



Stakeholder Comments Template

Hybrid Resources Initiative: Straw Proposal

This template has been created for submission of stakeholder comments on the **Hybrid Resources Initiative, Second Revised Straw Proposal** that was held on May 7, 2020. The meeting material and other information related to this initiative may be found on the initiative webpage at:

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

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on May 28, 2020.

Submitted by	Organization	Date Submitted
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Please provide your organization's comments on the following topics and indicate your organization's position on the topics below (Support, Support with caveats, Oppose, or Oppose with caveats). Please provide examples and support for your positions in your responses as applicable.

PG&E appreciates the opportunity to engage the CAISO and provide comments on the Hybrid Resource Initiative Second Revised Straw Proposal. PG&E's comments can be summarized as follows:

- PG&E requests more specificity regarding the must-offer obligations of hybrid and co-located resources
- PG&E requests clarification on how market awards are limited under the POI constraint
- PG&E requests clarification on the metering diagram and metering entity roles

1. Terms and Definitions

Please provide your organization's feedback on the proposed terminology and definitions as described in the revised straw proposal.

No comments at this time.

2. Market Interaction for Hybrid Resources

Please provide your organization's feedback on the market interaction for hybrid resources proposal, as described within the second revised straw proposal.

No comments at this time.

3. Point-of-Interconnection (POI) Constraint for Co-Located Resources

Please provide your organization's feedback on the POI constraint for co-located resources proposal, as described within the second revised straw proposal.

PG&E requests clarifying language from the CAISO regarding how market awards are limited for co-located resources behind a POI constraint. For example, will the CAISO use the bid prices from each co-located resource and limit MW awards of the higher priced resource first in order to clear the constraint? PG&E assumes this to be the case, based on the language "Congestion from this binding constraint will only be used to determine the quantity of dispatch for each co-located resource." (page 13 of the proposal). To the extent the limitation of market awards is based on other factors (i.e. size or PMax of each resource), the CAISO should make that clear.

A related example would be where solar generation and storage discharge occurs simultaneously—the storage with a bid, and the solar receiving a dispatch based on a forecast, but possibly delivering above that forecast. In this scenario, will the solar generation be curtailed to its forecast prior to limiting the storage awards, or after?

PG&E also has a question in regards to the addendum issued on May 13th, which allows for different scheduling coordinators (SCs) to bid in the underlying assets of a co-located resource. Could the CAISO confirm that market awards inconsistent with bids will be eligible for BCR, even while those market awards are spread across multiple resource owners/SCs? PG&E urges the CAISO's Department of Market Monitoring (DMM) to consider any possibilities of strategic bidding involving multiple SCs.

4. Metering

Please provide your organization's feedback on the metering topic, as described within the second revised straw proposal.

In regards to the metering diagrams in Figure 1 (page 12 of the proposal), three of these meters (in red) appear on the DC side of the diagram. Does the CAISO assume these to be DC meters and if so, has CAISO identified a revenue grade DC meter to use in operations?

PG&E also requests that the CAISO make clear that both hybrid and co-located configurations will maintain the option to have CAISO as the metering entity (ISOME) and not be forced to a scheduling coordinator metering entity (SCME) paradigm.

5. Resource Adequacy

Please provide your organization's position on the Resource Adequacy topic, as described in the second revised straw proposal.

PG&E appreciates the CAISO's efforts to outline the various must-offer obligation (MOO) scenarios in its proposal. While not all details are expected for the hybrid section of the proposal at this point, PG&E has a general concern about the effect of having a 24x7 MOO in the Day-Ahead (DA) timeframe for hybrid resources. On page 17 of the proposal, the CAISO acknowledges the inability of hybrid resources to bid up to their full RA capacity at times, but does not demonstrate how this understanding of the variable nature of hybrids will be translated into a written obligation (to include in a BPM, for example) or tariff language. PG&E recommends that hybrid must-offer obligations be defined clearly, in both the DA and Real-time (RT) markets, so that scheduling coordinators understand exactly what is required of them and when to use outage cards.

As for co-located resources, the MOO is more straightforward since the renewable portion of the co-located resource would maintain its non-binding bidding requirement in the DA timeframe. However, one area that is not made clear in CAISO's proposal is whether CAISO will allow the use of RAIM exempt outage cards for co-located resources with ITC charging restrictions.

Additional comments

Please offer any other feedback your organization would like to provide on the Hybrid Resources Initiative.

No comments at this time.