’s SDP commercial customer enrollment to meet the minimum CAISO demand response resource size. This is a low bar for participation. The Commission should not alter its resource adequacy program; rather, it should encourage SCE to

¹² Id. p. 2.

¹³ The CAISO’s energy market employs mixed integer programming techniques to optimize resources around a least cost dispatch objective function. Resources that are very small can be problematic when using such techniques because it is difficult to iterate an optimal solution down to the cost parameters such small resources reflect. Allowing even smaller sized resources to participate in the wholesale electricity markets is neither practical nor feasible.

¹⁴ Executive Summary: 2015–2025 Demand Response Portfolio of Southern California Edison Company, April 1, 2015, Prepared for Southern California Edison Co., Prepared by Candice A. Churchwell Senior Consultant, Nexant, Inc., Table 4-2: 2014 Ex Post Load Impacts for the Average Event by Event-based Program, at p.30.

resolve its technical issues through program modifications and by enhancing its resource aggregation and dispatch capabilities.

D. The Joint DR Parties Proposal for a Two-Hour Resource Adequacy Product

The CAISO has provided comments on this matter in previous resource adequacy cycles and, in summary, reiterates “what is needed in any specific operational scenario should not be confused with determining what are reasonable resource adequacy planning standards and requirements to reasonably ensure a broad cross-section of operational needs can be satisfied across a broad set of time horizons.”¹⁵ The objective of creating a new resource adequacy product should be to provide additional system reliability benefits. The proposal of the Joint DR Parties does not demonstrate that a two-hour MCC bucket will, in fact, increase system reliability.

Respectfully submitted,

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Date: January 29, 2016

¹⁵ http://www.caiso.com/Documents/Jan16_2015_Comments_Proposal_ResourceAdequacy_R14-10-010.pdf