

Stakeholder Comments Template

Frequency Response Phase 2 Initiative Working Group

Submitted by	Company	Date Submitted
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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:

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".

The AWEA California Caucus (ACC) appreciates the opportunity to comment on the February 9th frequency response working group meeting. Ensuring sufficient frequency response is an important priority to ensure system reliability. While the CAISO has indicated that an increase in renewable generation is a key cause of the provision of insufficient levels of primary frequency response, others, including NERC, have made clear that the growth of non-synchronous generators is not the cause of concerns about primary frequency response

adequacy. As NERC has noted, these changes, including the decline in frequency response, “have been developing for some time and are not the direct result of the emergence of renewable resources such as wind and solar.”¹ Therefore, the increase in renewable generation should not be assumed to be the primary contributor to declining frequency response.

Regardless of the cause of declines in frequency response, it is important to ensure provision of sufficient frequency response going forward and the ACC appreciates the ISO’s efforts to achieve that goal through the Phase 2 Frequency Response stakeholder initiative. Various options to ensure sufficient frequency response have been outlined through the working group discussions, and ACC looks forward to additional discussions on these options. As discussed more below, ACC supports market solutions for frequency response, where possible; ACC encourages the ISO to consider whether resources should be paid for the actual provision of frequency response during system events; and ACC supports continued provision of frequency response from external Balancing Authorities (BAs).

As a principle, the CAISO should strive for market solutions where possible, as market solutions encourage the most efficient outcomes while allowing all capable resources to compete to provide needed services. For these reasons, ACC prefers market solutions for primary frequency response; however, ACC recognizes that primary frequency response provision may not easily be achieved through a market mechanism. It is not practical, and may not be achievable, to ensure that resources that clear in a primary frequency response market will actually provide frequency response during a system event. Therefore, in any solution, the CAISO should consider a compensation mechanism for the actual provision of primary frequency response during system events. Compensation for primary frequency response provision could be achieved independently of a solution to ensure that sufficient frequency response capability exists to meet reliability requirements. ACC looks forward to continued discussions on this option.

As various options are considered, ACC notes that continuing to allow for the provision of frequency response from external BAs to the CAISO will help ensure a low-cost solution to compliance with frequency response requirements. Therefore, ACC supports the inclusion of the annual external provision of frequency response in any ultimate solution achieved through this initiative. While there may be challenges in determining the appropriate proportion of primary frequency responses to obtain externally and internally, inclusion of external primary response capability should be a component of the frequency response solution proposed in this initiative.

For the reasons outlined above, ACC supports further consideration of options “b,” “e,” and “f,” with further discussion of an added “pay for performance component” within these options. ACC looks forward to future working group discussions on these options.

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](#).

¹ Available at http://www.nerc.com/files/FinalFile_Comments_Resp_to_Sept_Freq_Resp_Tech_Conf.pdf, pg 3.

ACC generally supports the product specifications and supports consideration of a fast frequency response product at a future date, once the primary frequency response solution is designed.

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.

ACC supports consideration of fast frequency response in a future stakeholder initiative.

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?

ACC offers no comments on this question at this time.

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?

ACC offers no comments on this question at this time.

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.

ACC offers no comments on this question at this time but looks forward to continued dialog on this topic.