

Storage as a Transmission Asset

Stakeholder Comment Template

Submitted by	Company	Date Submitted
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Informational discussion

Based on stakeholder comments to the straw proposal, the ISO provided additional information regarding how SATA resources will be considered in the ISO’s Transmission Planning Process (TPP). The ISO’s working group presentation built on the materials covered through the straw proposal and focused on:

1. Assessments of need and technical requirements
2. Economic evaluation of project alternatives
3. Transmission Asset versus Market Local Resource considerations
4. ISO Operational control of storage assets

Are there additional questions regarding the materials that the ISO provided during the working group process or questions specifically relating to how the ISO will consider SATA resources in the TPP that the ISO has not yet discussed?

Comments:

Calpine generally supports the economic evaluation proposed in the workshop included in pp 9-16. Storage should be evaluated based on the same life-cycle as a transmission asset using a similar range of expected outcomes. We also support the creation of mechanisms to evaluate reliability need beyond a single peak hour. Discharge duration and the ability to recharge (both measured in multiple hours) were found to be critical constraints in the ISO’s MoorPark analysis and cannot be overlooked in selecting appropriate resources. We specifically question whether the typical storage product (4 hour duration) is sufficient to meet the targeted and unpredictable reliability needs.

That said, Calpine still has many questions about hybrid (cost-of-service/market-revenue options) cost/benefits analysis when considering the potentially variable requirements of the system. For instance:

- First and foremost, if a storage unit has significant market revenues/benefits, why would the CAISO procure it separately – rather than leaving such procurement to the local regulatory authority?
- The ISO correctly identifies that the “predictability” of reliability need is not binary, but rather a continually changing spectrum and that there are conditions under which the ISO may call upon

a unit even though it may have expected market revenues. How often will the hours-of-need be communicated to the resource? Yearly, monthly daily, hourly?

- The ISO suggests (slide 39) that for a Partial Cost-of-Service SATA, that during the contract period it may have to adjust compensation if its ability to participate in market is changed. How would the ISO include the risk of increased compensation in the future in its economic evaluation of alternatives?
- Will the CAISO begin the economic analysis with a presumption that the SATA resource is a full cost-of-service financial commitment? If so, and the SATA is economic under that consideration, then any hybrid where the resource-owner accepts cost recovery risk would also be economic. This could also reduce the importance of the future market-revenues forecast.
- If conditions change such that the SATA reliability need is satisfied by other factors (load shift, other preferred resources, etc.) would slide 39 suggest that cost-of-service compensation would be reduced or eliminated to allow for more (or continuous) market participation?

Calpine also has questions about the CAISO’s conclusion that SATA resources would not affect competitive market prices. Specifically we believe the following statement to be overly broad:

“The hours a SATA resource would be able to access market revenues would be intervals that are already competitive and the addition of SATA resources would have little to no impact on market prices.”

- The addition of SATA resources will incontrovertibly affect prices. We question the basis for the CAISO assertion that they may have “little to no impact” – for instance, compared to what alternative? Other transmission upgrades? Competitive generation bids?
- What assumptions does the ISO make with respect to this assertion regarding bid limits, mitigation measures and opportunity costs?
- Would the CASIO assert that addition of a 1,000 MW pumped storage unit, operating daily in the market would have “little or no impact” on market prices?

Finally, with respect to operational control, when the SATA is “predictably needed” and under CASIO control who would bid the unit, and restrictions, if any, would be placed on those bids?

Contractual Arrangement

The ISO proposes to develop a new agreement with SATA resource owners that captures elements from Participating Generator Agreement (PGA), Participating Load Agreement (PLA), Reliability-Must-Run (RMR) and Transmission Control Area (TCA) agreements, among others. At the working group meeting, the ISO provided additional details about this proposed new agreement. Please provide comments on this proposal.

Comments:

Calpine continues to believe that storage resources must proceed through the generation interconnection queue. Being able to “jump the queue” is discriminatory and denies open access.

In general, Calpine understands the rationale for a “Frankenstein” contract composed of pieces of several other agreements.

Cost Recovery Mechanism

The ISO has proposed two alternative cost recovery mechanisms in the straw proposal:

1. Full cost-of-service based cost recovery with energy market crediting
2. Partial cost-of-service based cost recovery with no energy market crediting

At the working group meeting, CRI and SDG&E provided additional ideas for cost recovery. Through the discussion, a third option was proposed: Full cost-of-service with partial cost recovery. This option would mitigate risks associated with option 2 and provide incentives that do not exist under option 1. Please provide comments on the proposal and/or comments provided by CRI and SDG&E along with this third option. In comments, please provide a description of how they compare and contrast to the ISO’s first two options, specifically as it pertains the direction provided in the FERC policy statement.

Comments:

Calpine understood the CRI option as an alternative to the Partial cost-of-service option. In this alternative, the risk of market revenue recovery is shifted from the SATA owner to an LSE through a bilateral PPA. As the option is further described, we may provide further questions.

Other

Please provide any comments not addressed above, including any comments on process or scope of the Storage as a Transmission Asset initiative, here.

Comments:

Nothing at this time.