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.	R.11-10-023 Filed October 20, 2011

COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING COMMENT ON STAFF PROPOSAL ON THE IMPLEMENTATION OF THE FLEXIBLE CAPACITY PROCUREMENT FRAMEWORK

Donald C. Liddell
DOUGLASS & LIDDELL
2928 2nd Avenue
San Diego, California 92103
Telephone: (619) 993-9096
Facsimile: (619) 296-4662
Email: liddell@energyattorney.com

Counsel for the
CALIFORNIA ENERGY STORAGE ALLIANCE

February 24, 2014

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.	R.11-10-023 Filed September 22, 2011

COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING COMMENT ON STAFF PROPOSAL ON THE IMPLEMENTATION OF THE FLEXIBLE CAPACITY PROCUREMENT FRAMEWORK

In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), the California Energy Storage Alliance ("CESA")[1] hereby submits these comments on *the Request for Comment on Staff Proposal on the Implementation of the Flexible Capacity Procurement Framework,* issued as an email message addressed to the service list by Administrative Law Judge David M. Gamson on April 18, 2014 ("ALJ's Ruling").

I. INTRODUCTION.

The staffs of the Commission's Energy Division, and California Independent System Operator ("CAISO") are both to be commended for their sustained coordinated efforts undertaken in collaboration with CESA and other stakeholders to produce the "Staff Proposal on Implementation of the Flexible Capacity Procurement Framework" referred to in the ALJ's Ruling.[2] CESA is generally supportive of the policy framework recommended to the Commission in the Staff Proposal. On February 18, 2014, CESA submitted comments on the aspects of flexible capacity procurement that is directly related to energy storage that is cross-

[1] The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. http://storagealliance.org.

[2] *Staff Proposal on the Implementation of the Flexible Capacity Procurement Framework*, issued by the Commission's Energy Division Staff, February 10, 2014.

referenced as part of the Staff Proposal (at p. 7), and does not repeat those comments here. [3] CESA has likewise submitted comments to the related "Flexible Resource Adequacy Criteria and Must-Offer Obligation Straw Proposal" issued by the CAISO's staff[4]. CESA attaches and incorporates those "FRACC-MOO Comments" for ease of reference to these comments as Attachment A. In these comments CESA provides its observations on an overarching theme of the Staff Proposal regarding a compliance framework for future flexible capacity obligations starting in the 2015 resource adequacy ("RA") compliance year.

II. THE COMMISSION SHOULD EXPRESSLY INCLUDE ENERGY STORAGE AS A KEY ELEMENT OF ITS LONG-TERM APPROACH TO THE JOINT RELIABILITY PLAN.

In addition to the comments referred to above, CESA has also filed comments on the Order Instituting Rulemaking which considers forward multi-year RA requirements, implementation of a planning assessment, and determining rules and Commission policy position with respect to the ISO's market-based backstop procurement mechanism. (Joint Reliability Plan Rulemaking")[5] CESA certainly agrees that with the observation in the Staff Proposal that, "these initiatives will have a significant impact on flexible RA procurement." (at p. 13). CESA strongly supports the multi-year RA contracting requirements that will be the subject of the Joint Reliability Plan Rulemaking, and will continue to actively engage with the Commission and stakeholders to maintain a high degree of focus on the central role of energy storage in that proceeding along with its continued participation to inform the tightly intertwined policy discussion in this proceeding.

---

[3] *See, Qualifying Capacity and Effective Flexible Capacity Calculation Methodologies for Energy Storage and Supply-Side Demand Response*, January 16, 2013.

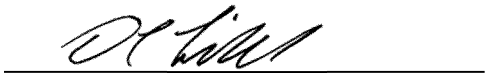
[4] *See, Flexible Resource Adequacy Criteria and Must-Offer Obligation Draft Final Proposal,* issued by the staff of the CAISO's Market and Infrastructure Policy, February 7, 2014.

[5] *Order Instituting Rulemaking to Consider Electric Procurement Policy Refinements Pursuant to the Joint Reliability Plan*, R.14-02-001, filed February 5, 2014.

III. CONCLUSION.

CESA appreciates the opportunity to submit these comments on the ALJ's Ruling and the Staff Proposal, and looks forward to actively working with the Commission and stakeholders in this proceeding.

Respectfully submitted,



Donald C. Liddell
DOUGLASS & LIDDELL

Counsel for the
CALIFORNIA ENERGY STORAGE ALLIANCE

Date: February 24, 2014

ATTACHMENT A

CESA
CALIFORNIA ENERGY STORAGE ALLIANCE

FLEXIBLE RESOURCE ADEQUACY CRITERIA AND MUST-OFFER OBLIGATION

DRAFT FINAL PROPOSAL, POSTED FEBRUARY 7, 2014

Submitted by	Company	Date Submitted
Don Liddell, DOUGLASS & LIDDELL www.storagealliance.org (619) 993-9096	California Energy Storage Alliance	February 21, 2014

CESA[1] continues to applaud the CAISO's collaborative work with the California Public Utilities Commission ("CPUC") and stakeholders reflected in the Draft Final Proposal ("Proposal") to ensure that flexible capacity energy storage resources are available in the very near future to reliably operate the grid while fulfilling state energy and environmental goals. CESA appreciates the work done to accommodate the unique features of energy storage in the Proposal and will continue to work closely with the staffs of the CAISO and the CPUC in developing the tariff changes necessary for the CAISO to adopt flexible resource adequacy ("RA") capacity requirements that specifically include energy storage for regulation, load following, and ramping system needs.

CESA still sees a critical topic that is missing from the Proposal, in the area of dispatchable charging. The CPUC's staff has recently acknowledged that, "EFC should incorporate dispatchable load/ES charging because these operational modes can address ramping needs."[2] Yet the Proposal still does not yet include a clear counting methodology for this acknowledged ramp reduction. In fairness, it should be recognized that the CAISO appreciates the importance of this issue:

The CAISO staff has stated, "The ISO has spent significant time considering the proper methodology for counting the charge and discharge capabilities of storage resources for flexible capacity purposes and believes that there is additional work that needs to be done to consider additional flexible capacity potential of energy storage resources in subsequent stakeholder initiatives. However, at this time, it is prudent to account for full flexible capacity storage resources based on the three-hour discharge. Some will assert that this is a conservative approach. The ISO agrees. However, at this time,

[1] The views expressed in these comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. http://storagealliance.org

[2] *Qualifying Capacity and Effective Flexible Capacity Calculation Methodologies for Energy Storage and Supply-Side Demand Response, Stagg Proposal Outline*, January 16, 2014, p. 2.

as we continue to learn more about the capabilities, potential, and operational characteristics of energy storage resources, it is reasonable to take a somewhat conservative approach. The ISO will continue to review the prudency of this approach in the recently opened Reliability Services initiative as well as in coordination with the CPUC in the RA proceeding (R.11-10-023)."[3]

In order to account for the value of dispatchable charging in a just and reasonable manner, CESA suggests that the CAISO take one of the following two approaches in its Final Proposal:

1. Allow dispatchable charging to count as a Category 1 flexibility measure. Resources that can charge dispatchably fulfill the same need as other Category 1 resources used to deal with the lowest secondary ramp. They should be counted as such. Thus, a single long duration energy storage resource might count toward two categories. For instance, it could count toward Category 2 for its discharge characteristics, and Category 1 for its charge characteristics. This approach begins to dovetail with the CPUC's proposed EFC metrics for RA, which consider bi-directional flexibility.

2. The CAISO could explicitly account for dispatchable charging that contributes to ramp reduction in its flexible capacity need determination. This approach could be somewhat confusing for two reasons. The first is that the CPUC's proposed EFC metric considers dispatchable charging as part of the EFC of a resource. The second reason for possible confusion is that this approach separates the flexibility benefit of energy storage into two very different capabilities: need fulfillment and need reduction.

Either of these different approaches could be made to work, but CESA definitely favors the first alternative. Regardless of how dispatchable charging is accounted for, it is important that Load Serving Entities are able to specifically count the dispatchable charging of energy storage resources toward their flexibility obligations, and that the CAISO's evaluation of the EFC of a resource match the counting criteria adopted by the CPUC.

CESA supports the inclusion of Regulation Energy Management ("REM") resources in the Proposal. CESA recommends that the CAISO clarify that the EFC of a REM resource should be its up and down / bi-directional regulation capacity[4] and should not be arbitrarily limited to the Net Qualifying Capacity ("NQC"). Setting the EFC for a REM resource at the lesser of a resource's flexible capability or the resource's NQC, which is 0 under current RA rules, would always yield 0, and would thus negate the point of the REM resource option. Thus, CESA recommends that the CAISO clarify that the EFC of a REM resource should be simply its bi-directional regulation capacity.

[3] Proposal, p. 38.
[4] AReM resource regulation capacity would be based on its 15 minute energy output capability.

CESA recommends that the CAISO should include its EFC in Flexible Capacity Category 1 ("Category 1"). REM resources can provide regulation continuously, including during the smallest secondary ramp, the largest secondary ramp, and the smallest primary ramp, which are the ramps addressed by Category 1. Because REM resources can operate during the same periods and contribute to system flexibility in a manner comparable to other Category 1 resources, they should be counted as such.

Under the CAISO's current market rules, a REM resource can provide regulation continuously for the entire Must Offer Obligation window from 5:00 pm to 10:00 pm. Such a resource could not only provide regulation over the entire duration, but it also contributes directly to the 3-hour maximum ramp, as is shown below in Figures 1 and 2.

Figure 1: Regulation as Component of Flexibility

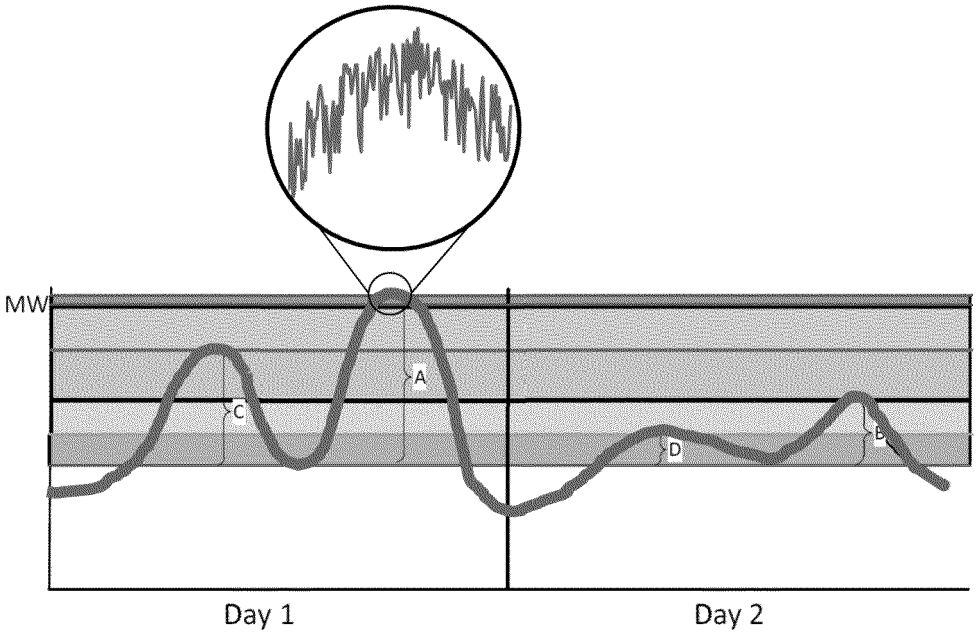
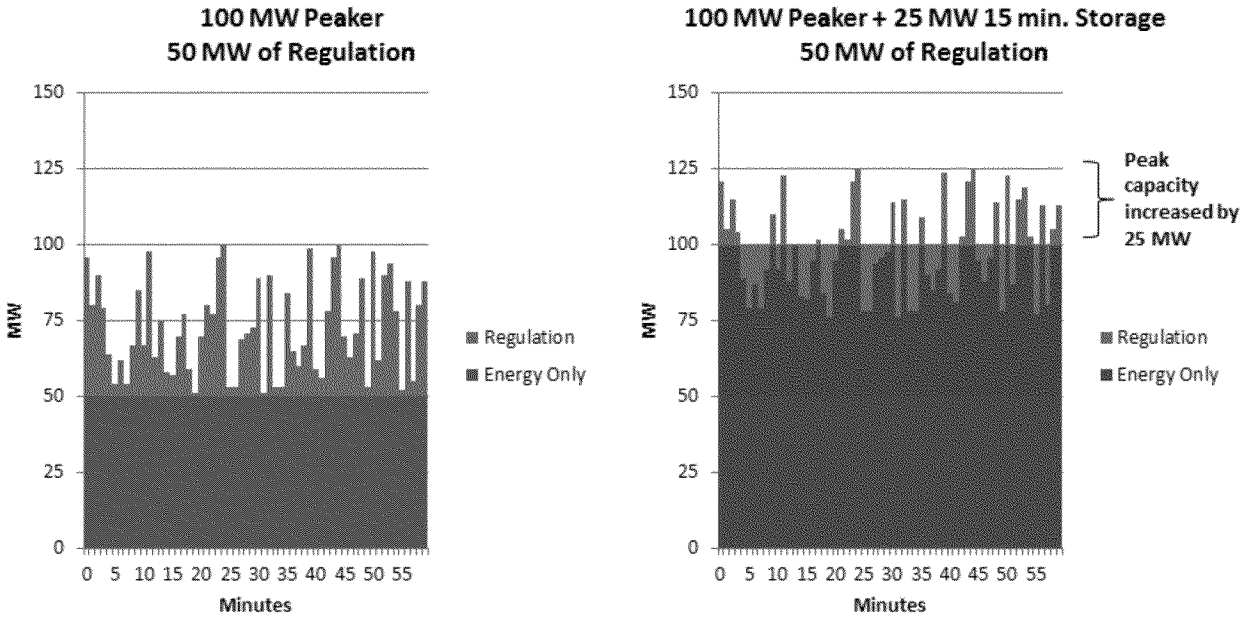


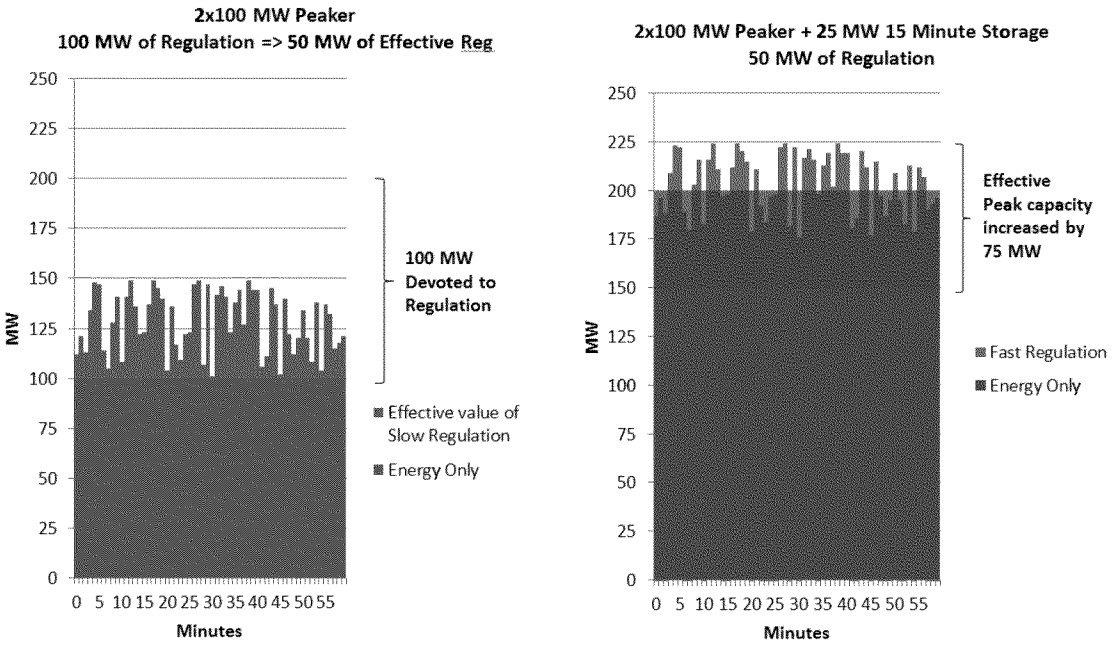
Figure 2: 100 MW Peaker vs. 100 MW Peaker + 25 MW 15-Minute Energy Storage



As is shown above in Figure 2, the REM resource demonstrably contributes to peak capacity at its full regulation capacity.

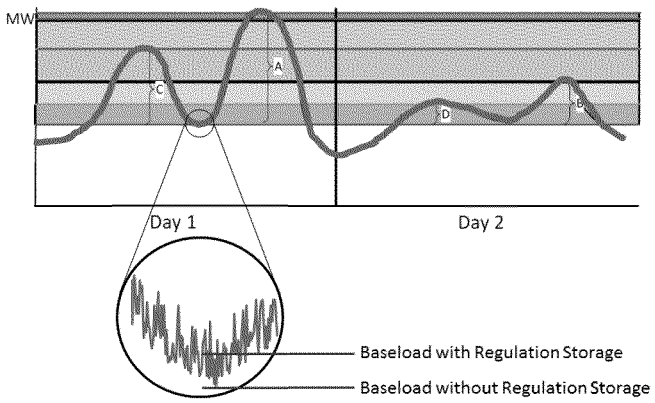
Additionally, because energy storage resources have been found to compare to the regulation capacity of at least two slower regulating generators, the EFC of a fast responding storage resource is in fact more than double its regulation capacity, in comparison with traditional resources. The effect of this fast response is shown below in Figure 3.

Figure 3: 2x100 MW Peaker vs. 2x100 MW Peaker + 25 MW of 15 Minute Storage



Bi-directional regulating storage resources decrease the need for flexibility at the low points in the net load curve shown below in Figure 4:

Figure 4: Regulation Energy Storage Reduction in Flexible Need



Thus CESA requests that the CAISO specify that the EFC of a REM resource should be calculated according to its actual contribution to system flexibility, at its bi-directional regulation capability, that EFC should not be arbitrarily limited to the NQC, and that REM resources be included in Category 1, because these resources offer flexibility in all ramps.