

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 Second Revised Straw Proposal posted on September 19.

Submit comments to InitiativeComments@CAISO.com

Comments are due October 11, 2016 by 5:00pm

The Second Revised Straw Proposal posted on September 19 and the presentation discussed during the September 27 stakeholder web conference may be found on the [ESDER Phase 2](#) webpage.

Please provide your comments on the Second Revised Straw Proposal topics listed below and any additional comments you wish to provide using this template.

NGR enhancements

The CAISO has been focused on two areas of potential NGR enhancement: (1) representing use limitations in the NGR model and (2) representing throughput limitations based on a resource's state of charge (SOC).

The CAISO has concluded that the second area will be re-evaluated once more resources are participating as storage resources modeled under NGR. The CAISO will no longer pursue this

area in ESDER 2 and will instead focus its efforts in the first area of potential NGR enhancement.

The CAISO is requesting stakeholders provide comments on the first area.

Specifically:

1. What are the exogenous limitations for NGRs that can't be optimized within the market?
2. What are the opportunity costs and commitment costs that need to be reflected in energy bids to manage limitations?

Comments:

For most matters, PG&E supports the CAISO's wait and see approach to re-evaluate the NGR model capability for improvements once more resources are participating in the ISO market. However, PG&E believes that the CAISO should consider a daily throughput limit now, especially as all three IOUs have expressed that this is an exogenous constraint that storage vendors are specifying in their energy contracts. PG&E provides the following response to the specific questions posed by the CAISO.

- Question 1: While market participants may structure bids to estimate when the daily energy limits would be the most valuable, such estimates may not reflect a true optimization. The CAISO will likely be in a better position to optimize the times when the storage resource should discharge than market participants managing this through energy bids. A parallel to this is how the CAISO optimizes hydro energy dispatch subject to a daily hydro limit. PG&E proposes that the daily throughput constraint be a parameter specified daily. As discussed in PG&E's working group comments, storage resources, which have to provide 4 hours of energy at their NQC to provide RA, should not be exposed to RAAIM penalties once the daily throughput limit is exhausted, whether through regulation or energy dispatch. Participants should have the flexibility to not bid the resource in real time if the resource has reached its throughput limit in order to ensure the limit is respected.
- Question 2: At this time PG&E refrains from addressing this question as it's working on developing its understanding of how these costs should be incorporated into energy bids to manage limitations. PG&E is not currently familiar with opportunity costs that are needed for storage resources as long as storage resources do not have bid mitigation or automatic bid insertion.

Demand response enhancements

Proposals are under development by two stakeholder-led work groups within ESDER 2 in two areas of potential demand response enhancement:

- Baseline Analysis Working Group (BAWG) – Explore additional baselines to assess the performance of PDR when application of the current approved 10-in-10 baseline methodology is sufficiently inaccurate. The BAWG proposes the following settlement options for PDRs and RDRRs:
 - Residential Resources: 4 day weather match by max temperature, control group.
 - Commercial Resources: 10 of 10 with 20% adjustment cap, Average of previous 5 days, control group.
- Load Consumption Working Group (LCWG) – Explore the ability for PDR to consume load based on an ISO dispatch, including the ability for PDR to provide regulation service. The working group has recommended bi-directional PDR modelling. The LCWG proposes to maintain the separation of wholesale and retail energy settlement for increased load consumption. This supposes that the value of increased wholesale consumption, perhaps at a negative price, has value to the DRP or customer since the increased consumption would also be charged under retail rates. Under this construct, is this a feasible concept?

The CAISO is requesting stakeholders provide comments on the proposals of both the BAWG and LCWG.

Comments:**BAWG**

PG&E would like to recognize the outstanding work undertaken by Kathryn (SDG&E), Cherish (SCE) and Josh (Nexant), in advancing baseline issues. While there are a few outstanding items from the September 30, 2016, meeting, the majority of the effort appears to be winding down. In general, PG&E supports expanding the set of baseline options available to Demand Response providers. While the 10 in 10 has historically been used as a one-size fits all baseline methodology, the ability to increase accuracy and precision in measuring DR performance is one that is welcomed. Also, PG&E would support using Control Group as a baseline option in the future, especially for Residential DR Programs, if issues such as data privacy and customer confidentiality with respect to third parties can be resolved satisfactorily.

LCWG

PG&E remains supportive of expanding PDR functionality to include load consumption and regulation services. What remains open is how this conceptual proposal will be operationalized. Turning a concept into reality will require a forum, which doesn't seemingly exist. Therefore, PG&E recommends that the CAISO consider this topic for inclusion in a Phase 3 of ESDER or possibly another forum that is available for undertaking what could be a significant effort.

Multiple-use applications

The ISO has not yet identified specific multiple-use application (MUA) issues or topics that require treatment in ESDER 2. The CAISO proposes to continue its collaboration with the CPUC in this topic area through Track 2 of the CPUC's energy storage proceeding (CPUC Rulemaking 15-03-011). If an issue is identified that should be addressed within ESDER 2 the CAISO can amend the scope and develop a response.

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

Comments:

PG&E supports the approach the CAISO outlines in the straw proposal. There are no new MUA-related issues that need to be addressed at this juncture, although issues will likely arise as the Energy Storage OIR (R.15-03-011), Track 2 unfolds. Furthermore, PG&E commends the CAISO, stakeholders and working groups for recognizing and addressing potential issues that arise with MUA, including the mutual exclusivity of energy and capacity, and the issue of selling the same energy twice. PG&E echoes its previous comments and adds that energy stored for later retail usage should always have a retail rate for charging, compensation should not occur if an action would have otherwise been taken, and that a resource should not be paid twice inadvertently for the same service. The CAISO has been following these principles thus far in the PDR enhancements; a great example of these principles applied to PDR is the clarification that retail rates apply to an end customer for load consumed even when this load is bid into a PDR Load¹ Consumption product. PG&E looks forward to working with the CAISO and the CPUC to further develop guiding principles and eventually develop rules for MUA storage.

¹ Section 4.2.1.1.3

Distinction between charging energy and station power

In this topic area the CAISO will continue its collaboration with the CPUC through Track 2 of the CPUC’s energy storage proceeding (CPUC Rulemaking 15-03-011) rather than exclusively through ESDER 2. At this time, the CAISO proposes the following:

- Revise the CAISO tariff definition of station power to exclude explicitly charging energy (and any associated efficiency losses); and
- Revise its tariff later to be consistent with IOU tariffs on state-jurisdictional issues, as needed, in the event that they revise their station power rates. The CAISO speculates that two potential, substantial forms this could take that would require the CAISO to revise its tariff regard netting and metering for storage resources. Specifically:
 - The CAISO currently agrees that negative generation pursuant to CAISO dispatch could be treated commensurate with positive generation such that storage resources could “net” their station power consumption against this negative generation; and
 - The CAISO believes that rather than a mandated “one-size-fits-all” metering configuration, each storage resource could negotiate and agree with its local energy provider on a metering configuration (e.g., single-meter, multiple meters, predetermined deductions/additions, or combinations thereof).

The CAISO is requesting stakeholders provide comments on this topic.

Comments:

PG&E reiterates its thinking on station power issues.

Consistent Treatment: PG&E supports treatment of station power consistent with how it is currently defined for conventional resources with some clarification on what station power should include or exclude for energy storage.

Rate Treatment: PG&E believes that energy used to charge a battery for later resale should receive wholesale rate treatment in the case of In-Front-of-the-Retail Meter (IFM) applications. The issue of rate treatment for Behind-the-Retail Meter (BTM) applications is one that should be assessed as part of the MUA topic scoped into the Energy Storage OIR (R. 15-03-011).

Measurement: The trade-off between metering and predetermined deductions is one of accuracy. Generally speaking, metering for both charging and discharging provides the greatest visibility for activities undertaken by a device. Nevertheless, a predetermined deduction factor could be utilized in certain applications where it may not be feasible to separately meter station

load (e.g., reliance on a baseline methodology in lieu of metering). If storage devices are to be treated similar to conventional generators, they should not be advantaged or disadvantaged.

Other comments

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

Comments:

Issue that are not fully resolved or require further consideration/development should have a vehicle for resolution. This could be through a Phase 3 of ESDER or another appropriate forum.