



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
<i>Brian Theaker</i> 530-295-3305	<i>Middle River Power, LLC</i> (“MRP”)	<i>May 28, 2020</i>

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.

MRP will refer to the Second Revised Straw Proposal using the initialism “2RSP” in these comments.

1. Terms and Definitions

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

The CAISO’s proposed definition of a Hybrid Resource (“HR”) is:

Hybrid Resource: “A resource type comprised of two or more fuel-type projects, or a combination of multiple different generation technologies that are physically and electronically controlled by a single owner/operator and scheduling coordinator (SC) behind a single point of interconnection (“POI”) that participates in the ISO markets as a single resource with a single market resource ID, is optimized by the CAISO in the market as a single resource and is metered and telemetered at the high side of the interconnection transformer. Hybrid resources are not eligible to be variable energy resources.” (2RSP at page 6)

First, MRP offers these edits to the proposed definition:

Hybrid Resource: “A resource ~~type~~ comprised of two or more fuel-type projects, or a combination of multiple different generation technologies that ~~is~~ ~~are~~ physically and electronically controlled by a single owner/operator and scheduling coordinator (SC) behind a single point of interconnection (“POI”) that participates in the ISO markets through a single Scheduling Coordinator as a single resource with a single market ~~r~~Resource ID, is modeled ~~optimized~~ by the CAISO in the market as a single resource and is metered and telemetered at the high side of the interconnection transformer. Hybrid resources are not eligible to be ~~v~~Variable ~~e~~Energy ~~r~~Resources.”

MRP generally supports this proposed *functional* definition of a hybrid resource. This functional definition does not deal with *why* two dissimilar resources are being operated under a single resource ID, simply that they are being operated as a single resource with a single resource ID for a given purpose. Dissimilar resources could be combined to operate as a hybrid resource under a single resource ID to satisfy a regulatory requirement – for example, in the case of a combined renewable and battery energy storage project, the two resources are operated as a single resource to qualify for Investment Tax Credit (ITC) benefits, or, in the case of a combined gas-fired combustion turbine and battery energy storage system project, the two are operated as a single resource with a single resource ID to allow that single resource to sell spinning reserve without having to first synchronize the gas turbine to the grid.

MRP notes that it may be necessary to require the resource to operate as a hybrid resource under a single resource ID only for a narrow purpose – for example, to sell spinning reserve without synchronizing the gas turbine to the grid – and that, for all other purposes, the two resources could be operated separately. However, MRP does not know, given the requirements and restrictions of the CAISO’s market systems, how a HR could be bid, optimized and operated as a HR for some CAISO market products but operated as separate co-located resources (potentially, with separate SCs) for other CAISO market products. Such flexibility – to be either treated as a single resource or as multiple resources, depending on the context - might be useful, but MRP does not know how the CAISO could or would allow it. MRP requests the CAISO confirm this understanding.

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.

First, MRP supports the CAISO’s position to use Outage Management System (“OMS”) cards to dynamically reflect the HR’s availability, which will change based on (1) the capability of the Variable Energy Resource (“VER”) component and (2) whether the storage component is charged or charging.

The CAISO offers that market participants may update the HR’s dynamic limit as frequently as every five minutes but dynamic updates are not required for all five-minute intervals (2RSP at 9). MRP is concerned that having to update HR net-to-grid limits on a five-minute basis will be difficult to do and suggests that five-minute

updates should be permitted, but should not be required. Ideally, the HR's control system should determine these dynamic limits and communicate them directly to the CAISO's OMS. The CAISO and market participants together should consider how best to automate this process to determine and communication limits, to the benefit of all.

Second, the CAISO proposes that it will not track the HR's SOC. (2RSP at pages 7, 8) MRP questions this approach. Given that the CAISO proposes that HRs internally maintain the SOC along with other operational information, such as energy and ancillary service awards (2RSP at page 15), it is clear that the SOC would be accessible to the CAISO. Providing the SOC to the CAISO as a parameter to monitor – not to manage - would help the CAISO confirm that the HR is, in fact, fully available to meet any energy or AS awards or fulfill its RA MOO.

Further, in Section 4.3 (Metering and Telemetry), the CAISO holds that requiring metering and telemetry data for all renewable HR components will allow the CAISO needed visibility into the CAISO's ability to meet all NERC real-time control standards. (2RSP at page 10) The same logic should hold for the HR's SOC. To the extent that the CAISO is relying on the storage component of an HR to meet RA or operational requirements, it would seem prudent for the CAISO to monitor – again, not manage – the resource's SOC to ensure that the HR is available as required.

As MRP will discuss in Section 5 (Resource Adequacy), an HR that does not have sufficient SOC to be able to offer, and deliver, four continuous hours of energy delivery obligation at a certain operating level, should be subject to Resource Adequacy Availability Incentive Mechanism ("RAAIM") penalties that would result from the resource being unavailable.

Third, the CAISO has proposed that co-located resources will be unable to provide Ancillary Services until the CAISO has implemented the second generation of the aggregate capability constraint, currently scheduled for Fall 2021. (2 RSP at FN 6) Expecting that the release that enables co-located resources to provide Ancillary Services will be deployed in November 2021, this introduces the possibility that co-located resources deployed to meet the aggressive timeframe set forth in CPUC Decision D.19-11-016 will be unable to provide AS until months after their deployment. This constraint should be reflected in load serving entities' contracts with such resources; resources should not be penalized for not being able to provide something that the CAISO does not allow them to provide.

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.

MRP supports the CAISO's elimination of the single SC requirement for co-located resources in the May 13, 2020 *Hybrid Resources Second Revised Straw Proposal – Addendum*. While this is a positive development, it remains unclear as to how the CAISO will enforce the aggregate capability constraint, which amounts to performing congestion management behind the POI without affecting the price at the POI. The details of how the CAISO will allow the sum of individual resource Pmax values to

exceed the interconnection capability, but also to limit power flow across the POI to the interconnection capability, is an important consideration where the co-located resources may be owned and operated by different entities. Ideally, co-located resources should develop an agreement as to how their combined flow across the interconnection should be managed. Although that agreement can be reflected in the CAISO's management of the aggregate capability constraint, it is unclear how the CAISO would be able or willing to do that kind of management on a site-specific basis. While MRP understands that the CAISO intends to move aggressively ahead with provisions related to co-located resources (targeting Fall 2020 implementation), given how important the issue of how the CAISO will enforce the aggregate capability constraint is, MRP requests the CAISO provide additional information as to how the CAISO proposes to limit flow across the interconnection as soon as possible.

4. Metering

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

MRP has no comment on this topic.

5. Resource Adequacy

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

The CAISO proposes that HRs be subject to a 24 x 7 must-offer obligation ("MOO") and that HRs use OMS cards to dynamically reflect their net-to-grid availability, which necessarily will be reduced when the storage device is charging. (2RSP at page 16). The CAISO further proposes that these dynamic limits on the HR's net-to-grid capability will not be subject to RAAIM penalties. (2RSP at page 17). MRP disagrees with this proposal. While it likely should be the case that wholesale energy prices would align with the RA Availability Assessment Hours (i.e., daily wholesale energy prices would be highest during the AAH), which would create a strong natural incentive for the HR to be most available during the AAH, the correlation between wholesale energy prices and the AAH may not be perfect. A HR that has reduced availability during the AAH because it is charging should be subject to RAAIM charges; such misalignment should also be a signal that the specification of the AAH may not be correct.

Additional comments

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