Storage as a Transmission Asset

Stakeholder Comment Template

Submitted by	Company	Date Submitted
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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:

TransCanyon supports the development of a new agreement and ISO control of SATAs when operated as transmission assets.

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:

As discussed further below, TransCanyon views cost recovery "Option 3" as infeasible in practice. If Option 3 is abandoned the Transmission Revenue Requirement Capital Credit (TRRCC) would not be necessary.

Notably however, one of the problems with Option 3 is, in fact, that it creates a need for a TRRCC. The TRRCC represents an innovative approach to addressing the issue of compensation for degradation, but it is also ultimately an administratively set price of future upgrades. Such fiat pricing is inevitably subject to stakeholder disputes regarding the structure and level of the price, the frequency of updates to the price, the degree to which different prices should be applied to different technologies or under different circumstances and any number of other governance matters that would be simultaneously costly to administer and unsatisfactory to many.

In contrast, under Option 2, developers would likely propose to provide a guaranteed level of capability and absorb the cost of future upgrades made necessary by their energy market transactions, in return for the right to keep some or all energy market benefits. This approach establishes a more efficient, market-based mechanism for pricing future upgrades, because the owner would make a judgement prior to each use of the asset regarding the cost of future upgrades (specific to that asset and its circumstances) relative to the benefit of market participation, and the owner would bear the risk associated with that judgement, without leaving customers to possibly win or lose based on the accuracy of an administratively set value.

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:

TransCanyon supports providing as much flexibility (in the form of advance notice) as is practical.

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
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:

Considering the August 21, 2018, stakeholder discussion, TransCanyon has reached the conclusion that Option 3, while intended to implement a laudable mechanism for sharing energy market benefits, cannot in practice meet this objective. In contrast, Option 2 meets this objective (by sharing benefits up front in the form of partial cost recovery) while avoiding the practical limitations that render Option 3 infeasible.

Recognizing the limitations associated with incumbent utility financing, Option 1 may make sense as the singular cost recovery mechanism applied to directly-assigned projects, while Option 2 should be retained for projects subject to competitive solicitation, given the high likelihood that other market participants would be willing and able to share energy market participation benefits with customers under such a framework.

The table below summarizes TransCanyon's view of the issues discussed with stakeholders and the degree to which they apply to each cost recovery model.

Market Impacts	Option 1	Option 2	Option 3
Provides incentive to share energy benefits with customers	No	Yes	Yes
Uses market-based rather than administrative pricing mechanism to credit customers for degradation caused by market participation	Yes	Yes	No
Avoids creating a need for CAISO to speculate on energy price spreads to evaluate proposals	Yes	Yes	No
Avoids creating a linkage between CAISO usage decisions and customer rate outcomes	Yes	Yes	No
Requires no additional process restrictions based on number of bidders	Yes	Yes	No

Option 3

Option 3 raises several practical concerns for which there appears to be no clear or simple mitigation. These concerns include:

Degradation. As CAISO highlighted, a sharing mechanism would create an incentive for the asset to be used as much as possible in order to maximize energy market benefits during periods which the asset was not needed for reliability purposes. Some storage technologies (e.g., lithium-ion batteries) degrade with use, and this behavior would reduce the useful life of the asset for reliability purposes without fully compensating ratepayers for such usage. The CAISO proposed an innovative TRRCC mechanism intended to reimburse ratepayers for these impacts, but as discussed above, administrative pricing of degradation raises several questions. This approach may ultimately be too complex to be practicable and would at a minimum require significant administrative effort to formulate, manage and update over time.

Proposal evaluation. Under Option 3, bidders in a competitive solicitation would presumably construct their offers to include two components: 1) costs to be recovered, and 2) an energy market benefits sharing proposal. Because evaluation of the latter component depends upon future market prices and is uncertain, CAISO would be forced to speculate on energy price spreads in order to compare such proposals. Customers do not expect to take on energy price risk as part of the process of paying for transmission assets, and the CAISO has been (appropriately) unwilling to be put in any position where it would have a perceived interest in specific market outcomes. TransCanyon expects that stakeholders would demand that CAISO heavily discount such speculative benefits due to this uncertainty, which would result in Option 3 operating more or less identically to Option 1 from a proposal evaluation perspective.

CAISO Independence. Sharing would raise other independence issues beyond the proposal evaluation process. Because CAISO ultimately decides when the asset is used to meet reliability needs, sharing energy market benefits raises a potential conflict with respect to whether in some instances CAISO should decline to use the storage asset for reliability (in favor of some alternative) in order to preserve energy benefits for customers. CAISO has been (again appropriately) unwilling to accept even the appearance of the potential for such conflict.

Competition. As has already been noted, some stakeholders raised concerns that, in a thin market, sharing could favor the asset owner to such an extent that the resulting rate was unjust or unreasonable. CAISO proposed several remedies that could address this concern, each of which limits in some manner the amount or terms under which energy market benefits could be shared. Such limitations naturally in turn limit the potential opportunities for project sponsors to offer cost or risk concessions for the benefit of customers.

Option 2

Addresses All Option 3 Drawbacks

Given the significant questions surrounding Option 3, TransCanyon recommends that CAISO retain Option 2, which provides customers with an opportunity to share energy market benefits earned by storage assets without raising the concerns noted above.

Under Option 2, the asset owner would be able to offer a variety of options to mitigate the impact of degradation. For example, the owner could agree to cap its capital costs over the agreement term, such that any required capital additions driven by accelerated degradation would not be funded by customers. This approach would likely be the most common given the demonstrated willingness of bidders to agree to cost caps. While this might resemble the CAISO proposal under Option 3, the credit amount would be determined competitively (in the form of whatever adjustment to its energy bids was deemed necessary by each bidder to recover its costs), rather than administratively, thereby eliminating the effort associated with adjudicating an administratively-determined credit and ensuring that any modification to bidding behavior delivered the most favorable value to customers that the owner is able to bear.

Under Option 2, the asset owner would be solely responsible for managing energy price risk during the proposal and operations phases, with CAISO needing to make no assumptions regarding such prices in order to compare proposals and clearly playing no role and having no real or perceived interest in energy market prices.

Because Option 2 is predicated upon the owner agreeing to recover less than its typically allowed return, the market depth concerns associated with Option 3 are not pertinent. Under Option 3, customers provide assured full cost recovery and therefore it is appropriate to control the degree to which additional benefits can accrue to the project sponsor. Under Option 2, customers do not provide assured full cost recovery. The project sponsor, by design, agrees up front to earn a return on the investment funded by customers that is less than a typical transmission return, with the expectation that the sponsor may be further via energy market participation as compensation for taking on additional risk. Customers receive benefit in the form of lower TAC costs regardless of whether the project sponsor realizes this additional return. This is fundamentally different from Option 3, where any energy market benefit sharing results in the owner receiving additional compensation (double recovery) for simply building and operating a transmission asset.

Previously Raised Concerns Have Been Addressed

As discussed at the stakeholder meeting, TransCanyon understands that three potential concerns have been raised with respect to Option 2. These concerns are, without exception, the same concerns raised in the past as they relate to cost-capped bids on conventional transmission assets, and as such, they have already been addressed within the CAISO's existing cost recovery and competitive solicitation framework. Considering the above, Option 2 should not only be retained, it should be preferred relative to Option 3, which is subject to the serious drawbacks noted here.

Each of the concerns expressed regarding Option 2 is addressed specifically below.

Financing. Some stakeholders, particularly incumbent utilities, have asserted that projects which do not fully recover their costs and a return via rates will not be financeable. This assertion may reflect the incumbents' view of the market for investments in regulated utility securities, but the broader market clearly supports the financing of assets with less than 100% assured recovery. In particular, competitive transmission solicitations routinely feature (and CAISO has selected) bids that cap recovery of certain costs and thereby assume some risk that costs will not be fully recovered. Elsewhere in the utility industry, billions of dollars of investment in renewable energy projects are supported by tax benefits and off-take arrangements that only assure cash flows for 10-12 years (less than half of those projects' useful lives). This is particularly notable given the similarities between renewable resources and storage resources in terms of permitting, right-of-way and construction risk profile. While more certainty is certainly better than less for financing purposes, TransCanyon does not view the limitations on availability notifications described by CAISO as a fatal or even a substantial blow to an owner's ability to monetize meaningful energy market participation benefits.

Performance. Where projects depend upon energy market benefits in part to recover their costs and earn a return, CAISO and others have expressed concerns regarding the ability of the project sponsor to perform if expected energy market benefits are not realized. TransCanyon notes that CAISO already has a process for qualifying bidders such that the CAISO can make informed judgements as to the ability of each qualified project sponsor to absorb the impact of unfavorable financial events. Indeed, the CAISO already makes such judgments when it evaluates bids with cost caps. If this information is not deemed sufficient, CAISO could simply require or express a preference for bidders to post security or hold cash reserves in amounts sufficient to replace energy benefits, where those benefits are deemed material to ensuring performance.

Administrative Effort. TransCanyon believes that implementing a mechanism whereby the benefit of energy market participation can be used to offset the cost to customers of storage that is constructed to meet a reliability need is a core objective of the SATA stakeholder process. As such the outcome of the process should include at least one cost recovery method that supports this goal. Given the number and complexity of the issues related to Option 3, TransCanyon views Option 2 as substantially less burdensome for administrative purposes. Option 2 would require no degradation credit mechanism, no need to forecast energy price spreads in order to evaluate proposals, no incremental measures to assure CAISO independence and no restrictions on the nature of bids tied to the number of bidders. In all material respects, an Option 2 contract would be evaluated and would operate substantially similarly to a cost-capped bid for a conventional competitive transmission project.

Options in the event of insufficient qualified project sponsors

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

Comments:

TransCanyon has no comments regarding this item beyond those noted above.

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:

As noted above, TransCanyon is concerned that cost recovery Option 3 could impact market prices and CAISO's independence. Notably Option 3 would also result in double recovery of costs due to the fact that the SATA owner could recover fully recover its costs and an allowed return as well as share energy market benefits.

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:

TransCanyon would like to highlight important comments from the CAISO regarding the benefits of energy market participation. As CAISO staff noted, customers benefit from the participation of economic storage resources in energy markets, irrespective of whether the net profits of those transactions are shared. This is the case because, when a storage asset's bid clears, it indicates that in the absence of that asset a more expensive resource would have cleared, and customers would have paid a higher price for the same energy.

With this in mind, consider cost recovery Option 1, under which (stakeholders generally agree) the SATA owner would have no incentive to participate in energy markets. When this option is invoked customers will lose twice – they will receive none of the benefits associated with additional resources operating in the market, and the cost of the asset will not be offset by a portion of the net profits earned from such participation.

Consider also that, as described above, Option 3 is likely not feasible, and incumbent utilities have indicated that their investors are unwilling to finance projects under Option 2. Indeed it is not clear that utilities would even participate in Option 3 if it were available given the concerns expressed with respect to the TRRCC mechanism. It is clear that in the absence of competition SATA projects would likely recover their costs under Option 1, which is the least attractive choice for customers.

Considering this, TransCanyon urges the CAISO to revisit its decision to subject SATA projects to competition based on their cost allocation (which is in turn a function of the voltage at which the project interconnects). Competition is the only mechanism under which either of the benefit streams associated with SATA participation in energy markets will be realized by customers, and CAISO should make every effort to maximize customers' realization of those benefits. In order to do so, CAISO should include modifications to its tariff to subject SATA projects to competition irrespective of their cost allocation (subject to a cost threshold, recognizing that the solicitation process represents an offsetting cost).