Storage as a Transmission Asset

Stakeholder Comments 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 stakeholder initiative Issue Paper that was published on March 30, 2018.

Submit comments to InitiativeComments@CAISO.com

Comments are due April 20, 2018 by 5:00pm

Scope of policy examination

The ISO's initial identified scope for this stakeholder process is to enable storage to provide cost-based transmission services and participate in the market and receive market revenues. Specifically, the ISO will focus on (1) transmission-connected storage only and (2) storage resources identified as needed to provide reliability-based transmission services. Please provide comments on the proposed scope. If there are specific items not already identified by the ISO that you believe should be considered, please provide specific rationale for why the ISO should consider it as part of this initiative.

Comments:

1.1 Use terms defined in the Federal Power Act and FERC Order 890 versus SATA

CRI agrees with CAISO's stated need to limit the scope of the effort to ensure the stakeholder process results in specific decisions and outcomes by the end of the year. However, we also suggest that the unintended consequence of creating a new class of assets, Storage as a Transmission Asset (SATA), will

be an extensive amount of redundant and duplicative work in the future, as CAISO works to incorporate each new technology that can provide transmission services into its tariff and transmission planning process. Instead, we suggest that CAISO use terminology clearly defined in the Federal Power Act, Advanced Transmission Technology (ATT),[1] which already includes energy storage. Specifically, Section 1223 of EPAct 2005 states:

> *(a) DEFINITION OF ADVANCED TRANSMISSION TECHNOLOGY. — In this section, the term ''advanced transmission technology'' means a technology that increases the capacity, efficiency, or reliability of an existing or new transmission facility, including* ***"… (11)*** *energy storage devices (including pumped hydro, compressed air, superconducting magnetic energy storage, flywheels, and batteries);*[2]

We recognize that the ISO is carefully distinguishing energy storage that can provide transmission services from Non Transmission Alternatives, which CAISO cannot include in its transmission plan. We suggest that using the FPA term, Advanced Transmission Technology, provides the ISO with greater flexibility and stronger legal precedent. Particularly since EPAct 2005 also encourages FERC to support the deployment of advanced transmission technologies, and states:

> *"(b) AUTHORITY - In carrying out the Federal Power Act (16 U.S.C. 791a et seq.) and the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. 2601 et seq.), the Commission shall encourage, as appropriate, the deployment of advanced transmission technologies."*[3]

FERC Order No. 890, Preventing Undue Discrimination and Preference in Transmission Service, includes Advanced Transmission Technology when it requires ISOs to evaluate different technologies on a comparable basis and articulates the ISO's authority to include an alternative transmission solution in a transmission plan for cost purposes.[4] FERC 890 makes is clear:

> *If the public utility transmission providers in the transmission planning region, in consultation with stakeholders, determine that an alternative transmission solution (emphasis added) is more efficient or cost-effective than transmission facilities in one or more local transmission plans, then the transmission facilities associated with that more efficient or cost-effective transmission solution can be selected in the regional transmission plan for purposes of cost allocation.*[5]

[1] Section 1223 of EPAct 2005 amended the FPA and defined "advanced transmission technology."
[2] EPAct 2005, Section 1223, Title 42 U.S. Code § 16422, Chapter 149, Subchapter XII, Part A (2005).
[3] Ibid.
[4] Wellinghoff, J & Cusick, K, Alternative Transmission Solutions: An Analysis of the Emerging Business Opportunity for Advanced Transmission Technologies and the FERC Driven Requirements on Transmission Planning and Selection, November, 2017. Pages 27 to 33 highlight the references in Order 890 that establish the connection to EPAct 2005 Section 1223 Advanced Transmission Technologies in the evaluation of comparable solutions, and the authority provided to the ISO to include an alternative transmission solution in the transmission plan for cost purposes.
[5] *Preventing Undue Discrimination and Preference in Transmission Service*, FERC Order 890, P 148 (2007).

Therefore, CRI asks that the ISO modify its framing of the initiative to encompass Alternative Transmission Solutions, as defined by FERC 890, which is a transmission solution comprised of Advanced Transmission Technology that fulfills a transmission need identified by the ISO and is compensated as transmission assets. Using the FERC terminology will solidify the ISO's authority to compensate these assets as transmission, while also providing the ISO flexibility when modifying tariff language and contracts. With that framing the ISO could still focus the current initiative primarily on storage to make the inquiry more concrete and manageable, while maintaining a view towards greater flexibility in potential subsequent stakeholder initiatives.

1.2 Include Economic and Policy-Driven Transmission Needs

The issue paper states that it is limiting the scope of this stakeholder process to projects that fulfill a reliability need. CRI understands the ISO performs a sequential process to develop the transmission plan, starting with reliability, followed by policy-driven, and culminating in economic transmission needs. It isn't clear why any of the decisions made in this stakeholder process would not apply to the policy-driven and economic phases of the transmission planning process, and it seems artificial to limit the scope of this stakeholder process at this point.

Additionally, consistent with FERC Order 1000, the ISO tariff already requires the ISO to consider state laws and regulations during the transmission planning process. California's energy storage mandate of 1325 MW is the result of legislation (AB2514) and regulation (Rulemaking 10-12-007). As such, CAISO already has a responsibility to include the state's energy storage goals in its transmission planning process.

CRI asks the ISO to include projects that fulfill policy-driven or economic needs, unless a specific reason is identified to exclude those analyses.

1.3 Include development of standard scenarios for discounting market revenues in this stakeholder process and commit to determining if changes to the TPP are required as part of the recommendations

The delineation of tasks that fall into this stakeholder process, versus those that may fall under the transmission planning process (TPP) at some point in the future is vague and needs to be further clarified, as well as the timeline for updating the TPP, if such changes are required.

CAISO has stated that changes to the transmission planning process (TPP) are outside the scope of this stakeholder process, if such changes are required, and only commits to providing additional clarification on a case by case basis.[6] CRI understands that this stakeholder process is primarily designed to determine how to allow assets that have already been selected in the TTP to participate in the market. CRI also understands that the ISO doesn't need perfect cost data in order to evaluate different solutions during the TPP. However, an estimated cost of the solution is one of the evaluation criteria used during

[6] CAISO, Energy Storage as a Transmission Asset, pg 9.

the TPP process. Therefore, determining how CAISO will use market revenues to offset total cost is important.

The ISO already suggests that during the TPP it may consider three scenarios: 1) no market revenues; 2) heavily discounted revenues; 3) some other assumption.[7] Given the importance of standardizing the transmission planning process, and the clear link between the recommendations of this stakeholder process and the TPP, CRI asks the ISO to:

1) Expand the scope of this stakeholder process to flesh out the three scenarios mentioned in the issue paper so that they can be used to standardize the market revenue discounting approach, particularly for Option (b).
2) Clarify early in this stakeholder process the timeline for getting through all of the approval steps, CAISO Board and FERC, in time to incorporate the results of this effort into the 2019/2020 transmission planning cycle.

Unless the ISO commits to addressing this problem on an explicit time line, there is a risk that the results of the present initiative may not be implementable due to the lack of procedures for evaluating and approving a mixed-use asset in the TPP.

Cost recovery mechanism

The ISO has offered two alternative cost recovery mechanisms for discussion as part of the issue paper:

1. Asset in PTO's TAC rate base, and
2. Contractual provision of "cost-based" transmission service without becoming a PTO

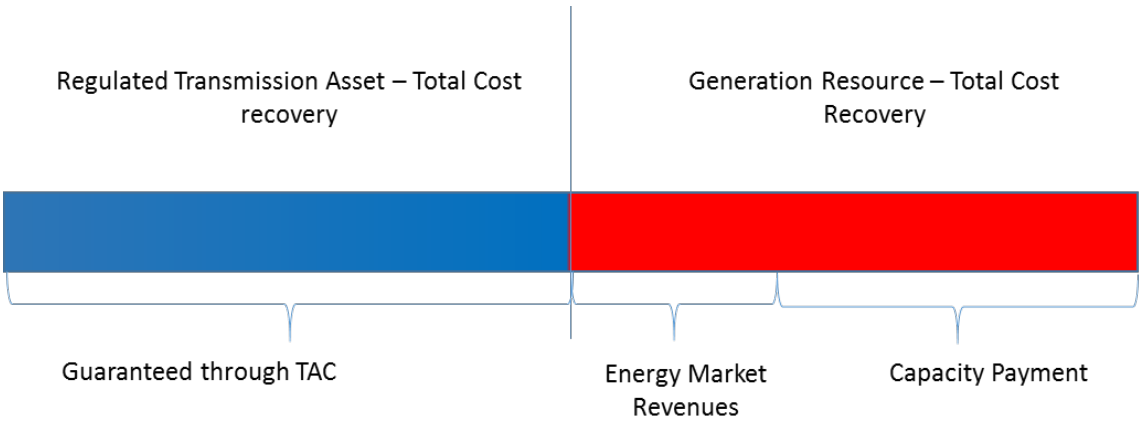
Please provide comments on these two options and any other options the ISO has not identified. Additionally, please provide comments on the "wholly in rate base" and "partially in rate base" alternatives discussed within each of the above options.

Comments:

2.1 Define Energy Market Revenue to Include Bi-Lateral Contracts

CRI agrees with allowing transmission assets to be "partially in rate base" as it creates best value for ratepayers and provides the ISO with flexibility necessary to ensure reliability but keep costs down in a time of unpredictable future load profiles and future technology innovations. The ISO uses the following diagram to differentiate between costs that have traditionally been allocated to the Transmission Access Charge (TAC) versus those that can be recovered via energy market revenues or capacity payments.

[7] Ibid, pg 13.



As the ISO knows, the majority of forward capacity in California is procured through bilateral contracts, as is a significant percentage of energy and ancillary services. In defining Option (b) of "partially in rate base" the ISO states: "In this model, the resource would only have some portion of its TRR guaranteed, with the remainder recovered through market revenues." The footnote further clarifies that only ISO market revenues could be considered, and it will exclude projects seeking funding through CPUC procurement.[8]

CRI asks the ISO to clarify that it doesn't plan to limit transmission assets that wish to pursue Option (b) to only participating in markets operated by the ISO (e.g. day-ahead or real-time markets) when not providing transmission services. The term "market revenues" could be interpreted to mean revenues earned in markets operated by the ISO and exclude bi-lateral contracts. CRI is of the opinion that once a transmission asset has been released by the ISO to perform functions other than transmission, the asset, at the asset owner's discretion, should be able to determine whether it wants to participate in markets operated by the ISO, or fulfill a commitment under a bilateral contract.

2.2 Define Use Cases

As the ISO notes in the Issue Paper, allowing Option (b) of "partially in rate base" creates complexity for the ISO since it allows projects sponsors to submit projects with varying levels of TAC and market revenues. CRI suggests that the ISO try to manage some of this complexity by specifying a set of standard use cases that will be used to clarify, and possibly even standardize, the availability of the asset to earn market revenue for each use case. The use cases would define the conditions under which CAISO would release the asset to perform other services, and/or require it to be available as a transmission asset.

The use cases should be based on realistic reliability needs identified in the TPP studies, and the performance requirements a solution to a specific need would have to meet. The ISO has already identified that, at a minimum, notification time-lines, capability duration, and energy/cycle limits[9], should be defined in order to quantify the percentage of cost that should be allocated to TAC. It would

[8] CAISO, Storage as a Transmission Asset Issue Paper, March 30, 2018. Pg 12, footnote 15.
[9] CAISO, Storage as a Transmission Asset Issue Paper, page 14.

be helpful if these parameters could be specified for a small number of typical use cases that reflect actual reliability needs.

For example, CAISO may find some energy storage assets may only be required to provide reliability services if a failure has already occurred, allow the asset adequate time to charge or discharge, if required, in order to provide the ISO with transmission support. An alternative use case could be reliability violations that only occur under conditions, such as peak load driven by seasonal variations.

Unless the ISO can clearly define the scenarios during which it will release the asset to provide other services, and therefore the requirements for asset availability, each project sponsor will make different assumptions about the performance requirements. The ISO will be left evaluating projects that not only have different cost assumptions, but also assume different performance requirements. Therefore, any action that can be taken to standardize the scenarios and normalize the performance requirements across projects, will greatly facilitate the ISO's ability to compare projects on an equitable basis.

Allocation to high or low voltage TAC

The ISO has expressed its plans to maintain the current practice of allocating costs to high or low voltage TAC based on the point of interconnection. Please provide comments on this proposal.

Comments:

CRI agrees with the suggested approach and does not have any additional comments.

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:

CRI thanks CAISO for engaging in this stakeholder process and agree with the major structural elements identified in the issue paper, particularly:

1) the importance of including both local and regional transmission;
2) the option of either including the asset in a PTO's rate base or allowing a contractual provision without becoming a PTO;
3) Allowing for Option (a) and Option (b) for cost recovery assets.