

Storage as a Transmission Asset

Stakeholder Comment Template

Submitted by	Company	Date Submitted
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Please use this template to provide your comments on the Storage as a Transmission Asset revised straw proposal that was posted on August 15, 2018.



Submit comments to InitiativeComments@CAISO.com

Comments are due September 4, 2018 by 5:00pm

The revised straw proposal, posted on August 15, 2018, as well as the presentation discussed during the August 21, 2018 stakeholder web conference, may be found on the [Storage as a Transmission Asset](#) webpage.

Please provide your comments on the revised straw proposal topics listed below, as well as any additional comments you wish to provide using this template.

Technology Neutral Policies: As an overarching principle on the proposed Storage as a Transmission Asset (SATA) policies, the Public Advocates Office recommends that the CAISO

¹ The Office of Ratepayer Advocates was renamed the Public Advocates Office of the Public Utilities Commission pursuant to Senate Bill No. 854, which was signed by the Governor on June 27, 2018 (Chapter 51, Statutes of 2018).

adopt SATA policies that are technology neutral. Technology neutral policies would allow the consideration of flywheel, pumped hydro, bulk hydrogen and other storage technologies, along with conventional battery storage, in the SATA selection process. Allowing a variety of technologies to compete would support the selection of SATA resources that have the lowest life cycle costs and optimal operational capacity to meet transmission reliability needs.

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. Additionally, the ISO has indicated its preference to control SATAs when they operate as transmission assets. Please provide comments on this proposal.

Comments:

The Public Advocates Office supports the CAISO's use of standard CAISO market participation agreement terms for SATA resources.

Cost Caps: The Public Advocates Office also agrees with the Center for Renewables Integrations (CRI)² and the CAISO's³ recommendations that SATA agreements should include a cost cap for transmission services. Using a binding cost cap for SATA transmission costs will simplify the CAISO's selection process and allow cost comparisons of SATAs with traditional wire-based solutions.

SATA Specific Maintenance & Operating Requirements: The capacities and operating and maintenance parameters for different storage technology types varies significantly. To mandate compliance with best operating practices for different SATA technology types, the Public Advocates Office recommends that SATA operation and maintenance agreements be tailored to the selected storage technology type and incorporate input from industry experts.

Terms consistent with SATA Lifecycle: The Public Advocates Office also recommends reconsidering the proposed SATA agreement term of 40 years with no cost or need reassessments. Traditional wire-based transmission facilities have a lifecycle of 40 years with capital costs that remain unchanged over a 40-year period. Therefore, the capital costs for transmission projects are amortized over a 40-year period even if the original transmission reliability need changes within the 40-year time-frame. Conventional storage has a lifecycle of 10 years, and for this reason, if selected this storage technology offers the opportunity to reassess the SATA need every 10 years as part of the CAISO's annual Transmission Planning Process,

² CRI Comments on the Storage as a Transmission Asset Straw Proposal, June 7, 2018, p. 2.

³ CAISO Storage as a Transmission Asset-Revised Straw Proposal, August 21, 2018, Customized Energy Solutions Market IQ, p. 7.

which “looks at transmission requirements 10 years out.”⁴ This reassessment would allow a determination of whether or not an existing SATA is still needed as originally authorized, or if the SATA’s contractual obligation should be increased or decreased for the remainder of the SATA contract. Reassessing SATA needs every 10 years for conventional storage SATA contracts would allow the CAISO to accurately price any necessary conventional storage replacements. As Public Advocates Office previously recommended, the CAISO should consider agreement terms consistent with the storage technology’s life cycle.⁵ Pumped hydro and flywheel storage have a longer lifecycle than conventional battery storage, so their respective SATA agreements should match the current estimated life cycle of these storage technologies.

Monthly Financial Reporting: Please also refer to the Public Advocates Office’s prior recommendations on Contractual Agreements in our July 16, 2018 comments. Specifically, on the recommended requirement that SATAs that select cost recovery Option 2 (the partial cost-of-service based cost recovery with no energy market crediting option) should be required to provide confidential monthly financial reporting to the CAISO.⁶

Transmission Revenue Requirement Capital Credit

The ISO has proposed a TRR capital credit to reduce a SATA resource’s capital cost recovery. The objective of this credit is (1) to protect ratepayers from early degradation of SATA resources operational capabilities due to dispatches from ISO market participation and potential for reduced useful lifespan for a SATA resource’s ability to meet the identified transmission need(s), and, (2) to ensure the SATA resource owner considers all marginal costs when bidding into the market. Please provide comments on the ISO’s proposal and any potential alternative the ISO could consider to achieve the same objectives.

Comments:

The Public Advocates Office supports accounting for the costs and causes of SATA degradations in SATA operating agreements. The Public Advocates Office, however, recommends refinements to the CAISO’s proposed Transmission Revenue Requirement credit (TRR credit) to account for the capital costs for market activity in SATA market bids. This credit should factor in all possible SATA degradation causes and costs in SATA market bids. As the CAISO states, it “will calculate this capital cost TRR credit based on the overall TRR resulting from the project’s overall capital costs and the SATA resource’s number of expected cycles or discharges over its full lifecycle.”⁷

⁴ *CAISO Storage as a Transmission Asset Revised Straw Proposal* (SATA Revised Straw Proposal), August 15, 2018, p. 14.

⁵ *ORA Comments on the Storage as a Transmission Asset Straw Proposal*, June 7, 2018, p. 2.

⁶ *ORA Comments on the Storage as a Transmission Asset Straw Proposal*, July 16, 2018, p.2.

⁷ *SATA Revised Straw Proposal*, p. 17.

However, a SATA’s degradation could result from factors other than discharging and charging cycles. For example, for pumped hydro and flywheel storage, regular maintenance is a more significant factor in the rate of degradation than the number of discharging and charging cycles. Maintaining a state of charge also impacts storage types differently. For these reasons, the Public Advocates Office recommends the proposed TRR capital credit account for the specific factors that degrade the selected storage technology type.

Market Participation

The ISO provided two additional options it is currently considering to notify SATA resources when they would be permitted to provide market services and access market revenues: Day-ahead market option and D+2 Option. Please provide comments on these options, including any preference or alternative options.

Comments:

During the August 21, 2018 SATA stakeholder call, CAISO explained that currently due to the increased retirements of gas fired generation and increased renewables on the grid, transmission needs have become more unpredictable.⁸

To improve the CAISO’s proposed SATA market participation notification timeframes,⁹ the CAISO should continue its ongoing Transmission Planning Process special studies on generation retirements and grid impacts of renewable integration and the proliferation of Distributed Energy Resources (DERs).

The Public Advocates Office recommends the continued consideration of SATA cost recovery Option 2 for SATA services that are predictable and for future transmission reliability needs that may be more predictable than they are now.

Cost Recovery Mechanism

The ISO has proposed three 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

⁸ *Storage as a Transmission Asset, Enabling Storage Assets Providing Regulated Cost-of-Service Based Transmission Service to Access Market Revenue, Revised Straw Proposal Presentation, August 21, 2018, CAISO, slides.26-32.* Per the CAISO’s SATA market participation analysis, “long-term assurances of market participation cannot be guaranteed.” SATA Revised Straw Proposal, p. 7. Factors such as generation retirements, make market participation difficult to forecast.

⁹ SATA Revised Straw Proposal, pp. 18-20.

3. Full cost-of-service based cost recovery with partial market revenue sharing between owner and ratepayer

Please provide comments on these three options and any other options the ISO has not identified. Please provide specific comments on (a) if the ISO should maintain option 2, above, and (b) why, if any, specific market profit threshold must be reached before the SATA resource would be permitted to retain some portion of profits and how such threshold should be determined.

Comments:

The Public Advocates Office recommends offering cost recovery Options 1, 2 and 3 to market participants. The risks associated with these three options should be reflected in the market compensation proposed for each option.

Option 1: SATA cost recovery Option 1, as CRI explained, is well suited for transmission reliability services that are unpredictable¹⁰ and allows for market participation when feasible with market revenue credits to ratepayers.

Options 2 and 3 Risks: As the CAISO notes under cost recovery Option 2, “the SATA resource will bear some risk – both upside and downside risk – of recovering a portion of its costs (and return) from market services.”¹¹ To compensate for this risk, the SATA developer would receive the total revenue from any market participation. In contrast, cost recovery Option 3 is designed to provide incentives for market participation not present in Option 1, “while mitigating some of the financial uncertainties that exist in Option 2.”¹²

Since cost recovery Option 3 provides a cost of service guarantee, a SATA developer’s compensation should reflect the lower risks associated with this option. Since market participation opportunities may be limited, the Public Advocates Office recommends basing market revenue thresholds, or percent of market profit caps on the SATA’s potential market revenue.

CRI provides a framework for evaluating whether a SATA should be selected for Options 1 or 2. This framework recommends that when the requested SATA service need allows for predictable market participation opportunities, a SATA with cost recovery Option 2 should be selected. If the requested SATA service need does not allow for predictable market participation then a SATA with cost recovery Option 1 should be selected.¹³ The Public Advocates Office agrees with CRI’s characterization of cost recovery Option 2, as this option appears to be well suited for

¹⁰ *CRI Cost Recovery Comments Summary CAISO SATA Straw Proposal* presentation, June 29, 2018, p. 4.

¹¹ SATA Revised Straw Proposal, p. 5.

¹² SATA Revised Straw Proposal, p. 5.

¹³ *CRI Cost Recovery Comments Summary CAISO SATA Straw Proposal* presentation, June 29, 2018, p. 4.; *CRI Comments on the Storage as a Transmission Asset Straw Proposal*, June 7, 2018, p. 8.; *CRI Comments on the Storage as a Transmission Asset Straw Proposal*, July 19, 2018, p. 5.; and *CRI Cost Recovery Comments Summary CAISO SATA Straw Proposal* presentation, June 29, 2018, slide 4.

circumstances in which the SATA service need is predicable. The Public Advocates Office suggests using CRI’s cost recovery option framework to justify the proposed range of SATA cost recovery options to the Federal Energy Regulatory Commission (FERC).

Consideration of Market Revenues: As stated in the SATA stakeholder call, the CAISO will assess the market participation potential when selecting a SATA that chooses cost recovery Option 3. To reduce the risk of errors in cost estimates, the Public Advocates Office recommends that the CAISO not consider market revenue projections when selecting a SATA with cost recovery Options 1 or 3. The CAISO should only consider market revenues when selecting a SATA with cost recovery Option 2 to determine if market revenues could cover the SATA developer’s determined portion of a SATA’s costs.

Options in the event of insufficient qualified project sponsors

The ISO has proposed potential options for addressing SATA projects when there is insufficient qualified project sponsors. Please provide comments on these options, including preferences and/or additional alternatives that should be considered.

Comments:

If there are insufficient qualified responses to transmission service need requests, CRI¹⁴ and the Department of Market Monitoring (DMM)¹⁵ have observed that it is the CAISO’s practice to allow qualified applicants to be selected if they accept binding cost caps. Consistent with this practice, the Public Advocates Office recommends that the CAISO require binding costs caps when there are insufficient qualified responses if the qualified SATA chooses the SATA cost recovery Options 1, 2 or 3.

The CAISO should consider holding another solicitation using wider distribution channels and a longer response timeframe in order to obtain more proposals from qualified project sponsors if it receives only one SATA bid seeking cost recovery Option 2 (partial cost of service recovery with the partial cost of service) with TAC covering 90% or more of the SATA’s total cost. ORA agrees with other SATA initiative stakeholders and the CAISO that this scenario should be mitigated with a broadened selection process.¹⁶

¹⁴ *CRI Comments on the Storage as a Transmission Asset Straw Proposal*, June 7, 2018, p. 4. “The ISO already uses the willingness of parties to accept a binding cost cap as a criterion in the competitive transmission sponsor selection process.”

¹⁵ *DMM Comments on the Storage as a Transmission Asset Straw Proposal*, July 17, 2018, p. 1.

¹⁶ SATA Revised Straw Proposal, pp. 24-25.

Consistent with FERC Policy Statement

The ISO believes the revised straw proposal is consistent with the FERC Policy Statement. Specifically, that the straw proposal does not inappropriately suppress market prices, impact ISO independence, nor result in double recovery of costs. Please provide comments on the whether you agree or disagree with the ISO. If you disagree, please clarify why and how the ISO might address this issue.

Comments:

Without greater specificity on the terms and conditions in the agreements for SATA resources, the Public Advocates Office cannot determine whether the proposed SATA policy is consistent with the FERC Policy Statement “Utilization of Electric Storage Resources for Multiple Services When Receiving Cost-Based Rate Recovery,” which was issued on January 19, 2017.¹⁷ However, to ensure that there is no violation of the FERC’s Policy Statement, such as the CAISO’s independence as a market operator, the CAISO’s settlements should clearly reflect when the charging and discharging activities of a SATA are in response to the CAISO’s transmission dispatch instructions or when these activities result from SATA operator decisions. With this information, the DMM would be able to monitor the CAISO’s independence as a market operator.

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:

The Public Advocates Office is revising its previous position regarding allocation of SATA costs based on the point of interconnection to either high or low-voltage transmission facilities. The description of SATA cost allocation to high or low transmission facilities in the SATA Issue Paper stated that the CAISO intended to maintain its current transmission facilities cost allocation practice for SATAs,¹⁸ and did not illuminate that ratepayers that are not receiving a SATA benefit may end up paying for a SATA based on its location. This scenario has been explained in stakeholder comments.¹⁹ Allocating SATA costs based on the location of the SATA may not be consistent with cost causation. Transmission improvement costs should be consistent with FERC Order No. 1000 and commensurate with the benefits received. Since SATAs may not provide benefits at their point of interconnection, allocating cost based on the point of interconnection may not be consistent with FERC Order No. 1000.

¹⁷ *Utilization of Electric Storage Resources for Multiple Services When Receiving Cost-Based Rate Recovery*, 158 FERC61051 2017 at <https://www.ferc.gov/whats-new/comm-meet/2017/011917/E-2.pdf>.

¹⁸ *CAISO Storage as a Transmission Asset Issue Paper*, March 30, 2018, p. 14.

¹⁹ *Pacific Gas and Electric Company’s Comments on the Storage as a Transmission Asset Straw Proposal*, June 7, 2018, p. 4.

The Public Advocates Office requests that the CAISO review this topic along with the other SATA initiative topics discussion above at the next SATA stakeholder meeting.