

**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
ON PROPOSED DECISION**

I. Introduction

Pursuant to Rule 14.3 of the Rules of Practice and Procedure of the California Public Utilities Commission (Commission), the California Independent System Operator Corporation (CAISO) files these comments regarding the proposed *Decision Adopting Local Procurement and Flexible Capacity Obligations for 2016, and Further Refining the Resource Adequacy Program (Proposed Decision)*. In general, the CAISO supports the Proposed Decision. The CAISO recommends that Proposed Decision be modified with respect to the proposed (1) flexible resource adequacy treatment for storage resources with transition times up to 45 minutes and (2) qualifying capacity (QC) for combined heat and power (CHP) resources.

II. Discussion

The purpose of resource adequacy is not a simple accounting exercise to show that load serving entities have procured adequate capacity—system, local, flexible, or otherwise. The resource adequacy program provides the CAISO with the necessary resources to address reliability needs when and where needed. This means that the CAISO must be able to use a

resource adequacy resource consistent with the reliability need for which it has been procured. This understanding of resource adequacy provides the basis for these comments.

A. Storage Resources with Non-Zero Transition Times

The Proposed Decision accepts Pacific Gas and Electric Company's (PG&E) proposal to allow storage resources with transition times up to 45 minutes to count the charging portion of the resource to count toward the unit's effective flexible capacity (EFC). This determination fails to recognize that significant reliability questions exist regarding the capability of such resources to meet flexible resource adequacy requirements. The Proposed Decision also creates an unnecessary division between the flexible capacity rules used by the CAISO and those used by the Commission. This will increase the potential for backstop procurement by the CAISO, potentially increasing costs for ratepayers solely because the procured resource could not meet the CAISO's reliability and flexible capacity needs. As a result, the CAISO believes the Commission should defer this matter—as it has for all other issues pertaining to flexible capacity—until the Commission considers a durable flexible capacity product in Phase 2 of this proceeding. This deferral will allow the CAISO to assess any potential reliability concerns fully and coordinate with the Commission on treatment of storage resources with non-zero transition times for flexible capacity assessment under the CAISO tariff.

The Proposed Decision states “storage resources with non-zero transition times are capable of addressing the three hour ramp, just as other storage resources that move from charging to discharging we agree that the discharge portion of these resources should be counted in the EFC.” However, neither PG&E nor any other supporting party has demonstrated that it would support reliable operation of the grid and enable the CAISO to meet its flexible capacity need if the Commission were to allow a storage resource with a 45-minute transition time to

count the charging portion of that transition toward the resource's EFC. The CAISO noted that PG&E has not presented sufficient data to describe the conditions under which its Helms Pumped Storage Plant (Helms) "shifted from pumping to generation, the frequency of shifting per day, the conditions under which Helms was not able to pump, or the nature of the dispatch instruction." This information is necessary to determine whether resources like Helms can address reliability needs when and where needed.

The Proposed Decision asserts that "[t]he CAISO does not argue that pumped storage fails to address the net load ramp." This is not accurate, especially as it pertains to large non-variable speed pump hydro resources. The CAISO clearly expressed its concern as to whether pumped storage feasibly can be dispatched as pumping load to meet net load ramps.¹ Even if the CAISO were able to optimize a resource with transition times, it may not be feasible to dispatch all of the pumping or generating capacity. Large load resources may cause localized congestion and may not be able to utilize their full charging capabilities to lift the belly of the duck curve.

The CAISO also has specific concerns regarding the ability of large pumped hydro resources to address the three hour net load ramp. Helms, for example, is located in a transmission constrained area. If a large storage resource is located within a load pocket, the resource may only be supplied by starting additional generation inside the load pocket. Because the CAISO potentially would have to start new capacity, instead of utilizing excess capacity external to the load pocket, it would not be "capable of addressing the three hour ramp."

Although it is true that the CAISO pumped hydro model is a functional model that cannot currently manage and optimize resources with a non-zero transition time, the limitations of the CAISO pumped storage model are tied to the limitations on storage resources with non-zero

¹ CAISO Comments on February 9, 2015 Workshop Presentations and Proposals, p. 8-9 and CAISO Reply Comments on February 9, 2015 Workshop Presentations and Proposals, p. 9

transition times. The CAISO is committed to updating the pumped hydro storage model, but it must be done in a way that accurately captures the flexible capabilities of storage units that have transition time limitations. However, the CAISO does not currently have that capability and implementing this aspect of the Proposed Decision for the 2016 resource adequacy compliance year therefore will be problematic from a reliability perspective. The CAISO has expressed its commitment to address this question in its upcoming Energy Storage and Aggregated Distributed Energy Resources² and Reliability Services Initiative – Phase 2³ stakeholder processes. In the meantime, the CAISO has identified real reliability concerns that must be addressed before the Commission makes a final decision on flexible capacity values for storage resources with non-zero transition times. As such, the CAISO recommends the Commission defer any determination on this matter until completion of Phase 2 of this proceeding, which will consider flexible capacity enhancements, and the CAISO’s stakeholder initiatives are completed. This will allow both the Commission and the CAISO to obtain and assess the data necessary to make an informed decision on this issue and the CAISO to implement necessary modeling changes.

B. QC for CHP Resources

The Proposed Decision accepts PG&E’s proposal to redefine dispatchability for cogeneration facilities that are unable to bid into the real-time market, but are able to submit schedules into the day-ahead market.⁴ Specifically, PG&E proposes that the Commission should modify the QC definitions to allow resource adequacy resources that are capable of operating in accordance with day-ahead and pre-day-ahead scheduling instruction, but are not fully capable of

² See slide 15 at <http://www.caiso.com/Documents/AgendaandPresentation-EnergyStorageandDistributedEnergyResourceParticipation.pdf>

³ See 17 at <http://www.caiso.com/Documents/DraftFinalProposalAddendum-ReliabilityServices.pdf>

⁴ Proposed Decision at p. 20.

responding to real-time dispatch instructions, to be given a QC value based on Pmax, rather than based on historical output.

The CAISO agrees that the current definition of dispatchability does not recognize the full potential contribution of CHP facilities, but PG&E's proposal will over count their contribution by not accurately accounting for what CHP facilities are capable of providing on a regular basis. The CAISO proposed alternative—based on availability, not historical output—more accurately captures the resource adequacy contribution of CHP resources. The CAISO's alternative would allocate QC to CHP resources based on historical availability, from bids or self-schedules, not historical output. This corresponds with the CAISO's resource adequacy availability mechanism (RAAIM) that the CAISO has filed for approval with the Federal Energy Regulatory Commission (FERC) and that provides an exemption for CHP resources because it is not possible to hold the resources to a fixed RA value every day because the output to the CAISO system typically depends first on host industrial processes and not the PMax of a resource. As such, it is possible to use the availability of CHP resources as proposed by the CAISO to determine the resource's RA value without a double penalty or reducing QC values because the resource was not dispatched by the CAISO.

Commission adoption of PG&E's proposal, when combined with the CAISO's proposal at FERC to exempt CHP resources from the RAAIM, will inappropriately allow CHP resources to receive resource adequacy value for their maximum output with no incentives to provide a comparable level of capacity to the CAISO markets. The CAISO's proposal is consistent and comparable to the Proposed Decision's determination regarding wind and solar resources, both of which are also exempt from the RAAIM. The Commission should apply similar treatment to CHP resources that are dispatchable only in the day-ahead market.

In any event, the Commission should recognize the distinction between day-ahead and pre-dispatch resources. For pre-dispatch resources, the CAISO supports the proposal put forward by San Diego Gas and Electric Company. Pre-dispatched resources are being dispatched to the levels that represent a combination of their output capability and their benefit to the system, which is what the QC capacity value of a resource should reflect. Because the resource is dispatched prior to the CAISO's day-ahead market, it is reasonable to assume its availability is its pre-dispatch output. Thus, it is reasonable to continue to set pre-dispatch resource QC based on historic output.⁵

C. Capping Local Resource Adequacy at System Requirements

The CAISO supports the determination in the Proposed Decision to cap local resource adequacy requirements at the system resource adequacy levels for monthly plans. As noted in the CAISO's previous comments, "[a]pplying the cap at the system requirement level will ensure that neither an LSE nor a resource, under the applicable replacement provisions in the CAISO's tariff, will be required to replace capacity beyond what is needed for grid reliability."⁶ The CAISO Board of Governors approved a similar proposal at its March 2015 meeting, and the CAISO will file the applicable tariff language with the FERC.

D. Treatment of Outages of QC Calculations

The CAISO supports the Proposed Decision's treatment of outage data for wind and solar resources for the 2016 resource adequacy year. Although the Proposed Decision contemplates this treatment only for the 2016 resource adequacy year, the CAISO believes that this is an important and valuable step toward better understanding the implications of different treatments for wind and solar resource outages. The CAISO notes it has made a tariff amendment filing

⁵ Id. at 10.

⁶ CAISO Reply Comments on February 9, 2015 Workshop Presentations and Proposals at p. 4.

with FERC that is consistent with this determination. The CAISO believes that it is reasonable to reevaluate this issue and the impact this new treatment will have for wind and solar outages.

III. Conclusion

The CAISO believes it is important to modify the Proposed Decision with regard to the resource adequacy treatment for storage resources with non-zero transition times and the QC for CHP units. Without modification, the Proposed Decision will not guarantee the CAISO will have the necessary resources to address reliability needs when and where needed. The CAISO supports the remainder of the Proposed Decision.

By: /s/ Jordan Pinjuv

Roger E. Collanton

General Counsel

Anthony Ivancovich

Deputy General Counsel

Anna A. McKenna

Assistant General Counsel

Jordan Pinjuv

Counsel

California Independent System

Operator Corporation

250 Outcropping Way

Folsom California 95630

Tel.: (916) 351-4429

Fax.: (916) 608-7222

jpinjuv@caiso.com

Attorneys for the California Independent System

Operator Corporation

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