

Stakeholder Comments Template

Frequency Response Phase 2 Initiative Working Group

Submitted by	Company	Date Submitted
<i>Nancy Rader Dariush Shirmohammadi</i>	<i>California Wind Energy Association (CalWEA)</i>	<i>3/17/2017</i>
<i>Shannon Eddy Susan Schneider</i>	<i>Large-scale Solar Association (LSA)</i>	

This template has been created for submission of stakeholder comments on the working group for the Frequency Response Phase 2 initiative held on February 9, 2017. Information related to this initiative may be found at:

<http://www.caiso.com/informed/Pages/StakeholderProcesses/FrequencyResponsePhase2.aspx>

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **March 17, 2017**.

The ISO includes a summary of the brainstormed options for potential solutions to reference while responding to Question 1 and its subparts. Seven potential options were brainstormed, they include:

CalWEA and LSA applaud CAISO for proposing to address the reliability needs of its balancing area through the design of a Primary Frequency Response (PFR) market. We also support CAISO's open stakeholder process (along with its associated technical workshops) that offer the opportunity to all CAISO market participants to offer their ideas regarding the design of such a market.

At the same time, we observe that the FERC is proposing to require all new resources to install PFR capability and furthermore proposes that generators be compensated for the installation of such capability. While well-intentioned, we believe that placing such an obligation on all new resources will not achieve optimum results and, most importantly, will render a PFR market, however well designed, to be totally ineffective.

Surveys have consistently shown that many existing generators that have PFR have effectively disabled this response. This is not a surprising result considering that, today, generators are not compensated for the costs of providing PFR. Market-based compensation will provide appropriate economic incentives for existing sources of PFR, whether within CAISO's balancing area or without, to offer that capability for the benefit of CAISO ratepayers.

Hence, CalWEA and LSA recommend that CAISO must first and foremost address the issue of forcing all new resources to offer PFR capability ahead of, or at least in parallel to, its efforts to design an

efficient and voluntary PFR market. We also recommend that CAISO forcefully lobby FERC to prevent a national mandate on new resources to provide PFR capability. Finally, we recommend that, even if the FERC adopts a policy requiring all new generators to install PFR capability, the CAISO should seek a waiver on grounds that (a) the CAISO balancing authority will have the largest amount of renewable resources in the U.S., and obligating all these resources to provide PFR will be ineffective and too costly for consumers; and (b) a market-based alternative will ensure that consumers pay only for what is actually needed.

1. Annual Forward Procurement - external BAAs
 - a. Only procures incremental amount to cover expected shortfall
 - b. Requires one contract type (TFR)
 - c. Supports bid submission and settlement of that price if procured
 - d. Does not require any day-ahead or real-time market co-optimized constraint
2. Annual Forward Procurement - external BAAs and internal resources
 - a. Only procures incremental amount to cover expected shortfall
 - b. Requires two contract types (TFR and frequency response awards)
 - c. Supports bid submission and settlement of at least that price if procured
 - d. Requires day-ahead and real-time co-optimized constraint
3. Day-ahead or Real-Time Market Product
 - a. Procures amount to meet total requirement
 - b. Requires one contract type (frequency response awards)
 - c. Supports bid submission and settlement of at least that price if procured
 - d. Requires day-ahead and real-time co-optimized constraint
4. Day-ahead and Real-Time Constraint
 - a. Procures amount to meet total requirement
 - b. Does not support bid submissions but would include some type of settlement for service
 - c. Requires day-ahead and real-time co-optimized constraint
5. Combination Annual for externals and Day-ahead/Real-Time Product
 - a. Procures incremental amount in annual forward procurement that would support bid submission and settlement of at least that price if procured
 - b. Separately procures remainder of the amount to meet the total requirement that would support bid submission and settlement of at least that price if procured
 - c. Requires day-ahead and real-time co-optimized constraint
6. Combination Annual for externals and Day-ahead/Real-Time Constraint
 - a. Procures incremental amount in annual forward procurement that would support bid submission for TFRs and settlement of that price if procured
 - b. Separately procures remainder of the amount to meet the total requirement that would not support bid submission for market constraint but would include some type of settlement
 - c. Requires day-ahead and real-time co-optimized constraint
7. "Do nothing"
 - a. Take no proactive action including procuring TFR from external BAAs

Questions:

1. The ISO seeks stakeholder input on the brainstormed options for a potential solution to the ISO need to take proactive action to ensure its frequency response is sufficient to support reliability in the event of a loss of two Palo Verde units (BAL-003-1 requirement). These include
 - a. Provide description of view of advantages, disadvantages, or position on option 1 - Annual Forward Procurement - external BAAs.
 - b. Provide description of view of advantages, disadvantages, or position on option 2 - Annual Forward Procurement - external BAAs and internal resources.
 - c. Provide description of view of advantages, disadvantages, or position on option 3 - Day-ahead or Real-Time Market Product.
 - d. Provide description of view of advantages, disadvantages, or position on option 4 - Day-ahead and Real-Time Constraint.
 - e. Provide description of view of advantages, disadvantages, or position on option 5 - Combination Annual for externals and Day-ahead/Real-Time Product.
 - f. Provide description of view of advantages, disadvantages, or position on option 6 - Combination Annual for externals and Day-ahead/Real-Time Constraint.
 - g. Provide description of view of advantages, disadvantages, or position on option 7 - "Do nothing".

8. ISO seeks stakeholder input on the proposed frequency response service specifications for fast frequency response, primary frequency response and fast regulation attached separately in the draft frequency control product specifications document found [here](#).

9. ISO seeks stakeholder input on the proposed scope of services for which a procurement mechanism would be designed. The proposed scope shown in the product specification handout is that the ISO only needs to evaluate procurement of primary frequency response whether from external BAAs or internal resource and does not need to procure fast frequency response or fast regulation capable of providing the secondary response shown on slide 47 in the appendices to the working group presentation. If any stakeholders believe that the scope should include the fast frequency response or fast regulation services under its evaluation of a procurement mechanism please provide an explanation.

10. ISO seeks stakeholder input on whether load responsive devices can perform with a proportional response or does it require shedding load at a specific trigger point? Also, whether there has been any exploration of the concept of stopping non-critical processes for short periods has been evaluated?

11. ISO seeks stakeholder input on whether pump storage hydro is pumping rather than generating would frequency control device perform with a proportional response or require shedding load at specific trigger points?
12. ISO seeks stakeholder input on the statement made on Slide 15 of the ISO presentation, “Frequency control services require reserves above operating reserves that are not procured for RA”. The ISO stated that it believes that resource adequacy or flexible resource adequacy capacity procured to ensure RA to ensure energy deliverability cannot be awarded frequency responsive reserves since these reserves cannot be released by ISO dispatch to ensure deliverability during peak or ramping needs. If any stakeholders hold a different belief, the ISO asks that additional information and explanation be provided to continue to move the dialogue forward.