

**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
Procurement Obligations

Rulemaking 11-10-023
(Filed October 20, 2011)

**SIERRA CLUB OPENING COMMENTS ON JOINT PARTY AND ENERGY DIVISION
FLEXIBLE CAPACITY PROCUREMENT PROPOSALS**

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Dated: April 5, 2013

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Pursuant to the Administrative Law Judge’s Ruling Resetting Schedule for Comments on Phase 2 Resource Adequacy Issues and Scheduling a Prehearing Conference filed March 11, 2013, the Sierra Club submits the following Opening Comments on proposals by the California Independent System Operator (CAISO), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE) (collectively, the “Joint Party Proposal”) and by the Energy Division (“Energy Division Proposal”) on Flexible Capacity Procurement (collectively “Proposals”).

I. INTRODUCTION

The Sierra Club appreciates that as penetration of wind and solar resources continues to increase, changes to the existing Resource Adequacy program may become necessary to ensure the availability of operational flexible capacity to meet renewable integration needs. However, in keeping with the Commission’s mandate to balance reliability needs with cost considerations and the commitment to a clean environment, care must be taken to ensure any proposed flexible capacity procurement mechanism is adopted only when needed, and designed in a manner that is consistent with the Loading Order and the State’s greenhouse gas reduction objectives. The Proposals currently fail on both counts.

First, flexible capacity procurement is not needed at this time. The CAISO’s revised projections indicate that future flexibility need is significantly more modest than originally estimated. Indeed, the “duck graph” that accompanied the original Joint Party proposal in October 2012 and showed a dramatic increase in flexibility needs between 2014 and 2015 now appears to be astonishingly inaccurate. This does not mean that flexible capacity procurement will not be needed in the future. It does mean that the Commission should not adopt a flexible capacity procurement mechanism for the 2014 Resource Adequacy Year. Commission deferral of consideration of flexible capacity procurement until the 2015 Resource Adequacy Year will provide the opportunity to fully address need, cost, and environmental concerns while still leaving ample time for practice with procurement implementation before any legitimate operational need materializes.

Second, Commission adoption of flexible capacity procurement as currently contemplated would run afoul of the Loading Order and California’s environmental objectives. The resources and strategies used for renewable integration will determine the ultimate carbon

benefits of the Renewables Portfolio Standard (RPS) and California's ability to successfully transition to a low carbon future. Despite the paramount importance of these concerns, the Proposals are highly dependent on fossil fuels to meet renewable integration needs and exclude demand response and energy storage. The Commission should not adopt a flexible capacity procurement mechanism until demand response and energy storage are meaningfully incorporated into program design.

Commission rejection of Proposal implementation at this juncture need not function to roll back the significant progress in development of a flexible capacity procurement mechanism. Since the Joint Parties' initial proposal in October, issues have narrowed and many questions have been resolved. The Commission can use the coming year to address remaining key concerns without reinventing the wheel or unnecessarily revisiting settled issues. While the Joint Parties may assert that the failure to adopt flexible capacity procurement for the 2014 Resource Adequacy Year amounts to "kicking the can down the road," allowing development of a full record and resolving remaining areas of concern is sage recognition that "unreasonable haste is the direct road to error." Given the lack of immediate operational need for flexible capacity and the significant material areas of continued dispute, the Commission should decline to implement either Proposal for the 2014 Resource Adequacy Year.

II. THE COMMISSION SHOULD NOT IMPLEMENT FLEXIBLE CAPACITY PROCUREMENT UNTIL DISPUTES OVER THE TIMING OF FUTURE NEED ARE RESOLVED AND DEMAND RESPONSE AND ENERGY STORAGE ARE INCORPORATED INTO PROPOSAL DESIGN

A. Flexible Capacity Need is Much Less than Previously Estimated

From the onset of this proceeding, all parties recognized that flexible capacity procurement was not needed in 2014 to ensure reliability but disputed the extent and timing of future operational flexibility need. Through CAISO's "duck graph," the Joint Parties initially asserted that the need for 3-hour ramping would increase by over 3000 MW between 2014 and 2015, with significant additional increases in flexibility need each year thereafter.¹ Largely based on the presumption of significantly increased flexible capacity need, the Joint Parties maintained that flexible capacity procurement was needed for the 2014 Resource Adequacy Year

¹ *Resource Adequacy and Flexible Capacity Procurement Joint Parties' Proposal* (Oct. 29, 2012), pp. 4-5.

to provide the operational practice necessary to ensure functioning flexible capacity procurement by 2015. We now know that the “duck graph” estimates of future flexibility need are wildly overstated. Revised and more accurate analysis and assumptions have revealed that need for future flexibility will increase at a much more measured pace. Even allowing time for “practice” in implementing flexible capacity procurement, the CAISO’s revised analysis of future flexibility need removes any purported urgency to adopt flexible capacity procurement for the 2014 Resource Adequacy Year.

Since first presenting the “duck graph” in October 2012, CAISO updated its estimates of future flexibility need by using more accurate data derived from actual IOU RPS procurement plans rather than previously utilized 2010 Long-Term Procurement Plan (LTTP) assumptions. In addition, in March 22nd revisions, CAISO finally responded to and incorporated the December 26th joint comments by the Sierra Club and Vote Solar on assumptions regarding the fixed/tracking ratio of the future solar fleet. This additional revision further decreased projected flexibility needs in off-peak months when operational flexibility need is greatest. With these updates, total flexibility needs for March 2015 are now estimated at 10,570 MW. This revised projection is only slightly higher than an earlier estimate of approximately 10,400 MW for March 2014.² Similarly, the most recent forecast of total flexible capacity needs for March 2016 is 600 MW *less* than what CAISO previously estimated to be needed by March 2015.³

Moreover, even as operational flexibility needs gradually increase with higher renewable penetration levels, mandating flexible capacity procurement is only necessary if there is an insufficient supply of operationally available flexible capacity under existing mechanisms. As set forth in the *Amended Request for Evidentiary Hearings of Sierra Club and The Utility Reform Network*, dated March 28, 2013, material disputes remain over the availability of operational flexible capacity to meet future flexibility needs. In keeping with the Commission’s stated call

² Compare CAISO, Methodology for Determining Flexible Capacity Procurement Requirements, Presented at CPCU RA Workshop January 23, 2012, Slide 14 (roughly 10,400 MW of need for March 2014) with CAISO, Methodology for Determining Flexible Capacity Procurement Requirements, Presented at CPUC RA Workshop March 20, 2013 (Revised March 22, 2013 to reflect 80% fixed tilt solar fleet), Slide 15 (10,570 MW of total flexibility need for March 2015).

³ Compare CAISO, Methodology for Determining Flexible Capacity Procurement Requirements, Presented at CPCU RA Workshop January 23, 2012, Slide 14 (12,000 MW of need for March 2015) with CAISO, Methodology for Determining Flexible Capacity Procurement Requirements, Presented at CPUC RA Workshop March 20, 2013 (Revised March 22, 2013 to reflect 80% fixed tilt solar fleet), Slide 15 (11,400 MW of total flexibility need for March 2016).

for “transparency and robust participation in the process for developing a record in this proceeding,” a flexible capacity procurement proposal should not be adopted until these disputes are resolved.⁴ In any event, even accepting what appear to be overly conservative assumptions of available operational flexible capacity, there is still sufficient operational flexible capacity under CAISO’s Base Case Reduction Scenario to meet flexible capacity needs through at least 2016.⁵ Indeed, CAISO’s determination of flexibility need already accounts for the most severe single contingency event and incorporates a 3.5% adjustment factor to account for load forecast errors and variability.⁶ Accordingly, the record is clear that delaying consideration of adoption of Flexible Capacity Procurement until at least the 2015 Resource Adequacy Year would still allow ample time for implementation “practice” prior to the materialization of a legitimate operational need.

B. The Proposed Flexible Capacity Procurement Mechanism Improperly Excludes Demand Response and Energy Storage And Is Inconsistent with the Loading Order and California’s Environmental Objectives

As set forth in the recent Commission Decision Authorizing Long-Term Procurement for Local Capacity Requirements:

A significant difference between the ISO’s reliability mission and the Commission’s reliability emphasis is that the Commission must balance its reliability mandate with other statutory and policy considerations. Primarily, these considerations are reasonableness of rates and a commitment to a clean environment.⁷

The Commission’s more comprehensive mandate precludes adoption of the Proposals until inconsistencies with the State’s environmental and policy objectives are rectified.

The projected need for flexible capacity procurement is largely premised on an increase in 3-hour ramping needs to compensate for decreased production of energy from solar resources

⁴ Rulemaking 11-10-023, Reporter’s Transcript, March 20, 2013 Prehearing Conference, pp. 4.

⁵ CAISO, Methodology for Determining Flexible Capacity Procurement Requirements, Presented at CPUC RA Workshop March 20, 2013 (Revised March 22, 2013 to reflect 80% fixed tilt solar fleet), Slide 28. CAISO is also moving forward with PacifiCorp to create an energy imbalance market (EIM) by October, 2014. The impact of EIM has not yet been assessed in this proceeding, but would presumably both decrease the need for flexibility through increased geographic diversity of renewable resources and increase available capacity through CAISO control of additional flexible resources. Given that EIM implementation appears increasingly likely, EIM should be factored into a revised analysis.

⁶ CAISO, Methodology for Determining Flexible Capacity Procurement Requirements, Presented at CPUC RA Workshop March 20, 2013 (Revised March 22, 2013 to reflect 80% fixed tilt solar fleet), Slide 14.

⁷ Decision 13-02-015, Decision Authorizing Long-Term Procurement for Local Capacity Requirements (Feb. 13, 2013), pp. 35.

as the sun sets. Sunset is an entirely predictable daily phenomenon. Nonetheless, the Proposals require resources to submit economic bids into the energy market between 5AM and 10PM every day. By requiring a resource to be available for 17 hours to meet a predictable 3-hour ramping need, the Proposals effectively and needlessly preclude participation of use-limited resources such as demand response and energy storage from meeting a future flexible capacity obligation. While both Proposals appear to have recently made an exception to the 17-hour dispatch requirement to accommodate the operation limitations of flexible hydro resources, no such exceptions have been developed to accommodate preferred resources. Instead, the Energy Division Proposal merely expresses vague support for consideration of other use-limited resources in a subsequent phase of this proceeding.⁸

The Proposals' exclusion of demand response and energy storage violates the Loading Order and frustrates the intent of the California Legislature. The Loading Order requires "that the state, in meeting its energy needs, would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply."⁹ Under the Loading Order, procurement of preferred resources must be a priority, not a deferred afterthought. In addition, in passing Assembly Bill 2514, the Legislature determined that "[e]xpanding use of energy storage systems can assist ... in integrating increased amounts of renewable energy resources into the electrical transmission and distribution grid in a manner that minimizes emissions of greenhouse gases."¹⁰ California environmental policy demands far more than noncommittal expressions of an intent to consider inclusion of demand response and energy storage at some later juncture. Especially given the lack of near-term need, the Commission should not consider adoption of a proposed flexible capacity procurement mechanism unless and until there is meaningful incorporation of these resources.

The Proposals are also inconsistent with the State's near and long-term greenhouse gas objectives. By creating a regime that primarily relies on fossil-fuel resources for renewable integration, the Proposals diminish the greenhouse gas benefits of the RPS and facilitate unneeded greenhouse gas pollution that could otherwise have been avoided through procurement of zero or low carbon solutions to meet flexible capacity needs.

⁸ Energy Division Flexible Capacity Procurement Revised Proposal, pp. 6.

⁹ *Id.* at 10 (citing Energy Action Plan 2008 Update).

¹⁰ California Assembly Bill 2514 (2010), § 1(a).

In addition to excluding low carbon solutions to renewable integration, the Proposals fail to prioritize procurement of those resources that would qualify for flexible capacity procurement to ensure that the least polluting resources are used to meet flexible capacity needs. Dispatchable capability in the existing fleet far surpasses operational flexibility needs.¹¹ Accordingly, there are significant opportunities to optimize flexible capacity procurement to minimize greenhouse gas pollution. While hydro resources are clearly superior to fossil fuel resources from a greenhouse gas perspective, there is also significant variability in the carbon intensity of energy production among gas plants. For example, simple cycle gas turbines are less efficient than combined cycle turbines and typically emit much higher levels of carbon pollution per unit of produced energy as compared to a combined cycle system. Simple cycle turbines have historically been viewed as responsive, fast-start flexible resources. However, the need identified by CAISO is late afternoon ramping power in low-load months of January, February, and March. Combined cycle units primarily operate in load following mode in California, meaning these units are generally online during daytime hours year-around. These units can ramp quickly when already online and would be preferred fast ramp resources from a carbon intensity perspective than fast start simple cycle units. To facilitate achievement of California's greenhouse gas targets as well as the Loading Order's emphasis on "clean" conventional energy, the Commission should ensure flexible capacity procurement accounts for the carbon intensity of the procured resource. Authorizing a regime that allows inefficient, polluting facilities to receive resource adequacy payments when similarly priced, cleaner solutions are available undermines achievement of California's environmental objectives.

The record of this proceeding is largely silent on the greenhouse gas impacts of flexible capacity procurement. The greenhouse gas ramifications of flexible capacity procurement and ways to reduce the greenhouse gas pollution associated with meeting flexible capacity needs should be fully explored prior to Commission adoption of a Proposal.¹²

¹¹ CAISO, Methodology for Determining Flexible Capacity Procurement Requirements, Presented at CPUC RA Workshop March 20, 2013 (Revised March 22, 2013 to reflect 80% fixed tilt solar fleet), Slide 19.

¹² As set forth in the Sierra Club's December 26th Comments, the proposed mechanism would provide additional revenue streams to fossil fuel resources and thereby have potential environmental impacts that trigger review under the California Environmental Quality Act (CEQA).

C. The Commission Can Recognize Progress in Developing Flexible Capacity Procurement And Resolve Remaining Issues in Time for a Decision on 2015 Resource Adequacy Requirements

While there is no basis for the Commission to implement flexible capacity procurement for the 2014 Resource Adequacy Year, a June 2013 Resource Adequacy decision can acknowledge areas of consensus and identify areas in need of further resolution. This will provide a path to an informed decision on flexible capacity procurement for the 2015 Resource Adequacy Year. For example, after a series of revisions, some disputes on the increase in 3-hour ramping need through 2016 have been largely resolved. Parties also do not appear to dispute that a 3-hour ramping requirement is needed to meet future flexibility need or the definition of “effective flexible capacity” for the purpose of determining a resource’s ability to meet this need. In addition, the flexible capacity obligation for fossil fuel and hydro resources appears settled.

Areas that must be resolved prior to adoption of flexible capacity procurement include: 1) the extent of existing operational flexible capacity to meet flexible capacity needs; 2) inclusion of demand response and energy storage into flexible capacity procurement; and 3) optimization of flexible capacity procurement to minimize greenhouse gas impacts. Each of these issues can be addressed in time for a June 2014 Resource Adequacy Decision.

In reaching these issues, the Commission should prioritize development of criteria for demand response to meet the 3-hour ramping need. Under Decision 12-04-045, utilities’ demand response applications for the 2015-2017 program cycle must be filed no later than January 31, 2014.¹³ It is the Sierra Club’s understanding that IOUs require resolution of the criteria for a demand response product to meet flexible capacity needs by early September in order to include this product in their 2015-2017 demand response applications. The Commission should ensure this timeline is met.

III. PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

Pursuant to the direction of Administrative Law Judge Gamson at the March 20, 2013 Pre-Hearing Conference, the Sierra Club provides the following suggested Findings of Fact and

¹³ Decision 12-04-045, Decision Adopting Demand Response Activities and Budgets for 2012 through 2014 (Apr. 30, 2012), pp. 205.

Conclusions of Law:

A. Findings of Fact

1. Increased penetration of intermittent renewable resources will continue to change net load characteristics and in particular, will result in increases to the maximum 3-hour ramp in early evening.
2. Future increases in the maximum 3-hour ramp are most acute in off-peak months.
3. It is currently reasonable to accept the CAISO March 22nd forecast of maximum 3-hour ramping needs through 2016.
4. Significant disputes of material fact remain regarding the extent of operational flexible capacity available to meet forecast flexibility needs. However, even accepting current CAISO estimates, there is sufficient operational flexible capacity to meet flexible capacity needs through at least 2016.
5. To ensure the operational availability of flexible resources to meet future flexibility needs, flexible capacity procurement mechanisms have been proposed by the Energy Division and by the California Independent System Operator (CAISO), Southern California Edison (SCE) and San Diego Gas & Electric (collectively “Joint Parties”).
6. Under both the Energy Division and Joint Party proposals, the flexible capacity procurement obligation would require a qualified flexible resource to submit economic bids into the energy market between 5 AM and 10 PM every day.
7. The proposed flexible capacity procurement obligation includes an exception for flexible hydro resources to accommodate the operational limitations of this resource.
8. The proposed flexible capacity procurement obligation does not include exceptions for demand response or energy storage to enable these resources to participate in flexible capacity procurement.
9. There is a need to ensure demand response and storage can meaningfully participate in meeting any future flexible capacity procurement obligation.
10. Under Decision 12-04-045, a flexible capacity procurement obligation that accommodates the operational limitations of demand response should be defined by September 2013 to ensure sufficient time for this demand response product to be included in IOU 2015-2017 demand response applications to this Commission.
11. There is a need to better understand the greenhouse gas impacts of the proposed flexible capacity procurement and potential mechanisms to minimize greenhouse gas pollution resulting from renewable integration.

B. Conclusions of Law

1. The record in this proceeding does not support a need for a flexible capacity procurement mechanism for 2014 Resource Adequacy compliance.
2. It is necessary to further consider issues related to the operational availability of existing flexible capacity.

3. A significant difference between the CAISO's reliability mission under § 345 and the Commission's reliability emphasis under § 380(c) is that the Commission must balance its reliability mandate with other statutory and policy considerations. Primarily, these considerations are reasonableness of rates under § 451 and § 454 and a commitment to a clean environment under Pub. Util. Code sections including § 399.11 (Renewables Portfolio Standard) and § 454.5(b)(9)(C) (Loading Order).

4. The record in this proceeding does not support outcomes which enable the Commission to meet statutory requirements and policy goals with regard to ratepayer costs and environmental protection.

5. The proposed flexible capacity procurement mechanism is inconsistent with the Loading Order and California's environmental objectives because it excludes participation by demand response and energy storage resources.

IV. CONCLUSION

For the reasons set forth above, the Sierra Club respectfully requests the Commission to decline to adopt a flexible capacity procurement mechanism for the 2014 Resource Adequacy Year.

Dated: April 5, 2013

Respectfully submitted,

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