Storage as a Transmission Asset

Stakeholder Comment

Submitted by	Company	Date Submitted
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CESA appreciates the opportunity to submit comments on the Storage as Transmission Asset (SATA) Initiative's Second Revised Straw Proposal, issued by the California Independent System Operator (CAISO) on October 16, 2018.

While CESA supports multiple elements of the Second Revised Straw Proposal, CESA also identifies several key areas for further development if deemed reasonable. As written, CESA believes the SATA framework may counter-productively 'leave value on the table' which would be disadvantageous for ratepayers while limiting benefits of SATAs.

Key areas of CESA feedback:

- CESA appreciates and recognizes the thoughtful process and approach the CAISO has employed in this initiative and believes it is prudent that the CAISO has incorporated extra revisions to the straw proposal. A further additional revision may still be needed.
- CESA supports the inclusion of three variants of SATA agreements and variants of term lengths, and removal of the Transmission Revenue Requirement (TRR) capital credit. CESA appreciates the CAISO's consideration of CESA's comments on these matters as well as the CAISO's general leadership and creative thinking in this initiative.
- The removal of the D+2 notification option is a big issue to CESA and may make the SATA unusable in many otherwise reasonable circumstances. CESA strongly recommends alternative solutions that better support the market participation side of the SATA resource. More specifically, CESA recommends the re-inclusion of the D+2 notification timeline, albeit with a CAISO 'option' to place the SATA unit into transmission service after the D+2 period (but before real-time) if needed. If such an option is exercised, protocols are needed for determining how the resources 'unwinds' any Day Ahead schedule it has been awarded. CESA elaborates on this below. Through this approach, CESA expects SATA resources can reasonably participate in markets for stretches of days, weeks, or months of the year where load patterns are predictable and transmission conditions are sufficiently unconstrained, all while the CAISO has ongoing high levels of assurance that transmission resources are available as needed.

- The SATA D+2 or D+1 notification and need-determination process also needs to be detailed and verified as reasonable. CESA believes the 10% load 'buffer' – which adds conservatism to the SATA need determination process – is okay in spirit but should be limited and structured to be reasonable and not excessive. The 10% buffer, for instance, may be impossible or restricted by other transmission constraints, being thus inapplicable or excessive. CESA recommends that historical load deviations in transmission service pockets (or other applicable metrics) be evaluated to determine the reasonable stand deviations of loads that may affect transmission constraints. Additionally, the CAISO should assess whether alternative solutions (e.g., operational reserve margins) could be used to address some of the CAISO's load forecasting and resource bid availability concerns. A final important distinction that should be added to the SATA proposal with regard to the notification process is to state the notification for a SATA resources as "up to" 24 hours. CESA expects there may be many cases where the SATA needs is 12 or fewer hours, and system efficiency will increase (and SATA costs will decrease) if resources are reasonably 'unleashed' to the market when transmission service is obviously not needed.
- The CAISO should consider treatment and accounting for energy placed in the storage device during transmission functions but then used during market functions. This may be a small and potentially de minimus part of the cross-subsidization concern, but CESA raises it here in the interest of having a bullet-proof and 'ready to go' final SATA design. CESA notes that a some perhaps relevant energy storage energy charge and discharge accounting concepts arose in the multi-use application discussions, and such concepts may be abstracted to apply here.[1] Finally, rate treatment and accounting for charging energy for transmission service provided through storage should be treated similar to the energy effects (losses) of other transmission systems.
- Finally, the CAISO should not unduly seek some 'perfect' approach for determining where or if local RA resources should be preferred over transmission solutions. Such considerations are outside the scope of this initiative. Further, the Transmission Planning Process (TPP) makes the determination of where transmission solutions are needed and is already FERC approved. As CESA understands it, the TPP includes an assessment of generation resources as alternative solutions to transmission. Because this trail is already blazed by the TPP, the CAISO should feel comfortable selecting SATA resources, even if the SATA resource is eligible for market service for the vast majority of a calendar year. Many transmission constraints may occur infrequently, but the frequency of the constraint need neither dictate nor restrict when SATA resources should be used. Let the TPP do that.

<u>Cost Recovery Mechanism</u>

[1] The context in the MUA discussion was for how retail resources might, where appropriate, receive wholesale rate-treatment and 'accounting' for such treatment. CPUC rules were subsequently revised so the thought-work related to this matter was not incorporated into any final CPUC decisions. Southern California Edison provided comments with several ideas for 'tracking' energy so it could be assigned to retail vs wholesale service. For purposes here, a similar accounting method may help in assigning energy to transmission versus market services. Bill Weaver, Esquire, is a likely CAISO staff-person, among others on the ESDER team, for consultative discussions on these matters.

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

Additionally, the ISO envisions two potential scenarios for option 1: Direct assigned SATA projects and 2) when the project sponsor bids into TPP phase 3 competitive solicitation process, selecting this option. The ISO has proposed the rules governing SATA bidding and cost recovery eligibility would differ slightly between these two scenarios. Please provide comments on these three options, including the two scenarios under option 1 and any other options the ISO has not identified.

Comments:

CESA supports the CAISO's three cost recovery options as proposed in the Second Revised Straw Proposal. While the three options provide clarity around how revenues are allocated between ratepayers and SATA owners, there is still more clarity needed on how the various costs of the SATA unit would be allocated depending on the service provided. Given the 24-hour windows in which transmission service is 'scheduled' per the Second Revised Straw Proposal, there is a clearer delineation between the provision of transmission versus market services, but there may be less clarity if SATA resources are committed on a more granular basis.

For Option 1, the CAISO proposes two scenarios, with directly-assigned SATA projects subject to a must-offer obligation (MOO) setting the discharge price at the energy price cap or at the 95 percent level at a given location to guard against market price suppression and to maintain CAISO independence.[2] CESA seeks to further understand the MOO proposal with more detail from the CAISO as well as whether less than 24-hour MOO windows could be established to enable greater market participation of the SATA resource in the real-time market. Greater detail on the MOO is needed. At this time, CESA does not see a need to establish a MOO for the charging portion of the SATA resource (assuming this action is not essential to the active transmission service), as the SATA resource operator should be able to sufficiently manage the charging and state of charge of the resource. If the MOO option is available, CESA recommends that this be available as an option for all types of SATA resources.

As the MOO is designed to avoid cross-subsidization and unreasonable effects on market prices, an alternative to the MOO may be energy accounting of the MWhs going in and out of the storage device. Transmission-directed MWs will be settled as UFE, similar to the losses resulting from all other transmission solutions, as CESA understands it. Energy associated with the operations of the market resource would also be similarly tracked. Such an approach may resolve cross-subsidization concerns. Potential mechanisms to differentiate the MWhs in and out of an energy storage device across two jurisdictional services were contemplated in conjunction with the station power discussions held in the Energy Storage Rulemaking of the California Public Utilities Commission (CPUC) in 2017-2018.

[2] SATA Second Revised Straw Proposal, p. 21.

For Option 2, CESA appreciates the retention of this cost recovery option because of the potential to allow SATA resources to compete to immediately deliver ratepayer value by reducing the ratebased portion of cost recovery. To address financeability concerns raised by the CAISO and stakeholders,[3] CESA recommends that the CAISO provide some degree of approximation of the transmission provision windows versus the 'market participation' windows. While this information is subject to uncertainty and the CAISO has discussed how this may be difficult to provide with a reasonable degree of certainty, some (conservative) approximation of these market participation windows would minimally support the financeability of expected market revenues for SATA project bidders. Further, as detailed in the market participation section (below), there may be cases where the CAISO can have the 'option' to recall a SATA resource to transmission service (if recalled prior to the n-1 notification period, which fits with the transmission constraint 'runs' mentioned by the CAISO). By providing this approximate information, it would help support the development of Option 2 SATA projects.

For Option 3, CESA agrees with the CAISO's determination to split all net market revenues between SATA asset owner and ratepayers to ensure 'efficiency' of market participation and bidding.[4] Setting an appropriate threshold to not only increase ratepayer value but also ensure sufficient economic incentives to participate in the market is a difficult task. As the CAISO noted, setting a threshold after which splitting of market revenues is done may also incentivize unintended or unexpected behaviors. Building on the CAISO's example, if the threshold is set too high, Option 3 with a threshold may end up resembling Option 1 as it would create higher barriers before the SATA resource realizes market revenues. In this case, the SATA resource may not be incentivized to participate in the market due to the increased contract risk from cycling the SATA resource for market participation purposes in pursuit of exceeding this threshold. CESA believes it is more effective to split market revenues between ratepayers and the SATA resource owner from the start.

Options in the event of insufficient qualified project sponsors

The ISO proposal would require all SATA projects sponsors to also submit a full cost-of-service bid as described in option 1, above. This bid would to be used in instances when there is fewer than three qualified project sponsors.

Please state your organization's position as described in the Second Revised Straw Proposal (support, support with caveats or oppose). If you support with caveat or oppose, please further explain your position and include examples.

Comments:

CESA supports the CAISO's proposal.

[3] *Ibid*, p. 23.
[4] *Ibid*, p. 24.

Contractual Arrangement

The ISO proposes to establish defined three contract durations: 10, 20, and 40 years. Additionally, the ISO has eliminated its previously proposed TRR capital credit in favor of contractual requirements for maintenance of the resources.

Please provide comments on these two modifications to the ISO's proposal, stating your organization's position as described in the Second Revised Straw Proposal (support, support with caveats or oppose). If you support with caveat or oppose, please further explain your position and include examples.

Comments:

CESA supports the CAISO's proposal to establish three variants of the *pro forma* SATA agreements, which the CAISO cited as reasonably limiting the number of contract variations while giving flexibility to account for different lifecycles of different types of SATA technologies.[5]

A set of contract term variations may better account for the different capabilities and degradation factors of different energy storage technology types and provide some flexibility to assess evolving transmission needs over time. CESA notes that SATA resource owners should be given the option to select the contract term that is most appropriate to them, which may depend on how SATA resource operators choose to operate and manage the cycle life of the asset, or on how some SATA resource owners may wish to finance and contract for long-term transmission services.

In the Second Revised Straw Proposal, the CAISO raised the question on whether there may be a need to reflect differences in certain terms and conditions based on term length of the SATA agreement.[6] Capital addition, repair, and testing/monitoring processes should be relatively standardized across the different contract types, but there may be additional variations needed based on the energy storage technology type, as there may be differences in terms of degradation rate and other performance characteristics. Importantly, the contract terms and provisions should be flexible enough to allow for SATA resources to make capital additions or replacements as needed at the SATA resource operator's costs if replacements or augmentation is needed to deliver transmission services for the full contract term.

CESA also supports the CAISO's elimination of the transmission revenue requirement (TRR) capital crediting mechanism in favor of contractual terms and provisions that protect ratepayers from early degradation of SATA resources and ensure SATA resource operators consider all marginal costs, including degradation, when bidding into the market. CESA agrees that reliance on contractual terms and provisions is simpler for asset management and appreciates the CAISO's consideration of our feedback on this idea from the Revised Straw Proposal.

All in all, CESA supports the modifications to the contractual arrangement and looks forward to working with the CAISO to begin developing the specific terms and conditions of the SATA agreement.

Market Participation

[5] *Ibid*, p. 5.
[6] *Ibid*, p. 26.

The ISO has proposed that a SATA resource will be provided notification regarding its ability to participate in the market prior to real-time market runs, but after the day-ahead market closes. The ISO will conduct a Load based SATA notification test to determine a SATA resource's eligibility to participate in the real-time market.

Please state your organization's position as described in the Second Revised Straw Proposal (support, support with caveats or oppose), including any alternative proposals. If you support with caveat or oppose, please further explain your position and include examples (please note that any alternative proposals should be specific and detailed).

Comments:

CESA opposes this part of the proposal, though agrees with the CAISO that there is a reasonable need for transmission solutions to be available when needed.

Fundamentally, CESA believes the CAISO's approach is too conservative and is unreasonably 'leaving value on the table'. A SATA resource can reduce costs to ratepayers, but not if the market participation role of the SATA resource is unreasonably restricted. CESA believes the CAISO proposal does this by structurally prohibiting the resource from Day-Ahead Market (DAM) participation throughout the year. Such a prohibition seems extreme and misaligned with the norm of forecasting grid conditions, something that happens in multiple fronts of the electric system.

Rather than categorically restricting patriation in the DAM, resources should be eligible for DAM participation based on a D+2 assessment. If the D+1 assessment indicates, subsequently, that a resource *is* needed as transmission, the CAISO should establish tariff-based authority to 'option' the resource into transmission service. This 'option' would <u>not</u> be available after the D+1 assessment (in line with the current proposal).

This option-based approach makes sense for several reasons. First, it ensures reliability in line with the CAISO's needs. Second, it frees up the SATA resource for DAM participation in many circumstances. CESA expects that grid conditions, even those affecting SATA resources, are reasonably predictable several days in advance based on whether forecasts, outage information, and other factors. CESA believes it may be that SATA resources can be available for market participation for weeks or months of the year when the transmission system is unconstrained. Categorical prohibition of this participation is counter-productive to ratepayers. Third, it seems doable insofar as it merely requires a D+2 process as well as a D+1 process.

The D+1 notification 'option' may create a need for a SATA resource to 'unwind' its DAM schedule, if it has one. This can be done through real-time energy imbalance charges, or perhaps through 'no-pay' structures where applicable. Further consideration of this 'option' should be a core part of any future straw proposal.

More accuracy on the transmission need is also warranted. CESA supports some version of a load-based notification test to determine if the resource will be needed for transmission, but it seems reasonable to determine if the need is for parts of the day only.[7] To do this, any notification could be expressed as an

[7] *Ibid*, p. 5.

award for up to twenty-four hours with specific transmission times pre-designated. By focusing the transmission commitment to certain hours of the day (depending on the nature of the transmission need), CESA believes that the SATA resource could more effectively participate in the real-time market and optimize the utilization of the resource for both services without risking transmission reliability.

Finally, CESA believes the 10% load uncertainty factor needs review. This 10% factor is reasonable in theory, but it needs vetting and should not be excessive. For instance, is the 10% factor reasonable? Could a SATA-specific test be developed reasonably? Are other transmission constraints limiting factors at less than the 10% factor? Do statistics support the 10% or is a lower margin still sufficiently conservative? CESA believes the 10% factor may unintentionally restrict SATAs to transmission-only service in cases where such service is truly and predictably unnecessary. Excessiveness with the 'buffer' can manifest as unreasonably lost opportunities for ratepayers. More vetting of this topic appears warranted to CESA.

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 state your organization's position as described in the Second Revised Straw Proposal (support, support with caveats or oppose). If you support with caveat or oppose, please further explain your position and include examples. If you oppose, please clarify why and how the ISO might address this issue.

Comments:

CESA supports the Second Revised Straw Proposal as being consistent with the FERC Policy Statement. In particular, CESA agrees with the CAISO that the market revenues generated by SATA resources from wholesale market participation do not constitute double cost recovery when providing transmission services, a separate service from voluntary market participation, that is recovered through the transmission revenue requirement.[8]

Draft final proposal meeting or phone call

The stakeholder meeting for the second revised straw lasted approximately 2.5 hours. As a result, the ISO requests stakeholder feedback regarding whether an in-person meeting is necessary for draft final proposal or if a stakeholder phone call will allow the ISO to adequately address the remaining issues in the draft final proposal.

[8] *Ibid*, p. 18.

Please state your organization's position as described in the Second Revised Straw Proposal (support, support with caveats or oppose). If you support with caveat or oppose, please further explain your position and include examples.

Comments:

CESA has no strong preference on meeting format but believes complex issues are best discussed through in-person meetings. Regardless of format, as CESA has noted in these comments, further refinement of the SATA framework would be beneficial.

CESA believes the CAISO should evaluate if a third revised straw proposal is warranted, delaying the draft final proposal. If numerous changes are incorporated in the next proposal, as CESA recommends, a further iteration of the proposal may be prudent.

<u>Other</u>

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

Comments:

CESA has no further comment at this time. CESA appreciates the CAISO's efforts in this initiative and believes that we are close to establishing a viable SATA framework. CESA looks forward to reviewing and providing constructive feedback to the Draft Final Proposal that will be issued on December 10.