

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

Order Instituting Rulemaking to Integrate
and Refine Procurement Policies and
Consider Long-Term Procurement Plans

Rulemaking 13-12-010
Filed December 19, 2013

**COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR
CORPORATION TO THE ADMINISTRATIVE LAW JUDGE'S RULING
SEEKING COMMENT ON DECEMBER 9, 2014 PROPOSAL**

Pursuant to the Administrative Law Judge's December 16, 2014 Ruling Seeking Comment on the nine-point plan proposed at the December 8, 2014 status conference, the California Independent System Operator Corporation (CAISO) hereby files these comments.

I. Introduction

The CAISO generally supports the nine-point plan for moving forward in this proceeding as detailed at the December 9, 2014 prehearing conference. As the CAISO understands the plan, the two critical objectives remaining in this proceeding will be to refine the deterministic and stochastic models and develop policy guidance for investor-owned utilities in future shortfall situations. The CAISO agrees that these are critical issues that can and should be addressed in Phase 1B of this proceeding. The CAISO recommends that the Commission analyze these issues in the context of the modeling results performed to date in this proceeding that have consistently indicated the possibility of over-generation and renewable curtailment in 2024 and capacity shortfalls during non-peak hours.

II. Discussion

In order to refine the study models and provide meaningful policy guidance to the utilities, the CAISO recommends that Phase 1B of this proceeding focus on the following issues: (1) the use and purpose of stochastic vs. deterministic modeling; (2) vetting particular assumptions that have been questioned in this proceeding; and (3) redefining procurement to meet new policy challenges that may not be addressed under the existing

procurement construct. These issues are closely aligned with those identified in the nine-point plan and are explained in more detail below.

A. Stochastic vs. Deterministic Modeling

The nine-point plan indicates that Phase 1B of this proceeding will refine both the stochastic and deterministic models but that the focus should be on stochastic modeling for long-term generation planning. The CAISO agrees that both modeling methods provide value in particular circumstances, but the Commission should determine specifically how it will use each of these modeling methods to make long-term planning decisions. The CAISO agrees with the preference expressed in the nine-point plan to use stochastic modeling, but the Commission must continue to develop the stochastic modeling assumptions as well as applicable reliability standard so that it can affirmatively and effectively make long-term procurement planning decisions based on the stochastic modeling results.

In addition, the Commission should also identify what, if any, new modeling assumptions are required to address critical issues such as over-generation and renewable curtailment. The results of modeling conducted in Phase 1A of this proceeding illustrate this need. While all modeling results showed the potential for over-generation and renewable curtailment, as the CAISO stated and the nine-point acknowledges, the Phase 1A modeling conducted to date is insufficient to determine precise flexible capacity needs.

The CAISO continues to believe that additional deterministic modeling is necessary to generate detailed simulation results to (1) identify the cause of the renewable curtailment seen in both the deterministic and stochastic results; and (2) determine if this curtailment demonstrates a flexible capacity need that the Commission should address. Consistent with point four of the nine-point plan, the CAISO believes that conducting additional deterministic modeling with no renewable curtailment can, and should, inform Phase 1B, while the stochastic models are being refined. These studies will indicate whether the CAISO can reliably operate the transmission system without curtailing renewables. The studies will also inform what types of resources or alternative solutions will be useful in addressing non-curtailment alternatives to potential over-generation

issues.¹ Further, these studies will provide additional information regarding the benefits and limits of specific modeling assumptions while also providing a clearer picture of long-term flexibility issues.

B. Refining Assumptions

The Commission and the parties to this proceeding have conducted a significant amount of work developing common assumptions and scenarios as provided in Assigned Commissioner's Ruling issued on May 14, 2014. However, during the course of this proceeding, parties questioned several modeling assumptions that were not specified in the Commissioner's Ruling. For example, regarding the deterministic modeling, parties questioned the CAISO's assumptions regarding net export limits, regional generation requirements, and load forecast error. Also, the CAISO notes that no modeling assumptions specific to stochastic modeling were specified in the May 14, 2014 Assigned Commissioner Ruling. The Commission should use Phase 1B to vet these assumptions further in order to focus future long-term procurement plan efforts on identifying needs and procurement solutions. The end result of this vetting should be better defined assumptions upon which the Commission and the parties can rely to determine system and flexible capacity needs.

C. Redefining Procurement to Meet New Policy Challenges

One consistent conclusion from the modeling in Phase 1A is that there are new long-term planning challenges that must be addressed in order to effectively balance the interests of maintaining reliability of the electric system and meeting California's long-term policy goals. Over-generation and renewable curtailment have significant implications for real-time grid operations, state renewable policy goals, ratepayer costs, and generator cost recovery. These implications become more pronounced with higher penetrations of renewable energy on the grid.² The long-term procurement plan modeling currently provides a snapshot of potential over-generation in 2024, but the

¹ The CAISO notes that some parties doubt the ability to run a no-curtailment scenario "without significantly violating other important reliability constraints." However, it is important to identify such reliability constraint violations in order to determine the potential operational issues under this scenario. This study would identify the reliability constraints and would help inform potential solutions.

² The CAISO notes that Governor Brown has recently announced a goal of providing 50% of electric generation from renewable resources by 2030. <http://news.yahoo.com/california-governor-wants-50-percent-electricity-renewables-2030-192535569--business.html>.

traditional procurement activities authorized in the long-term procurement plan may not be suitable for addressing over-generation concerns.

To address these concerns, the CAISO strongly supports developing policy guidance in Phase 1B to address long-term over-generation issues. In addition to developing policy guidance, Phase 1B should determine how such policy guidance can be translated to action by the utilities. The CAISO believes that a range of options in addition to procurement of traditional flexible generation capacity may be helpful in meeting the challenges posed by over-generation. The CAISO has identified the following options that Phase 1B should explore to develop appropriate policy guidance:

- Modifying curtailment provisions in power purchase agreements to reconcile renewable portfolio standard priorities and operational challenges;
- Increasing energy storage, demand response, and energy efficiency;
- Developing time-of-use rates aligned with regional and seasonal system conditions;
- Achieving deeper regional coordination with other balancing authorities;
- Electrification of transportation and related managed charging; and
- Reducing fleet minimum load burden by increasing fleet flexibility.

Furthermore, the CAISO's studies have shown a shift in the timing of capacity shortfalls. Specifically, the shortfalls identified in the CAISO's deterministic models occur well after gross peak load hours.³ This indicates that a procurement target that focuses simply on meeting peak load is no longer adequate, and thus the Commission must develop new or additional measurements for resource shortfalls that includes non-peak hours. The need for such a metric is made clear in the Phase 1A testimony submitted by Southern California Edison Company (SCE). SCE's results indicate a net capacity shortfall during the summer with the highest probability of shortfall occurring in hours 18-20.⁴ However, SCE also states that there is no need for new capacity, in part because the system is able to meet the peak load plus fifteen percent planning reserve

³ Phase 1.A. Direct Testimony of Dr. Shucheng Liu on behalf of the California Independent System Operator Corporation, p. 36.

⁴ Revised Phase 1A Testimony of Southern California Edison Company on Resource Need – 2014 Long Term Procurement Plant Trajectory Scenario, p. 11.

margin.⁵ This illustrates the difficulty of relying only on a planning reserve margin analysis to project long-term procurement needs based on the current resource mix.

Developing policy guidance and a path toward achieving these options is critical in meeting the long-term needs in an efficient and cost-effective manner. The nine-point plan acknowledges that a need for additional resources by 2024 may exist, but there is insufficient evidence at this time to authorize procurement. With this in mind, the Commission should actively work toward developing policy guidance to inform utilities on how future-identified needs can be mitigated in a cost-effective and timely manner.

III. Conclusion

As stated above, the CAISO supports the nine-point plant put forth by the ALJ at the December 9, 2014 status conference. The CAISO does not request evidentiary hearings in Phase 1A of this proceeding, but reserves the right to request hearings in Phase 1B, if necessary.

Respectfully submitted,

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, CA 95630
T – 916-351-4429
F – 916-608-7222
jpinjuv@caiso.com

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⁵ *Id.* at p. 15-16.