

## Stakeholder Comments Template

Submitted by	Company	Date Submitted
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Please use this template to provide your comments on the FRACMOO Phase 2 stakeholder initiative Supplemental Issue Paper posted on November 9.

Submit comments to [InitiativeComments@CAISO.com](mailto:InitiativeComments@CAISO.com)

**Comments are due January 6, 2017 by 5:00pm**

LS Power thanks CAISO for the opportunity to provide these comments. LS Power supports CAISO's efforts in understanding the challenges posed by variability introduced in the grid and how the current construct of flexible capacity procurement falls short in addressing these challenges which are growing by the day. LS Power believes CAISO's efforts in identifying the flexible capacity attributes the grid needs are a step in the right direction. We offer the following comments for CAISO consideration as it develops a straw proposal for this initiative.

### **(1) The need for Downward Flexible Capacity should be re-evaluated**

The discussion around flexible capacity has mostly focused on the need to have faster ramping product available to meet the net 3-hour or 1-hour ramp needs. There has been very little discussion on the issues "over supply" can cause prior to the net load ramps and if any of these issues pose reliability risk for the grid. LS Power recommends CAISO should investigate this and see if there is a need to have enough Flexible Capacity "down" product available to address over supply and ramp down issues, especially at the start of each solar day when 10s of GW of generation will be ramped down to make way for solar PV generation in the coming years. While it is true that over supply issues can be solved by either economically dispatching down renewable resources in the Real

Time market, or by dispatching these down out of market, we must all consider whether this is a desirable solution from any standpoint. LS Power suspects that for lack of having a planning solution in its toolbox, CAISO will need to address this issue with out of market actions and/or deploy Regulation Down resources if not enough Economic Dispatch Down bids are available in Real time, with negative consequences for system reliability and GHG targets. Dispatching down paid for, carbon free renewable resources in order to keep long-start fossil fuel resources online at (inefficient) partial loads (for the evening net load ramp) runs counter to the State’s economic, environmental and policy goals.

## **(2) Timing of the Stakeholder Initiative should be reduced**

The challenges presented in the paper suggest that it would be prudent to develop solutions such as identifying the desired flexibility attributes sooner rather than later. CAISO is currently proposing more than one year to complete this stakeholder process, which means new Flexible Capacity product can only be procured starting 2019 or 2020 Resource Adequacy compliance years. LS Power recommends that CAISO reconsider the timeline and should look at any risks the delay in procurement of new product could pose, especially in the light of faster than expected growth in renewable generation both in front of and behind the meter.

### **Identified opportunity for enhancing flexible capacity product**

1. Ramping speed
  - a. Large single hour net load ramps

#### **Comments:**

CAISO’s analysis of flexible capacity showings suggests that “there is a growing need to ensure that faster ramping resources are procured and made available to the ISO”. This is not surprising given the amount of renewables that now participate in the grid both in front of the meter and distributed generation (which CAISO has no operational control over). LS Power supports CAISO’s finding that “it is necessary to consider minimum ramp rate limitations” to address several operational challenges including large single hour net load ramp. Further LS Power believes that the challenges stated by CAISO are only growing larger by the day. For instance in the Supplemental Issue Paper CAISO notes that the largest 3-hour net load ramp in 2015 was 10,684 MW and the forecasted highest 3-hour net load ramp for Dec 2016 was 12,096. On Dec 19, 2016, CAISO recorded a 3-hour net load ramp of 12,900 MW. This shows that the operational challenges are growing faster than expected; hence the need to address them is sooner rather than later.

b. The transition from low net loads to steep ramps

**Comments:**

LS Power agrees with CAISO findings on this issue. The transition from low net loads to steep ramps is challenging and committing slower resources to meet this will both worsen over-generation and jeopardize GHG goals. As slower resources remain committed at their Pmin levels (so they can stay online for the evening steep ramps), this causes over generation and leads to dispatch down of renewables, which poses challenges in meeting RPS goals. Further when CAISO chases the steep ramp, it must utilize its fast ramping resources and may also need to use its Regulation resources, which could pose CPS compliance issues. This supports the need for a minimum operational ramp rate for a resource to be able to qualify for providing flexible capacity. Further the CAISO should also look at any reliability impacts the over-generation hours pose to the grid. If so, CAISO should consider developing a Flexible Capacity Down product to ensure this capacity is available in real time to address these challenges.

c. Intra-hour variability

**Comments:**

No comments at this time.

2. Cycle time and flexible capacity qualifications

**Comments:**

Cycle times and Daily Start requirements are important considerations and a resource's capability to provide flexibility given its operating restrictions should be considered.

3. High minimum operating levels from both RA and flexible RA

**Comments:**

LS Power supports CAISO recommendation in investigating the Pmin to Pmax ratio as an additional flexibility attribute to help offset the Pmin burden posed by the existing flexible capacity fleet.

4. Most significant net load ramps occur on weekends or holiday weekdays

**Comments:**

LS Power supports CAISO recommendation.

5. Significant quantities of long start resources may limit the ISO's ability to address real-time flexibility needs

**Comments:**

LS Power supports CAISO recommendation.

6. There is currently no means in place for the ISO to assess the likelihood that the flexible RA showings will adequately meet all ramping needs

**Comments:**

LS Power supports CAISO recommendation.

**Other comments**

Please provide any additional comments not associated with the topics above.

**Comments:**

CAISO's supplemental paper offers great insights into overall effectiveness of the existing flexible capacity fleet and the issues CAISO faces with growing renewable capacity. The issues presented in the paper are only going to get worse as more renewables are integrated into the grid, especially Distributed Gen that CAISO has limited control over. Given this, LS Power recommends that CAISO reduces the overall timeline for this stakeholder initiative and targets taking its recommendations to CAISO Board by Q3, 2017.