

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 Revised Straw Proposal posted on July 21 and as supplemented by the presentation and discussion during the stakeholder web conference held on July 28.

Submit comments to InitiativeComments@CAISO.com

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

The Revised Straw Proposal posted on July 21 and the presentation discussed during the July 28 stakeholder web conference may be found on the [ESDER Phase 2](#) webpage.

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

[Calpine welcomes the opportunity to comment on the Revised Straw Proposal. Calpine limits its comments to Station Power issues.](#)

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 is requesting stakeholders provide comments in each of these two areas.

Comments:

[\[insert comments here\]](#)

Demand response enhancements

Two stakeholder-led work groups are up and running within ESDER 2 to explore two areas of potential demand response enhancement:

- Baseline Analysis Working Group – Explore additional baselines to assess the performance of PDR when application of the current approved 10-in-10 baseline methodology is sufficiently inaccurate. The Working Group has completed its first phase of analysis on topics including alternative baselines and control groups.
- Load Consumption Working Group – 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 CAISO is requesting stakeholders provide comments in each of these two areas.

Comments:

[\[insert comments here\]](#)

Multiple-use applications

The ISO has not yet identified specific MUA issues or topics that require treatment in ESDER 2. The ISO 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 ISO can amend the scope and develop a response.

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

Comments:

[\[insert comments here\]](#)

Distinction between charging energy and station power

In this topic area the ISO 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 ISO proposes the following:

- Revise the ISO 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, as needed, in the event that they revise their station power rates.

The CAISO is requesting stakeholders provide comments on this proposed approach. The CAISO also seeks comments on the following:

- What rules are necessary, if any, to dictate how station power and wholesale charging energy (including efficiency losses) can be separately calculated for settlement purposes? For example, what would be the advantages and disadvantages of using meters compared to predetermined deductions?
- Assuming that station power includes all energy drawn from the grid except to charge the storage device, what specific advantages and disadvantages do storage devices have compared to conventional generators under current netting and self-supply rules?

Detailed examples comparing the generally expected dispatching of storage devices and conventional generators under current netting and self-supply rules are appreciated.

Comments:

As Calpine has articulated in comments¹ and a workshop presentation² in R.15-03-011, Calpine believes that customers should pay a wholesale rate for all power that is used to provide wholesale products, including the power that conventional generation resources draw from the grid when they are not generating, including power that they use in order to start. (Under current station power rules and tariffs, conventional generation resources pay retail rates for any power that the resources draw from the grid.)

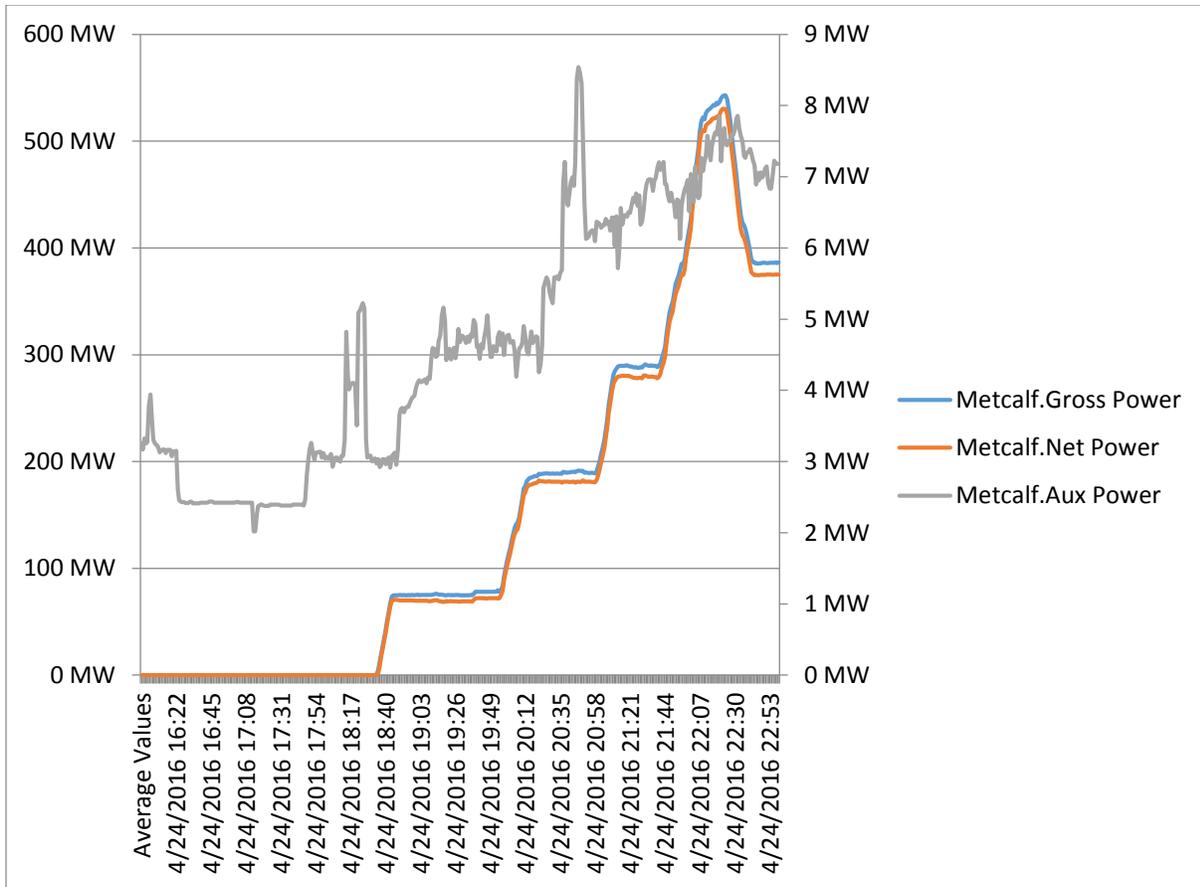
Calpine sees no meaningful distinction between a conventional generation resource drawing power in order to start so that it can generate power and a storage resource charging in order to discharge back to the grid subsequently. Consequently, Calpine believes that it would be discriminatory to allow storage resources to charge at wholesale but continue to charge conventional generation resources a retail rate for the power that they draw from the grid in order to start.

¹ <http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M162/K653/162653062.PDF>

² <http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=11264>

Given that the rates that conventional generation resources pay for the power that they draw from the grid is currently subject to CPUC-jurisdictional retail tariffs, Calpine believes that any change in the status quo likely will start at the CPUC, either in R.15-03-011 or another proceeding, not in the ESDER stakeholder initiative. Nevertheless, in the interest of informing the debate in this stakeholder initiative, Calpine provides the following example of how a conventional generation resource uses power during and after a start.³ The grey line shows the power used by the plant and is graphed against the right y-axis. The blue line shows the gross output of the plant and is graphed against the left y-axis. The red line shows the net output of the plant, i.e., the gross output net of the power used by the plant. When the plant is not generating, i.e., up until between 18:17 and 18:40, the plant pays retail for the approximately 3 MW that it is using. This 3 MW load is primarily associated with pumps to circulate water for cooling following a preceding run cycle. The plant is a typical combined cycle plant with two combustion turbines. The plant's usage spikes upwards to approximately 5 MW when it starts a combustion turbine between 18:17 and 18:40. Once the plant is generating, it self-supplies its own use, i.e., the red line is below the blue line. The gap between the plant's gross and net output widens to more than 8 MW around 20:35 as the plant's second combustion turbine starts before leveling off around 7 MW. This 7 MW load is associated primarily with the operation of pumps required to cool the plant.

³ This is one of the examples that Calpine shared in its R.15-03-011 workshop presentation. Calpine is providing the supporting data in a spreadsheet.



Calpine looks forward to continuing dialog with other stakeholders on station power issues in R.15-03-011, this stakeholder initiative, and potentially other venues.

Other comments

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

Comments:

[insert comments here]