

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 the a methodology to allocate flexible capacity requirements to LSE SC based on 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?
 - 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.

- c. Does your organization have any additional comments or recommendations regarding the allocation of flexible capacity requirements?

CPUC Staff strongly opposes the proposed allocation methodology for flexible capacity. There are two main reasons for our opposition, which are summarized below. In addition Energy Division staff has attempted to sketch a more satisfactory approach.

The current methodology does not accurately reflect cost causation.

The ISO proposes to allocate flexible capacity procurement obligations according to an LSE's contribution to overall system flexibility requirements. The CAISO proposes creating an LSE's requirement via an additive approach with five factors. Three of the five factors are based on wind and solar contracts, meaning LSEs with more wind and solar resources are perceived to contribute to system flexibility needs to a greater extent than LSEs without them and thus an LSE with more wind and solar contracts in its portfolio will be allocated a greater percentage of the flexibility need during the day/month. The flaws to this approach inhibit achievement of CAISO's goal to allocate costs based on cost causation.

LSEs procure intermittent facilities in order to meet state mandated RPS requirements. Thus cost causation is really the responsibility of the entire state that created the mandates. The benefits of RPS facilities (clean air, clean water, lower GHG emissions) are socialized without regards cost causation, thus complicating allocation of costs. Although LSEs could have met their RPS mandates strictly with baseload facilities (some publically owned utilities and electric service providers claim they do) baseload facilities that are not flexible are also contributing to the problem by their inability to be economically dispatchable. Nuclear facilities are also not able to ramp or be subject to economic dispatch. Thus cost causation is complicated.

The CAISO's allocation proposal is built on a calculation that aggregates flexibility requirements caused by solar PV generation and allocates them to LSEs based on which LSEs have the largest MW total of contracted solar PV resources relative to total MW of solar PV resources delivering in CAISO. The CAISO proposal uses a similar method to allocate the flexibility requirements related to solar thermal and wind resources. In short the proposal allocates requirements to LSEs regardless of the individual performance of the solar contracts held by a particular LSE, and regardless of the actual operation of the solar PV resources that are not really under the control of the LSE. CPUC staff agrees that lack of dispatchability would cause the need to dispatch other resources around to manage the grid. On the other hand, cost causation principles would require a differentiation between solar resources that are dispatchable (such as contracts with economic curtailment or bidding provisions) and those that are not. An explicit place for wind, solar PV, and solar thermal resources to be dispatched would provide more accurate allocation of costs to those that cause the costs. Further,

recognizing that some renewable facilities can be economically dispatched or operated more flexibly, and determining the flexibility need based solely on facilities that are unable to change operations, may help reduce the magnitude of the flexibility need.

The proposed allocation method is inconsistent with current allocation methods: the CPUC would be prevented from exercising oversight of cost and benefit allocation since the action would have been performed by the CAISO in advance. The auction and allocation in the proposal would complicate the CPUC's administration of their compliance program; through its RA proceeding, the CPUC is developing rules around the allocation of obligations and the procurement of flexible capacity.

Contingency reserves added to the requirement, as well as two of the five factors, are allocated to LSEs based on share of coincident CAISO peak. The CAISO seeks comment on a better approach. Energy Division staff has attempted to provide that approach below.

The ISO should allocate flexible obligations to a Local Regulatory Authority (LRA)

Currently, the ISO aggregates the local capacity obligations of CPUC LSEs to obtain a collective obligation for CPUC jurisdictional LSEs. The collective obligation is communicated to the CPUC. The CPUC then allocates the LCR to its LSEs based on the LSE's load ratio share of peak load. Regardless of actual location of load, LSEs receive prorated portions of all Local RA obligations in the service territory, not individually based on which Local Areas (if any) their load is located in. The flexible RA obligations should be allocated similarly.

The ISO should allocate the flexibility requirement to the LRA and allow the LRA to allocate flexible requirements to its jurisdictional LSEs. The ISO currently has a mechanism in place for LCR allocation and backstop, and there is no reason why it should depart from it.

“After the ISO has determined each LSE's particular assigned responsibility for Local Capacity Area Resources, the ISO aggregates the obligations of CPUC Load Serving Entities to obtain a collective obligation for LSEs under the CPUC's jurisdiction. This collective obligation will be communicated to the CPUC. In determining any prospective cost responsibility for reliability procurement by the ISO to be assigned to CPUC Load Serving Entities, the ISO will apply the allocation methodology, if any, adopted by the CPUC. This allows the CPUC flexibility to allocate the collective responsibility under a methodology other than historic contribution to the TAC Area's coincident peak.

However, to the extent the CPUC's adopted methodology does not fully allocate the collective responsibility assigned to CPUC Load Serving Entities, the ISO will

allocate any difference to all SCs for CPUC Load Serving Entities in accordance with each LSE's proportionate load share ration in the TAC Area at the ISO coincident peak based on the CEC Load Forecast"¹

Based on the above CPUC Staff recommend the following approach-

- A. The ISO should determine flexible capacity obligations for the entire CAISO balancing authority. This would provide guidance to LRAs (such as the CPUC) when they attempt to create flexibility obligations for their jurisdictional LSEs.
 - B. The ISO should communicate the collective obligation for the entire CAISO Balancing Authority to the LRAs such as the CPUC.
 - C. The LRAs will allocate flexible obligations to their jurisdictional LSEs based on input from the CAISO in the same manner that procurement obligations are allocated to LSEs currently. In other words, if an LRA requires all LSEs to procure renewable resources by load share ratio, then all its LSEs would procure flexible RA capacity in similar ratios. Each LRA should institute obligations for the LSEs under their jurisdiction, although there should be backstop processes for the CAISO in the event the CAISO balancing authority encounters reliability conditions caused by variability in wind, solar, or load conditions as studied. Each LRA will enforce compliance with obligations set by that LRA, by notifying LSEs of non-compliance.
 - D. In keeping with the existing CPM tariff, the ISO will designate CPM capacity in the event that there is a collective deficiency after taking into account the RA filings from all LSEs and after providing the opportunity for LSEs to cure by procuring additional flexible capacity themselves. Due to complexities of flexibility and the new way flexibility implies not just generic capacity, but also operational characteristics and bidding behavior, it may be important to have an iterative process in the first year where LSEs propose how they will meet flexibility deficiencies and work with ISO to find the best solution. Thus, allowing for more than one round of LSE "curing" may provide a more market-oriented solution for backstop procurement in the initial years of implementation. .
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

¹ CAISO Business Practice Manual for Reliability Requirements (page 70)

Pmax to be eligible to provide flexible capacity. However, some resources, including demand response and storage resources may have use limitations that do not fit well within these mechanisms.

The CPUC staff appreciates and supports the ISO's efforts to develop rules to manage a resource's use-limitations. This will enable more resources to qualify and participate as flexible capacity. It is important to ensure that all resources (including wind and solar facilities) may participate to the fullest extent possible.

- 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.
- 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?

Demand resources also appear to fall into the category of resources that can operate for a few hours (e.g. an energy limitation), even if they are able to bid for longer periods. Run time limits on demand response resources seem reasonable and should be considered when designing rules for DR resources. In fact it seems that by applying roughly the same methodology from hydro to demand resources they may be able to qualify as flexible capacity.

Energy Division staff support a limit on startup times for flexible capacity as referenced in section 6.1.3. At this time limiting the flexible capacity resources to a startup time of four to six hours seems like a reasonable compromise between the desire to preserve operationally flexible capacity and commit it close to real time to meet variable net load, and the desire to avoid reliance on facilities based on forecasts of need for the next day. CPUC staff questions whether a facility that takes more than four hours to start can be optimized in real time; start up decisions must be made several hours ahead of time, and likely cannot be second guessed. The CPUC staff thinks it is unreasonable to start resources that must be retained at their PMin for more than four hours based on speculative needs when other resources that can start up and operate faster than that are available.

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.

Energy Division staff support option c – that of using generated bids to round out the amount of flexible capacity that ought to be bid from a RA resource, but allow the SC of

the resource to schedule or bid the amount that is not “flexible capacity”. The CAISO presented three scenarios for how to enforce the must offer obligation and generate bids or adjust schedules to ensure compliance with the flexible must offer obligation. The options were presented of rejecting entire bids if they were over or under the required amount of flexibility bid. Option c was a measured approach where only the portion of the schedule that left too little “flexible” capacity bid into the market would be rejected and subject to generated bids; the rest of the generator’s bids/schedules would be accepted.

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.

Energy Division staff is concerned about how opportunity costs would be calculated and applied in start-up costs or default energy bids. While seeking to avoid double counting (adjusting for opportunity cost once in the default energy bid and again in the start-up costs) there may be good reason to have a factor that is variable throughout the month and year that adds the marginal value of the next dispatch into the bid, thereby accurately reflecting the rising value of starts in start-up costs as start-up opportunities are spent.

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 6 or 5 as appropriate.

As with the provisions around hydro resources, there may be a difference between submitting economic bids and having energy available. Constraints in the CAISO software and Master file related to minimum run times, maximum start up times, daily and monthly energy limits etc. seem appropriate ways to manage the diversity and uniqueness of constraints on different resource types.

The daily dynamic between 5 am and 10 pm (ramping up load with wind generation, ramping down wind and ramping up solar, etc.) highlights the diverse ways that the system overall could optimize facilities such that all play a part in resolution of the problem. The “ramp duration curve” the CAISO presented highlights that small mitigations in small numbers of hours can have large impacts on reducing total flexible capacity procurement needs. Load curtailment and solar curtailment are viable if done a small amount of the time. It may be that different resources are best suited to the morning ramp and some are best suited to evening ramp. Thus it is important to

explore ways that resources can meet both the ramping needs highlighted in the CAISO proposal but also the other types of needs for which the current proposal is a proxy.

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.

The backstop procurement provisions for flexible capacity should be commensurate with, and mirror the CAISO's existing backstop mechanisms and protocols under the CPM. They should be modified to encompass flexible capacity requirements, but not to extend the reach of the CAISO's backstop procurement jurisdiction to LSE filings in the absence of an overall lack of flexible resources individual SCs. Rather, all of the backstop procurement mechanisms should operate within the same scope.

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