

Stakeholder Comments Template

**Flexible Resource Adequacy Criteria and Must-Offer Obligation
Revised Straw Proposal, June 13, 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 June 13, 2013, and issues discussed during the stakeholder meeting on June 19, 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 fcp@caiso.com no later than the close of business on June 26, 2013.

1. The ISO has outlined a methodology to allocate flexible capacity requirements to LSE SC based one possible measurement of the proportion of the system flexible capacity requirement to each LSE SC based on its contribution to the ISO's largest 3 hour net-load ramp change each month. Please provide comment regarding the equity and efficiency of the ISO proposed allocation. Please provide specific 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. Has the ISO identified the core components for allocation? Are more needed? If so, what additional components should be considered and how should ISO consider them? Are fewer needed? If so, what should the ISO include?

No comments on this item at this time.

- b. Has the ISO used the right allocation factors for the identified components (i.e. load ratio share, percent of total capacity contracted)? If additional or

fewer components should be considered as identified in 1a, above, please provide specific allocations factors for these components.

BrightSource agrees that the portion of the flexible capacity requirement resulting from the monthly maximum three hour net load ramp should be allocated based on an LSE's contribution to the ramp.

For the change in distributed energy resources ("DERs"), the allocation factor should be the Actual Model Change in output during the monthly maximum three hour net load ramp period in the LSE's service territory, not the proposed Load Share Ratio. This approach could also be considered for the change in load, wind, solar PV and solar thermal resources (except solar thermal resources with storage – see c. below). DERs and load contribute to the overall flexible capacity requirement and should be taken into account when procuring variable supply resources which participate in meeting net demand.

The ultimate incentive of the allocation factors should be to for each LSE to minimize net cost within its own portfolio and therefore across the system.

- c. Does your organization have any additional comments or recommendations regarding the allocation of flexible capacity requirements?
- *The Solar Thermal component of the allocation formula should include only Solar Thermal facilities without energy storage capabilities. Solar Thermal facilities with energy thermal energy storage capabilities possess varying degrees of dispatchability depending on plant design. They will have output profiles based on energy market results, Scheduling Coordinator decisions and underlying solar availability. Their output profiles cannot be predicted based on a uniform, geographically-based solar profile forecast. The dispatchable characteristics are more akin to the thermal or hydro supply resources, which are also not contemplated as components in the allocation formula.*
 - *The proposed allocation for the maximum 3-hour net load ramp portion of the flexible capacity allocation formula would not account for short-term energy purchases or sales from intermittent resources occurring after the annual deadline to provide contract information. This could have impacts in future years if LSEs have early procured RPS resources or if merchant generators come on-line to take advantage of expiring federal and state tax incentives. The CAISO may need to*

consider a post-hoc examination of intermittent resource portfolios to determine if short term transactions had a significant impact on allocations.

- *The Straw Proposal does not define “distributed energy resources”. Is this limited to DERs that are interconnected behind a customer meter? Does this include other DERs besides solar and wind resources?*
- *The Straw Proposal is not explicit as to where information regarding the DER portfolios will be sourced. What generation profile(s) will the CAISO apply to this component? In the case of behind-the-meter resources, are DERs properly disaggregated from load variation? How will DER growth over the course of the upcoming year and future 5 years (if applicable) be forecasted?*

2. The ISO believes that there are either tools in place or under development to manage a resource’s use-limitations while still be subject to economic bid must offer obligation. The ISO, consistent with the CPUC’s RA proposed decision, will require hydro resources to be able to provide a minimum of 6 hours of energy at Pmax to be eligible to provide flexible capacity. However, some resources, including demand response and storage resources may have use limitations that may do not fit well within these mechanisms.

- a. Please provide comments regarding what use-limitations are currently managed by existing or proposed ISO tools and what must-offer obligation should apply to these resources.

No comments on this item at this time.

- b. Should the ISO consider other minimum energy or run time limits for other types of use limited resources to be eligible to provide flexible capacity? If so, what should these limits be? Why?

Storage resources will have varying capabilities with respect to maximum energy production, cycling and grid charging . The CAISO should clarify that storage resources will be measured based on their ability to continuously ramp up (and/or down) over a defined number of hours, rather than the ability to produce constant output. The CAISO-defined number of hours may be different depending on the technical capabilities of the storage resource, with respect to cycling and grid charging. Storage resources should not be excluded entirely from participation based on a minimum energy production threshold. Instead, the Effective Flexible Capacity (“EFC”) quantity should be based on a CAISO-defined

benchmark¹. The EFC will reflect some fraction of the resource's nominal capacity.

3. The ISO is assessing how bid validation rules could work for flexible capacity resources that are subject to an economic bid must offer obligation. The ISO provided two examples of bid validation rules and potential interpretations. Please provide comments regarding how the ISO should address each of these examples and any others that may need to be considered.

No comment on this item at this time.

4. The ISO currently has a tool in place that allows for a resource to include the opportunity costs associated with run-limitations into the default energy bid. The ISO is considering a similar mechanism to allow resources with annual or monthly start limitations to include the opportunity costs of start-up in the resource's start-up and minimum load costs. Please provide comments on how the ISO should consider the opportunity costs for start limitations and how that opportunity cost should be calculated.

Solar Thermal facilities with storage will face opportunity costs that require consideration in hourly bidding, such as the impact of early in the day generation on Net Qualifying Capacity under the Resource Adequacy program, the value of ancillary services outside of the must-offer obligation window, among others. Scheduling Coordinators and/or facility owners will need to work with the CAISO to ensure its aforementioned tool is enhanced for and accurately applied to Solar Thermal facilities with storage.

5. The ISO is proposing that all flexible capacity resources should be required to submit economic bids between 5:00 am and 10:00 pm. Please provide comments regarding this proposed must-offer obligation. Please connect to the response to this question to any responses to questions **Error! Reference source not found.**as appropriate.

Similar to hydro facilities, a Solar Thermal facility with storage shall have fulfilled their must-offer obligations so long as it has submitted economic bids until such time that its stored energy has been depleted. From the time that the facility has fully discharged until the facility has re-achieved a minimum charge, the facility should no longer have a flexible capacity availability requirement. Once the facility has re-achieved a minimum charge level, it would resume submission of economic bids.

¹ See comments of the Concentrating Solar Power Alliance regarding Effective Flexible Capacity for storage resources: <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M068/K703/68703724.PDF> (pg 6).

6. The ISO has proposed to include 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.

No comment on this item at this time.

7. Are there any additional comments your organization wished to make at this time?

No additional comments at this time.