



Stakeholder Comments Template

Hybrid Resources Initiative: Straw Proposal

This template has been created for submission of stakeholder comments on the **Hybrid Resources Initiative, Straw Proposal** that was held on October 3, 2019. 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 October 21, 2019.

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.

1. Hybrid Resource Definition

Please provide your organization's feedback on the Hybrid Resource Definition as described in the straw proposal.

SERC supports the revised definition of the Hybrid Resource.

2. Hybrid Resources Business Drivers and Use Cases

Please provide your organization's feedback on the Hybrid Resources Business Drivers and Use Cases described in the straw proposal.

SERC supports with caveats the CAISOs perspective on Hybrid Resource business drivers and use cases. SERC recommends that the CAISO also consider business

drivers and use cases that fall outside of the CAISO market arena, but that may still impact the participation of a hybrid resource in the CAISO market. One such example is microgrids. With the recent Public Safety Power Shutoffs, retail customers in California have become keenly aware of the need for resilience in our electrical system and microgrids can provide a pathway to resilience for critical facilities. However, the resilience benefits that these microgrids provide will be utilized infrequently. The majority of the time microgrids will operate in parallel with the main grid and they will be used to reduce costs and generate revenues in various energy markets, including the CAISO market.

One area where this specifically relates to CAISO rules and the Hybrid Resources Initiative regards battery energy storage systems that are part of microgrids. There will be a desire/need for microgrid projects to maintain some reserve capacity in their battery energy storage systems, to be used for resilience purposes, by keeping it out of the CAISO market. There is currently not a way to achieve this, and this has come up for us as an issue as we work to establish an interconnection agreement with CAISO for our local microgrid project, the Redwood Coast Airport Microgrid. We discuss this further in the additional comments section below.

SERC thinks that microgrids will become a common feature of our distribution system in the future and that some microgrids will choose to participate in the CAISO market as hybrid resources. Therefore, SERC recommends that the CAISO include a Hybrid Resource use case called “Providing resilience through microgrids.” This use case should articulate what a microgrid is, how it is likely to be used, and how this might impact CAISO market participation.

3. Forecasting

Please provide your organization’s feedback on the forecasting topic as described in the straw proposal.

SERC supports with caveats the provisions around forecasting in the straw proposal. SERC supports the CAISO in allowing a Hybrid Resource to provide it’s own forecast, and also agrees with the need for MET data to allow CAISO visibility into variable resources. However, SERC suggests that Hybrid Resource generators should still have the option to subscribe to the CAISO forecasting used currently by VERs. We think this service can be useful to market participants, especially for smaller projects where it can help reduce barriers to market participation.

4. Markets and Systems

Please provide your organization’s feedback on the markets and systems topic as described in the straw proposal.

SERC supports the CAISO proposed modifications to it’s markets and systems in the case of Hybrid Resources. SERC emphasizes the importance of using the updated

forecast information for hybrid resources (every 5 or 15 minutes) to update the upper economic limit for the hybrid resource. This will be important to reduce the risk associated with the VER component of hybrid resources. SERC also supports the CAISO strategy for addressing issues with the interconnection right constraint for two or more resource IDs.

5. Ancillary Services

Please provide your organization's feedback on the ancillary services topic as described in the straw proposal. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

SERC supports the CAISO in its proposal of plant potential and SOC requirements, as well as payment rescission. SERC recommends that the forecasting information that will be provided for hybrid resources (as discussed above) should be utilized along with the state-of-charge information for energy storage to provide the updated "plant potential" data point for the hybrid resource for use in the ancillary services market process.

6. Metering and Telemetry

Please provide your organization's feedback on the metering and telemetry topic as described in the straw proposal.

SERC supports with caveats the CAISO position on metering and telemetry for Hybrid and Co-Located Resources. SERC asks that the CAISO reconsider the high side metering requirements in the context of RECs in the situation where a DC coupled resource charges from both onsite generation as well as the grid.

Figure 2 in section 6.4 of the straw proposal requires that there be a meter on both the high side, as well as the low side. SERC believes this is unnecessary for a DC coupled system. Following the WREGIS Operating Rules section 9.3.1, "Revenue Metering Standards", as well as the RPS Guidebook Chapter 3.B.1.C.2, "Facilities with Directly Connected Energy Storage Devices", SERC believes that one meter on the high side (shown in Figure 1 of section 6.4 in the straw proposal) would adequately capture the renewable energy delivered to the grid.

If this single meter is used to net the energy delivered to the grid, all losses would be absorbed by the resource, and the net energy delivered to the grid could only

represent renewable energy. SERC requests that the CAISO include this in the subsequent iteration of the proposal, or detail why this is inappropriate.

With regard to requiring all hybrid resources to provide metering and telemetry, including meteorological data and state-of-charge information, SERC does not see a problem with this requirement provided that the information is needed to facilitate efficient and effective market operation. We do not think that the CAISO should needlessly require data and telemetry from market participants as this simply adds barriers to market participation, especially for smaller market participants.

7. Resource Adequacy

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

SERC supports the position of the CAISO for the RA topic and encourages the CAISO to continue to work with the CPUC and other stakeholders to establish fair and effective QC counting rules for single resource IDs.

Additional comments

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

SERC requests that the CAISO include accommodations for microgrids within the the Hybrid Resource initiative, and also ask that a methodology be considered to allow such resources the ability to hold back a reserve capacity of energy storage for resiliency purposes. While it is understood that this may be a complex process, in the framework of SB-1339 and the following CPUC OIR, as well as the Public Safety Power Shutoffs, SERC believes it would be prudent for the CAISO to consider this now, rather than having to revisit this issue following the CPUC proceeding.

While SERC understands that CAISO currently has an expectation that the entire capacity of a BESS be available for dispatch, we propose that this requirement be modified for microgrid applications. One main function of distributed resources in the case of microgrids, is their ability to provide resilience in the form of back up power when needed. Therefore, the ability to partition out a portion of energy storage for resiliency purposes that will never be offered in the CAISO market is an important feature.

It is also understood that a while bidding strategy may protect a reserve capacity from market exposure in most situations, this would not be true in the case of exceptional dispatch. Given that in the case of a grid emergency it would be more likely a microgrid would need to island and provide resilience, the current framework is concerning. For battery based microgrid applications, if a utility outage occurs and the microgrid transitions to an islanded state, the SOC upon retransferring to a grid-connected state may be depleted making previously planned market participation for a given trade hour impossible until recharging occurs. A grace period on penalties for uninstructed deviations should be considered for such a case. SERC understands the need for CAISO to balance these issues against grid stability and reliability, and ask that it do so openly and in the context of subsequent iterations of this proposal.