



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.

1. Terms and Definitions

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

CalCCA asks the CAISO for clarification on the definition of co-located and hybrid resources when multiple resources are behind a single Point of Interconnection (POI). During the May 7 meeting, the CAISO indicated that two hybrid resources behind the POI may in fact be considered co-located resources.

¹ California Community Choice Association represents local government Community Choice Aggregation electricity providers in California members, including Apple Valley Choice Energy, CleanPowerSF, Clean Power Alliance, East Bay Community Energy, King City Community Power, Lancaster Choice Energy, MCE, Monterey Bay Community Power, Peninsula Clean Energy, Pico Rivera Innovative Municipal Energy, Pioneer Community Energy, Rancho Mirage Energy Authority, Redwood Coast Energy Authority, San Jacinto Power, San Jose Clean Energy, Silicon Valley Clean Energy, Solana Energy Alliance, Sonoma Clean Power, Valley Clean Energy.

CalCCA is concerned that this definition may be burdensome for such hybrid resources. In particular, if CAISO does not adopt CalCCA's proposed market rule to allow co-located storage resources to deviate from Dispatch Instructions under certain circumstances, these resources may face additional VER curtailment and risk of grid charging. The proposed market rule is described further in the Additional Comments section below.

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.

CalCCA supports the dynamic limiting tool proposed for hybrid resources to allow market participants to minimize the potential for infeasible CAISO instructions, and therefore minimize potential for Uninstructed Imbalance Energy (UIE).

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.

CalCCA supports the change made in the Second Revised Straw Proposal – Addendum, eliminating the single scheduling coordinator requirement for co-located resources.

4. Metering

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

CalCCA encourages CAISO to show similar metering diagrams for AC-coupled resources to make it clear that both AC- and DC-coupled configurations can be addressed with similar metering configurations. CalCCA also notes that currently the market-related implications of selecting a configuration (hybrid vs. co-located) for resources with energy generation and storage components are uncertain. CalCCA therefore encourages the CAISO to make the process for shifting from one configuration to another as streamlined as possible.

5. Resource Adequacy

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

CalCCA seeks clarification from the CAISO that the proposed use of outage cards to notify the CAISO of energy storage depletion that affects the resource's ability to follow a schedule (whether for hybrid or co-located resources) would not result in availability penalties during Availability Assessment Hours, or result in de-rates in a future unforced capacity calculation. Doing so would inappropriately penalize resources even if those resources had met their obligations to offer into the CAISO markets, been optimized by the CAISO over the DAM and RTM time horizons, and had followed CAISO dispatch instructions.

CalCCA calls the CAISO's attention to language in an earlier stakeholder initiative which addressed an analogous situation acknowledging that SCs may need to act counter to a MOO due to limitations in the CAISO's market optimization.

"On the other hand, the ISO's market optimization cannot account for certain other limitations that are constrained over a longer than 24 hour time period. These limitations often create a situation where a scheduling coordinator **must take action counter to the must-offer obligation** in order to ensure an optimal dispatch." --Final Proposal to CAISO Board, RSI 1, 2/22/15 (emphasis added)

Additional comments

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

CalCCA calls the CAISO's attention to the following items:

- To enable energy storage systems to optimize the output of VER resources, consistent with State policy² and to facilitate the ability of storage resources with grid charging restrictions to utilize the co-located configuration, CalCCA encourages the CAISO to implement a market rule that allows co-located storage resources to deviate from a Dispatch Instruction to the extent that the associated VER resource that is generating "as-capable" has deviated from its Dispatch Instruction. This rule is necessary because of the forecast error inherent in the RTD VER forecast. These resources may at times be able to exceed the RTD forecast output but would not be allowed to do so unless the storage resource discharge schedule could be reduced to stay within the POI limit. Without this rule, the storage resource would need to follow the Dispatch Instruction and the VER output would be limited to the forecast output. With the rule, the VER resource could produce as-capable and the storage resource could reduce its production to ensure that the POI limits are met. Similarly, if the VER resource was not capable of producing to the RTD forecast, without the rule the co-located storage resource would still need to follow its charging Dispatch Instruction. With the rule, the storage resource could deviate from the charging Dispatch Instruction by the same

² Assembly Bill No. 2514, Energy Storage systems 2009-2010.
https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200920100AB2514

amount that the VER resource production is below its RTD forecast. In both scenarios, the amount of energy injected into the CAISO Controlled Grid at the POI would be equal to the amount CAISO specified in aggregate to the combined co-located VER and storage components. If CAISO were to allow these deviations, it would enable more resources to utilize the co-located configuration effectively, providing to the CAISO market the inherent flexibility of storage systems while avoiding the risk of grid charging which could reduce ITC benefits or even jeopardize ITC eligibility completely. It is important to note that this treatment is only necessary to address changes that occur after the CAISO real-time market has run. Changes in the forecast between the DAM and RTM can be addressed directly in the bids submitted by the SC for each component of the co-located resource.

- Improved Real-Time market optimization for resources with storage capabilities.
 - The CAISO must extend the look-ahead horizon for Real-Time optimization, either through changes to the existing Real-Time market processes (if it can be done within the computational limits of the CAISO), or creation of a new specialized parallel market process for energy-shifting-capable resources. A parallel process may not be the globally optimal solution, but is a step in the right direction. By incorporating more current information reflecting Real-Time conditions and optimizing over a time horizon covering at least a full charge-discharge cycle, resources will be more likely to receive feasible schedules, and the CAISO will be more likely to ensure sufficient available energy at all times.
 - In previous materials (for example, Reliability Services Initiative 1 - Final Proposal to the Board, 2/22/2015), the CAISO has made repeated reference to the need for market software enhancements in order to optimize the dispatch schedules over an extended time horizon for resources (such as hybrid and co-located resources) able to shift energy production intertemporally. CalCCA strongly encourages the CAISO to invest in these enhancements.
- The CAISO and all stakeholders will gain valuable experience as more hybrid and co-located resources come online, and CalCCA strongly encourages the CAISO to remain flexible to quickly incorporate lessons learned into market rules.