

Stakeholder Comments Template

**Flexible Resource Adequacy Criteria and Must-Offer Obligation
Straw Proposal, July 25, 2013**

Submitted by	Company	Date Submitted
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This template is for submission of stakeholder comments on the topics listed below, covered in the Flexible Resource Adequacy Criteria and Must-Offer Obligation revised straw proposal on July 25, 2013, and issues discussed during the stakeholder meeting on August 1, 2013.

Please submit your comments below where indicated. Your comments on any aspect of this initiative are welcome. If you provide a preferred approach for a particular topic, your comments will be most useful if you provide the reasons and business case.

Please submit comments (in MS Word) to fcg@caiso.com no later than the close of business on August 15, 2013.

Beacon Power LLC (“Beacon”), a manufacturer and developer of flywheel energy storage systems, appreciates the opportunity to comment on the CAISO’s Second Revised Straw Proposal on Flexible Resource Adequacy Criteria and Must-Offer Obligation. As CAISO notes in the Introduction, flexible capacity is needed to meet certain operational challenges and maintain grid reliability. Beacon agrees that energy storage in general, and notes flywheels in particular, is an important source of extremely flexible capacity that should be included in the Flexible Resource Adequacy program.

1. The ISO has proposed a process by which an annual flexible capacity requirement assessment would be conducted. Please provide any comments or questions your organization has regarding this proposed process.

The proposed process is a reasonable method to address the issue of inter-hour ramping. The CAISO is encouraged to continue to analyze flexibility needs on shorter and shorter time scales as it works to maintain reliability.

2. The ISO has outlined a methodology to allocate flexible capacity requirements to LRAs. It is based on one possible measurement of the proportion of the system flexible capacity requirement to each LRA and calculated as the cumulative

contribution of the LRA's jurisdictional LSE's contribution to the ISO's largest 3-hour net load ramp each month. Please provide comments regarding the equity and efficiency of the ISO proposed allocation. Please provide specific alternative allocation formulas when possible. The ISO will give greater consideration to specific allocation proposals than conceptual/theoretical ones. Also, please provide information regarding any data the ISO would need to collect to utilize a proposed allocation methodology. Specifically,

- a. Over the course of a day or month, any of the identified contributors to the change in the net load curve may be positive or negative. How should the ISO account for the overall variability of a contributor over the month (i.e. how to account for the fact that some resources reduce the net load ramp at one time, but increase it at others)?
 - b. What measurement or allocation factor should the ISO use to determine an LRA's contribution to the change in load component of the flexible capacity requirement?
 - c. Does your organization have any additional comments or recommendations regarding the allocation of flexible capacity requirements?
3. The ISO has proposed must-offer obligations for various types of resources. Please provide comments and recommendations regarding the ISO's proposed must-offer obligations for the following resources types:
- a. Resources not identified as use-limited
 - b. Use-limited resources
 1. Please provide specific comments regarding the ISO's four step proposal that would allow resources with start limitations to include the opportunity costs in the resource's start-up cost.
 2. Please provide information on any use-limitations that have not been addressed and how the ISO could account for them.
 - c. Hydro Resources
 - d. Specialized must-offer obligations (please also include any recommended changes for the duration or timing of the proposed must-offer obligation):

1. Demand response resources
2. Storage resources

Beacon supports the inclusion of storage resources in the Flexible Resource Adequacy program and the must-offer obligations proposed. Storage resources generally are extremely flexible in their ability to ramp up and down very quickly (on the order of MWs per second) and to have low minimum operating levels (Pmin of 0 MW).

Due to the unique and varied operating characteristics of energy storage, the ISO offering options for the Scheduling Coordinators of storage resources to meet the must-offer obligations. Because there will be some storage resources with shorter durations, which will likely participate in the CAISO markets in the Regulation Energy Management program, we agree with the proposed must-offer obligation option of the submission of economic Regulation bids between 5am and 10pm as a Regulation Energy Management resource. Similarly, because there will be some storage resources with longer durations, we agree with the inclusion of an option to select one of the demand response must-offer obligations.

3. Variable energy resources
4. The ISO has proposed to include a backstop procurement provision that would allow the ISO to procure flexible capacity resources to cure deficiencies in LSE SC flexible capacity showings. Please provide comments regarding the ISO's flexible capacity backstop procurement proposal.
5. The ISO is not proposing to use bid validation rules to enforce must-offer obligations. Instead, the ISO is proposing a flexible capacity availability incentive mechanism. Please provide comments on the following aspects of the flexible capacity availability incentive mechanism:
 - a. The proposed evaluation mechanism/formula
 1. The formula used to calculate compliance
 2. How to account for the potential interaction between the flexible capacity availability incentive mechanism and the existing availability incentive mechanism (Standard Capacity Product)
 - b. The use of a monthly target flexible capacity availability value
 1. Is the 2.5% dead band appropriate?

