

Stakeholder Comments Template

**Frequency Response Issue Paper Discussion August 13, 2015**

<b>Submitted by</b>	<b>Company</b>	<b>Date Submitted</b>
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Wellhead appreciates this opportunity to comment on the CAISO’s Frequency Response Issue Paper.

Wellhead understands the problem statement to be twofold:

1. The CAISO must ensure that it can meet its BAL-003-1 Frequency Response Obligation (FRO) of 763 MW of upward response in less than one minute by December 1, 2016, and
2. The CAISO indicates that it is not possible to implement a new market for frequency response products in the allowed time frame (before December 1, 2016) and therefore the CAISO must develop an interim strategy using the existing market structure.

Wellhead proposes the following:

1. Short Term/Interim Solution. Wellhead supports the interim use of an increased procurement of spinning reserve product that should target GHG-free resources like storage and hybrid facilities that can provide GHG-free spinning reserve.
2. Long Term Solution. Wellhead supports the development of a market for frequency response products since this market would likely have the following attributes:
  - a. Provide for pay as you go acquisition of frequency response products.
  - b. Procure only the amount of product that is actually needed.
  - c. High transparency and accountability in an increasingly unbundled marketplace.
  - d. Frequency response products that are GHG-free and extremely fast responding.

Wellhead has the following additional comments:

1. In Table 3 of the joint NERC- CAISO 2013 Special Reliability Assessment, there is a list of potential solutions for meeting CAISO's FRO. Wellhead requests that the CAISO provide stakeholders with an update on these efforts, specifically:
  - Status of real-time tool development to determine adequacy of committed resources to meet the FRO.
  - Status of tracking the ratio of generators providing governor response (Kt) and headroom in real-time.
  - Status of algorithm to calculate actual and minimum required inertia for all operating hours.
  
2. Wellhead offers the following points for CAISO's consideration:
  - In either a short term or long term solution, CAISO should procure 100% of its forecasted response obligation in the day-ahead market.
  - CAISO should review the possibility of using an expanded flexi-ramp mechanism to ensure that there is enough response in the system to meet its obligations in the real-time.
  - Since the FRO has a one minute criteria, CAISO should lean heavily on fast responding GHG-free resources.
  - CASIO should consider expanding all RDTs to include frequency response ramp rate which, in many cases, will be greater than the max ramp rate currently listed.
  - As system inertia continues to drop over time, the CAISO should consider expanding the GRDTs to include the resource inertial constant. This will allow CAISO to know how much inertia is being contributed to the system from its generating resources and whether the minimum amount of inertia is present in the CAISO system.