LS Power Comments on CAISO FRACMOO Phase 2, July 22, 2015 Working Group

Submitted by	Company	Date Submitted
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LS Power appreciates the opportunity to provide comments on the FRACMOO 2 Working Group activity. LS Power is encouraged by the discussions CAISO is leading on this important topic. We have the following inputs to offer:

(1) CAISO proposed criteria for when Pmin can count as flexible.

Per CAISO's Working Group presentation, Pmin of a resource is proposed to count as flexible if:

–Start-up time is less than 90 minutes
–Minimum run time is less than 4 hours
–Minimum down-time is less than 4 hours

LS Power asks that CAISO re-consider this criterion. Technology exists that can provide start-up times of less than 1 second, and no minimum run time or down-time – such a product will doubtlessly be more valuable in managing the real-time ramping and overgeneration issues that CAISO is trying to solve with Flexible Capacity. It would seem to be more effective, both from an operational and cost standpoint, to develop at least two Flexible Capacity products such that CAISO can optimize procurement between the two products based on effectiveness. PJM utilizes a similar arrangement for Regulation, where they have a standard product (RegA) and a fast and accurate product (RegD). By optimizing between RegA and RegD procurement, PJM is able to minimize the amount of Regulation it needs to procure, because up to a certain level the effectiveness of the RegD product allows them to procure less.

Similarly, it would seem that a fast response Flexible Capacity product (call it FlexD), would be more effective in managing the ramping and overgeneration problems that CAISO is already experiencing in the Realtime market 5 and 15 minute intervals. It is difficult to manage between 5 minute market intervals with a 90min/4hr/4hr resource. LS Power would suggest that CAISO study the effectiveness of developing a FlexD Capacity product that could manage real-time problems in a more efficient, cost effective manner than a single "one size fits all" Flexible Capacity product possibly can. We understand that CAISO is working on developing a Realtime market product, Flexible Ramping Product, that would reward faster ramping resources in Realtime and also that CAISO has a Pay for Performance Regulation product that is intended to reward resources that provide accurate response to regulation signal, but ensuring that enough faster ramping flexible resources are available in Realtime can only be possible if such resources are incentivized to be procured through Year ahead and Month ahead Flexible Capacity procurements.

Take for example if a resource had a Minimum run time of just less than 4 hours; per the CAISO proposal, the MW capacity of the entire resource will be treated as flexible. What if the resource was dispatched in Real Time and CAISO started experiencing over-generation? CAISO will have no way to dispatch the unit offline and would be required to keep it running for 4 hours, exacerbating the overgeneration situation. While CAISO and the LSE may have counted the resource's MW capacity towards meeting the Flexible Capacity targets, in reality the resource is inflexible.

Regardless of whether CAISO considers our FlexD proposal above, we recommend that CAISO reconsider the proposed criterion and reduce the proposed Minimum run- and down- time thresholds such that CAISO can get superior flexibility from flexible resources in Real Time. Under CAISO's currently proposed rules a resource which falls within the 90min/4hr/4hr criterion above will be treated "equivalent flexible" to another similar MW size FlexD resource described above which has no Pmin, no Minimum run time, no Minimum down time. The FlexD resource offers more flexibility to CAISO and it should reflect in EFC value for this resource.

(2) CAISO's proposal of Inflexible Allowances needs to be further discussed:

LS Power understands that this is the beginning of several discussions that will likely take place on this topic. We have the following inputs to offer as CAISO and the Working Group thinks about further developing this topic.

- Will LSEs have to do year ahead and month ahead showings for Inflexible Allowances? Will Inflexible Allowances only be required for "non summer" months? What will be the Must Offer Obligations for such allowances? What happens if the inflexible allowance is not available in Real Time? For instance, a dispatchable renewable resource that may have been used by an LSE for a month ahead showing for Inflexible Allowances may not be available in real time if there was cloud cover etc. If the product is unavailable in Real Time such that CAISO can't use it, this could pose reliability issues. CAISO should give further consideration to what counts towards Inflexible Allowances and develop a tighter criterion on what qualifies to be shown by LSEs as an Inflexible Allowance.
- In general, the concept of Inflexible Allowances needs to be further developed and considered. Several studies done by CAISO under the CPUC LTPP proceeding show that over-generation will significantly continue to increase in future years and CAISO will need more dispatch down capability. The need for flexible capacity that can be dispatched down is a long term need. CAISO's proposal of handling this need by way of having LSEs offer Inflexible Allowances is a short term solution, but this will not be able to address the long term need. What if the Inflexible Allowances that were used in one year are unavailable the following year? Temporary Inflexible Allowances will not be enough to incentivize new capital investment or provide CAISO with a more robust long term solution.
- Is the concept of Inflexible Allowances introducing inefficiency in RA showings? If a LSE shows more inflexible capacity to CAISO than it is allowed then this LSE is required to show Inflexible Allowances, which means the overall showing from this LSE could be more than the total showing required. This may lead to over procurement by LSEs which will come at additional cost.

(3) Flexible Capacity Product : 3 hours or 4 hours

LS Power understands that CAISO is assessing if the Flexible Capacity product should continue to be assessed over 3 or 4 hours. We encourage further discussion on this topic at the next Work Group meeting. LS Power would suggest that CAISO study the cost effectiveness of the duration of the Flexible Capacity product. It is possible that the majority of the ramping and over generation requirements and value are 3 hours or less in duration. In which case, a 4-hour Flexible Capacity requirement would be over-procuring and less cost effective than a 3-hour product.

LS Power thanks CAISO staff for the opportunity to provide these comments and looks forward to participating in upcoming work group meetings.