

Stakeholder Comments Template

Submitted by	Company	Date Submitted
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Please use this template to provide your comments on the presentation and discussion from the stakeholder web conference held on October 19, 2015.

Submit comments to InitiativeComments@caiso.com

[Comments are due November 2, 2015 by 5:00pm](#)

The presentation discussed during the October 19, 2015 stakeholder web conference may be found on the [Frequency Response Initiative](#) webpage.

Please provide your comments on the ISO's straw proposal for each of the eight issues listed below along with the ISO's straw proposal. The ISO welcomes comments in addition to these issues as well.

[Frequency Response Standard](#)

The ISO believes the straw proposal and its accompanying technical appendix covers the standard's requirements for compliance purposes. The ISO is endeavoring to provide sufficient information to stakeholders for effective evaluation of the ISO's proposal. The ISO seeks comments on whether any unresolved questions on the standard and the ISO's obligation still exist.

Comments: NRG believes the CAISO has adequately set forth what its frequency response obligation is and how the CAISO's performance will be measured. However, NRG sees much work ahead to define how individual resources' performance will be measured and how those resources' consequences for inferior performance will be determined and allocated.

Frequency Response Drivers

Several factors contribute to the primary frequency response performance of participating generators having governors. The ISO discusses some of the main drivers of PFR performance in Section 4.2 of its straw proposal. These factors include (1) magnitude of frequency deviation, (2) amount of synchronous on-line capacity providing sustained PFR, and (3) headroom available from that connected on-line capacity.

The ISO is evaluating what additional data points would need to be included in its Masterfile or through other mechanisms to facilitate a market tool or product to be designed. The ISO seeks comments on what factors influence a generators ability to provide PFR in the event of a frequency disturbance and the pieces of information necessary to estimate expected PFR.

Comments:

Additional factors include:

- Operating level and control mode. A resource operating at its manual minimum load may have a lot of headroom, but may not provide a lot of PFR through autonomous governor action at that level.

Phase 1, addressing real-time deficiencies

Section 6.2 of the straw proposal discusses Phase 1 of the initiative which will enact the five steps to ensure it is capable of meeting the requirement at that time. The first step discussed in section 6.2.1 is to develop “look-ahead” tools to assess the PFR capability of the system at various time horizons in the future based on current system conditions. If the look ahead indicates an anticipated deficiency of PFR the ISO can take actions to address the deficiency.

The ISO seeks comments on its proposal for addressing real-time PFR deficiencies for 2017 compliance period.

Comments: The “look-ahead” tool (“LAT”) must be developed, implemented and managed in a transparent way. Specifically:

- How it determines the CAISO’s frequency response requirement must be clear to market participants. The CAISO should publish, either in a technical bulletin or operating procedure, the inputs to and calculations performed by the LAT.
- The CAISO should run this tool on a regularly scheduled basis and publish the results of this tool’s analysis on OASIS.
- The CAISO should regularly (e.g., monthly, as part of the monthly market performance metrics documents) publish metrics that describe how this tool

performed and how the CAISO met the frequency response requirements that the tool developed.

- To the extent market participants are determined to have caused the CAISO to fail to meet its frequency response performance, the CAISO should publish that information (with the identity of the market participant withheld) so as to help market participants improve their performance.

Phase 1, tariff and interconnection revisions

Section 6.2 of the straw proposal discusses Phase 1 of the initiative which will enact five steps to ensure it is capable of meeting the requirement at that time. The first step discussed in section 6.2.2 is to revise the tariff to include requirements for all participating synchronous generators with governors, not just those providing spinning reserves, to set governors to specified droop settings and deadbands, and to not override governor response through outer-loop controls or other mechanisms.

The ISO seeks comments on the tariff revisions it is proposing to help the ISO ensure sufficient frequency responsive headroom and whether other revisions should be considered.

Comments: The CAISO's proposed provisions should help provide better PFR in the near-term, but should not become the long-term preferred solution. Doing so would put the entire PFR burden on a single class of market participants (synchronous generators).

Phase 1, ISO's practice of preserving operating reserve headroom

Section 6.2 of the straw proposal discusses Phase 1 of the initiative which will enact five steps to ensure it is capable of meeting the requirement at that time. The first step discussed in section 6.2.3 is to revise the tariff to clarify the authority of the ISO to designate any reserve not previously identified as Contingency Only by a Scheduling Coordinator (SC) as Contingency Only reserves.

Comments: Currently, market participants who provide reserve products to the CAISO may earn both the reserve payment and an energy payment if the CAISO dispatches energy from those reserves. Holding reserves as Contingency Only will reduce the possibility of being dispatched to provide energy and will affect those revenue streams. That, in turn, may impact bidding of reserve products.

Phase 1, performance requirements

Section 6.2 of the straw proposal discusses Phase 1 of the initiative which will enact five steps to ensure it is capable of meeting the requirement at that time. The first step discussed in

section 6.2.4 is to include frequency response performance requirements for resources with governor control and frequency responsive capacity available.

The ISO will continue to develop the details of a proposed performance requirement and seeks comments from stakeholders on an appropriate performance requirement.

Comments: The development of clear performance requirements is critically important. Both the performance requirements and the way the CAISO will assess performance must be clearly specified in the CAISO Tariff.

The CAISO's and market participants' experience with the performance requirements for Regulation should be considered in setting the performance requirements for frequency response. As the CAISO discovered with regulation, setting an arbitrary performance threshold for frequency response could be problematic.

For all of these reasons, the CAISO should:

- (1) collaboratively and transparently develop the proposed performance requirement and the means by which the performance requirement will be measured;
- (2) initially assess performance in a "matchsticks" environment for a period of time until there is adequate experience with the performance requirement.

Phase 1, allocation of BAL-003-1 non-compliance penalties

Section 6.2 of the straw proposal discusses Phase 1 of the initiative which will enact five steps to ensure it is capable of meeting the requirement at that time. The first step discussed in section 6.2.5 is considering provisions for allocating any non-compliance penalties associated with BAL-003-1, should they be imposed on the ISO, to resources that should have provided more PFR than they actually delivered during frequency events.

The process discussed in ISO tariff section 14.7 applies to an allocation of any reliability-based penalty. The ISO seeks comment on how it could apply these tariff provisions to BAL-003-1 compliance and whether it should explore additional tariff provisions beyond those set forth in section 14.7 to impose responsibility for penalties on any resource that fails to provide primary frequency response for which it has an obligation to provide.

Comments: The CAISO needs to protect market participants against unreasonable outcomes – such as a small deficiency incurring a very large penalty. The CAISO should adopt a "cap" and allocate penalties above the cap to the broader market.

Phase 2, long-term approaches

Phase 2 of the initiative will evaluate if a market constraint or product is better suited to competition for frequency response capability (Section 6.3 of straw proposal). Such market-based mechanisms could not be designed, approved and implemented by December 1, 2016, and therefore the ISO will need to consider them in a second phase of this initiative.

Comments:

- Given that Order 794 was issued in January 2014, it is disappointing that the CAISO and market participants are not further down the road towards the development of a market-based product.
- Not having a market product could result in inefficient procurement of frequency response.
- Additionally, without a transparently priced market product, there is no way to assess the viability of other products, like acquiring PFR from inverter-based resources. The fast response of such devices could enable the CAISO to meet its PFR requirements without carrying huge amounts of headroom on gas-fired generation. However, it will be necessary to keep some headroom on these inverter-based devices. Absent a transparently-priced market product, the economic tradeoffs between technologies cannot be clearly measured.

Additional Comments:

NRG would like to comment on what seems to be a recent CAISO movement away from market-based products to requiring market participants to provide critical reliability services as “good utility practice” as part of being interconnected to the CAISO Controlled Grid. As the CAISO is well aware, requiring services to be provided as part of interconnection may not fully address cost recovery for those services (unless the CAISO assumes the problem away by concluding that all such services are fully compensated through financial arrangements that happen outside of the CAISO’s markets). Moreover, this non-transparent approach sends no price signals that allow the market to determine if the procurement of the needed service is efficient, or to spur the development of newer, cleaner technologies to provide these services.

Second, NRG is greatly concerned that the proposed schedule, which calls for the CAISO to seek approval of its proposal at the February 2016 Board meeting, is grossly inadequate to allow for the collaborative development of the frequency response performance requirements and the associated means for allocating any non-performance penalties. Prior experience with the Flexi-Ramp Constraint indicates that once the CAISO has satisfied an operating requirement through interim means other than a new market product, there is little, if any, incentive to proceed with the timely development of the replacement market product. NRG respectfully urges the CAISO to add more time to this stakeholder process to allow for the full and collaborative development of the frequency response performance

requirement. NRG hopes that the coming stakeholder processes associated with PacifiCorp integration will not unduly take away from the staff bandwidth that would otherwise be available to work on this and other initiatives.