

## PG&E's Comments

### Frequency Response Phase II Issue Paper

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PG&E offers the following comments on the CAISO's Frequency Response Phase II Issue paper dated December 15, 2016.

PG&E supports the CAISO's efforts in fulfilling its obligation to evaluate whether a market mechanism should be designed that encourages the frequency response capabilities of all participating resources. PG&E believes that CAISO is seeking to produce market signals that enable its fleet to respond to frequency disturbances.

In response, PG&E offers the following comments:

- PG&E requests that the CAISO perform a study to identify the need for fast primary frequency services.
- Utilizing Fast Regulation resources for primary frequency response purpose (multiple usages) could cause some complications.
- PG&E does not see the rationale for a payment for frequency response capability when it is going to be a FERC mandate / requirement.
- PG&E is seeking more market conceptual design information related to settlement to justify resource's opportunity and operating costs.

#### **A. PG&E requests that the CAISO perform a study to identify the need for fast primary frequency services.**

Utilizing fast frequency response as a new product requires a reliability study based on the NERC BAL 003-1 standard and economical study to demonstrate the need for such product in CAISO footprint.. Also, when such need is confirmed it should be determined whether it is a WECC need or a CAISO need.

Furthermore, the economic justification of fast frequency response should be demonstrated.

**B. Utilizing Fast Regulation resources for primary frequency response purpose (multiple usage) could cause some complications.**

Utilizing Fast Regulation resources for primary frequency response purpose (multiple usage) could cause some complications. Selection of these resources is tied to their regulation bids. If their bids are high they might not be selected to provide regulation in the day ahead and FMM markets and consequently they might not be available for primary frequency response purpose. Even if they have been selected, their capacity procured could be deployed for regulation purposes, so that part of their capacity will not be available to provide primary frequency response when they are called for it. New steps and constraints would have to be added to the optimization in the Day Ahead and Fifteen Minute markets when clearing regulation up product to provide primary frequency response.

**C. PG&E does not see the rationale for a payment for frequency response capability when it is going to be a FERC mandate / requirement.**

New generation resources (synchronized / non-synchronized, small and large) will be mandated by new FERC rules to have the frequency response capability and those existing generation resources with the capability will be obliged to make it available to the system operator. PG&E does not see any reason for capability compensation.

**D. PG&E is seeking more market conceptual design information related to settlement to justify resource's opportunity and operating costs.**

As a general rule, opportunity cost payment for the unloaded capacity could be very similar to the payment for spinning reserve capacity although it is cleared as a distinct reserve. However, CAISO did not provide sufficient information related to the operating expenses during frequency response events. The major issue is the measurement and verification of the response provided specifically during the event. A majority of the resources are not equipped with granular meters (less than one minute) to verify their performance. The next issue in such market is related to the penalties that NERC has assigned for underperforming at the system level. Who should bear the tab for those penalties when generators are getting paid to perform?

PG&E prefers to answer to CAISO's questions whether the ISO should compensate resources for their "opportunity costs" and "operating expenses" when there is more clarity regarding these payments and the overall design and settlement rules.