

Stakeholder Comments Template

Submitted by	Company	Date Submitted
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Please use this template to provide your comments on the ESDER Phase 2 stakeholder initiative Issue Paper posted on March 22 and as supplemented by the presentation and discussion during the stakeholder web conference held on April 4, 2016.

Submit comments to InitiativeComments@CAISO.com

Comments are due April 18, 2016 by 5:00pm

The Issue Paper posted on March 22 and the presentation discussed during the April 4 stakeholder web conference may be found on the [ESDER Phase 2](#) webpage.

Please provide your comments on the Issue Paper topics listed below and any additional comments you wish to provide using this template.

NGR enhancements

The CAISO is proposing to explore two possible areas of NGR enhancement: (1) representing use limitations in the NGR model, and (2) representing multiple configurations in the NGR model.

The CAISO is requesting stakeholders provide comments and consider the following:

- Are these two possible areas of NGR enhancement the highest priority NGR enhancements to pursue in ESDER Phase 2?
- Are there other areas of NGR enhancement that are of higher priority that should be pursued instead? If yes, which ISO-proposed NGR enhancement should be omitted from the scope?
- Please provide examples of use cases that support the NGR enhancements you view are of the highest priority and should be pursued in ESDER Phase 2.

Comments:

SolarCity supports CAISO's proposed areas of enhancement for NGR, which include; 1) Use limitations in the NGR model & 2) Multiple configurations in the NGR model. SolarCity believes these enhancements are worth considering as part of CAISO's NGR enhancement priorities.

In addition, SolarCity recommends the CAISO consider additional areas of potential focus. CAISO should consider a NGR model that does not require 24 hour wholesale participation. One of the benefits of energy storage is the ability to provide multiple value streams in real time. In these "Multiple Use Applications," it is valuable to explore an "opt-in" NGR model that would not require 24 hour participation but could opt-in on an hourly basis based on CAISO's needs.

Demand response enhancements

The CAISO is proposing to explore two possible areas of demand response enhancement: (1) Exploring the ability for PDR to be dispatched to both curtail and increase load, and provide regulation service; and (2) developing alternative baselines to assess the performance of PDR and RDRR.

The CAISO is requesting stakeholders provide comments on these two areas of enhancement and consider the following:

Demand response enhancement topic area #1 – Ability for PDR to both curtail and consume energy:

- What issues does this working group need to address and resolve to enable load consumption capability? For example:
 - How would financial settlements work given wholesale bids cause an increase in retail consumption and demand?
 - What does consumption mean? Is consumption when a load exceeds its "normal" maximum consumption at certain times or under certain conditions?
 - What are appropriate baselines/Performance Evaluation Methods?
 - Is there any differences if load consumption results from a BTM device versus true load consumption?
 - Retail and wholesale impacts of over or under performance?
 - CAISO Grid Management Charges for load consumption?
- Are any state policies impacted by wholesale-directed retail load consumption?

- Suggest a proposed schedule and milestones for working group to deliver a Draft Final Proposal by September 8, 2016 (use the stakeholder process schedule on pages 22-23 of the March 22 Issue Paper as a guide).

Comments:

SolarCity strongly supports including enhancements to PDR's capability to consume and increase energy and more importantly to provide frequency regulation services under the PDR model. Oversupply can not only create market inefficiencies and negative prices but also can jeopardize the reliability of the grid. Supply-side Demand Response (DR) in form of CAISO's PDR model is a cost effective solution to increase load and hence reduce frequency and magnitude of negative pricing. Distributed storage that adopts the PDR model can provide clear value in its ability to manage energy consumption and discharge in real time, and thus providing a pathway to unlock this value is critically important.

However, "load increase" for PDR is only practical when financial settlements for retail load are appropriately accounted for. For example, if a customer is charged retail price for load consumption, the economic model may no longer provide an incentive for BTM to increase load when is most needed by CAISO. Rules should be developed as part of the working group to address these ratemaking issues as part of this proposal.

SolarCity strongly believes that a primary value and grid benefit of energy storage behind the customer-side of the meter (BTM) is the opportunity to provide multiple services, including ancillary services such as frequency regulation. To unlock the true value of BTM DERs that can benefit the grid and customers, CAISO's markets should provide the opportunity for these multiple services to participate in markets. SolarCity will participate in and is happy to provide insight on technical requirements needed to design a frequency regulation product for PDR applicable to the aggregation of DERs.

Demand response enhancement topic area #2 – Alternative baselines to assess the performance of PDR/RDRR:

- What baseline methods should the CAISO add and why?
- If a performance method is recommended that requires a control group, how would third parties be able to cost-effectively set-up and operate control groups? Are there services the UDC could provide in this area?

- What tools and capabilities will the CAISO require to assess best fit for different types of PDR aggregations?
- Suggest a proposed schedule and milestones for working group to deliver a Draft Final Proposal by September 8, 2016 (use the stakeholder process schedule on pages 22-23 of the March 22 Issue Paper as a guide).

Comments:

SolarCity strongly support the development of a consensus-driven working group (Baseline Analysis Working Group (BAWG)) to determine an appropriate Metered Generation Output (MGO) methodology for PDRs that are providing frequency regulation. The MGO methodology established in Phase I of CAISO's ESDER initiative with typical retail behavior adjustments cannot be directly applied when PDRs are providing frequency regulation services and require further analysis as part of this group. SolarCity is happy to work closely with CAISO and stakeholders to create new or improve existing baseline methodologies that accommodate multiple use applications of BTM DERs that is compatible with increase and decrease of load and provision of frequency regulation.

Multiple-use applications

To avoid redundant and potentially divergent efforts the CAISO will initially address this topic by participating in the CPUC Order Instituting Rulemaking (R.) 15-03-011, Track 2. The CPUC and CAISO are planning to hold a joint workshop May 2-3, 2016. If the CPUC proceeding identifies issues that should be addressed in a CAISO initiative, or develops proposals the CAISO should consider formally adopting, the CAISO can open a new initiative or expand ESDER Phase 2.

The CAISO is requesting stakeholders provide comments on this topic area as well as this proposed approach.

Comments:

SolarCity supports CAISO's approach on collaborating closely with CPUC, as important jurisdictional issues need to be resolved for proper implementation of CAISO's market design features. Likewise, SolarCity believes Track 2 of the CPUC's Storage Proceeding is an appropriate venue to address these issues in collaboration withwith CAISO's ESDER Phase II, both in terms of timing and scope. CAISO accurately points to the Rocky Mountain Institutes

paper referencing more than 13 services that energy storage BTM multi-use applications can provide. The CPUC working closely with CAISO can help to unlock these valuable services in California. In particular, the CAISO and the CPUC should focus on the jurisdictional questions around meter ownership and interconnection that must be resolved before this market can be developed.

SolarCity applauds both the CAISO and the CPUC for working together to examine how multiple-use applications of DERs can be fully optimized to create net benefits to the grid and to customers. SolarCity encourages CPUC and CAISO to incentivize multi-use applications by developing a practical market that accelerates DER adoption with triple service to the customer, distribution system and wholesale market.

Distinction between charging energy and station power

Under this topic the CAISO intends to resolve the distinction between wholesale charging energy and station power. Although this is also a topic in Track 2 of the CPUC's energy storage proceeding, station power is specifically addressed in the CAISO tariff and the CAISO will primarily address this issue in ESDER Phase 2. However, because the question of station power is inherently jurisdictional, the CAISO intends to also contribute to this topic in Track 2 of the CPUC's energy storage proceeding as may be necessary. In doing so the CAISO will seek to economize its staffing resources where possible and avoid redundant efforts, and will also seek to avoid the conflicts that have arisen in the past over the wholesale/retail line.

The CAISO is requesting stakeholders provide comments on this proposed approach as well as respond to the following questions:

- Should the CAISO modify its definition of [station power](#) to better accommodate energy storage resources?
- Should battery temperature regulation be considered part of charging (similar to efficiency loss) and subject to a wholesale rate, or should it be considered consumption/station power subject to a retail rate (where consumption exceeds output in an interval)?
- Are there any means besides separately metering the storage device by which the CAISO should distinguish between charging and station power?

Comments:

No comments at this time.

Review allocation of transmission access charge to load served by DER

The CAISO is proposing to review the rules for determining load subject to the transmission access charge (TAC) to reflect the effects of utility-side distributed generation, as proposed by Clean Coalition.

The CAISO is requesting stakeholders provide comments on this topic area. In particular, please comment on the three concerns the CAISO raised in the issue paper, and if possible offer examples to help illuminate these concerns.

1. Transmission investment is mainly driven by peak load conditions, which may not be reduced by adding distributed generation (DG).
2. New DG does not offset the cost of transmission that was previously approved and is currently in service.
3. Exempting some load from TAC charges would not decrease PTO revenue requirements, so some costs would be shifted to other customers.

Comments:

For utilities that are not participating transmission owners (non-PTO utilities), TAC is based on the Transmission Energy Downflow (TED) measured at the transmission interface substations where energy is delivered from higher transmission voltages to lower distribution voltages. In PTO utility service areas, however, TACs are not measured at the transmission-distribution interface, but instead they are measured at customer meters based on Gross Load.

Assessing TAC regardless of whether the energy is locally sourced or delivered through transmission, effectively forces Wholesale Distributed Generation (WDG) and net energy metering (NEM) export to subsidize the transmission system through charges on locally sourced energy. This might make the price of transmission-dependent energy appear cheaper and creates a market distortion that results in more transmission-dependent energy being contracted. Moreover, Load Serving Entities (LSEs) that are PTOs are not credited with the value of reduced use of the transmission system when they use WDG and NEM export to serve their customers.

SolarCity supports any proposal that consistently assess TAC across all utility service territories, such that TAC should be assessed on Transmission Energy Downflow (TED) measured at the transmission-to-distribution substations for all LSEs, instead of using Gross Load (measured at customer meters) as a basis for LSEs operating in PTO utility service territories.

Such proposed solution would have a number of positive impacts, including increased fairness, transparency, and consistency and accurate valuation of WDG and NEM export to fairly compare renewable procurement options and develop Distribution Resources Plans (DRPs). Current valuation practices in PTO utility service territories, such as the Least Cost Best Fit methodology, ignore costs associated with transmission because CAISO assesses TAC on all energy that crosses the customer meter, whether the energy transmission-dependent or not. However, the actual cost of using the transmission system is significant and needs to be considered when valuating WDG and NEM export.

SolarCity realizes that CAISO might have concerns on the ability of DG to defer transmission investments. While there may be some cases where a planned transmission investment might not be avoidable through the use of DG, there are certainly many cases where transmission investment unequivocally has been avoided through use of distributed generation. For example, in the CAISO's 2015-2016 transmission plan, PG&E cancelled \$192 million worth of sub-transmission projects because they were no longer needed due to distributed energy resources. With the emergence of energy storage, which can meet peak load requirements to a greater degree than solar PV, and better resource planning, the ability of DERs to reduce transmission investment will only increase.

Assessing TAC on TED measured at the transmission-to-distribution substations for all LSEs removes existing market distortions that undervalue WDG and NEM exports and is a worthwhile topic for CAISO to further explore.

Other comments

Please provide any comments not associated with the topics above here.

Comments:

No comments at this time.