

September 5, 2014

To: Heather Sanders, CAISO

Cc: Rick Fioravanti, DNV GL
Olof Bystrom, DNV GL
Beth Reid, Olivine
Robert Anderson, Olivine

Ccc: Arthur O'Donnell, CPUC
Don Liddell, CESA
Mark Higgins, CESA

From: Janice Lin and Chris Edgette, CESA

RE: Feedback from Sept 4, 2014 CAISO Energy Storage Roadmap workshop

Dear Heather (and Rick, Olof, Beth and Robert)

Thank you for leading, hosting and managing the Energy Storage Roadmap effort! We at CESA believe that this effort is crucial to ensuring successful deployments of grid storage in California, and that the resulting outputs of this effort will help to inform and accelerate market development for grid storage elsewhere in the US and globally.

As requested during yesterday's workshop, we wanted to send you an initial round of quick feedback, with a promise to send more by 9/18.

Regarding Prioritization

CESA strongly agrees with SCE (Maura Farver) that the major criteria for prioritizing roadmap barriers/issues be those issues that are withholding or jeopardizing contract execution under the SCE Track 1 LCR procurement and/or deployment of behind the meter energy storage projects funded through the Self Generation Incentive Program. Maura would be an excellent resource for guidance on the former. The current issues delaying behind the meter energy storage project deployment pertain mostly to interconnection. However, there are a host of additional issues regarding the SGIP, many of which are driven by recent enactment of SB 861. We have informally provided very specific feedback to the CPUC on these issues and would be happy to further discuss with you if interested.

Consistent with our comments filed earlier this summer, CESA also recommends that additional feedback on the roadmap be solicited from stakeholders within the context of a specific use case. This will not only serve to provide the road mapping effort with highly specific feedback on barriers related to that use case, but it will also provide useful information as to which use cases are most interesting/desired by stakeholders (in other words, which use cases should be prioritized).

CESA recognizes that many barriers may span multiple use cases, but the specificity that use case - specific road mapping will provide is essential to coordinated and efficient progress going forward. For starters, only by clearly defining each use case can all stakeholders be sure we are talking about the

same thing. (eg. ‘hybrid’ has many different meanings!) Further this use case feedback will assist with developing and prioritizing next steps/actions – as the prioritization of actions maybe driven in part by the extent to which a particular barrier affects *multiple* use cases. Also, the architecture of a particular use case may in itself help address certain barriers. For example: the location of metering equipment for behind the meter storage that is both provide peak shifting and wholesale market participation can help address potential interconnection and tariff barriers. CESA is committed to supporting CAISO’s road mapping efforts by documenting each of our recommended priority use cases as described.

CESA work in progress – we are hoping to have more to share with all of you by 9/18, of course, many of these issues will require ongoing exploration well beyond 9/18

- Documentation of each priority use case (priority use cases as articulated in our comments earlier this summer), including:
 - Description of use case
 - Single line diagram of use case, including recommended metering and interconnection configuration
 - List of key barriers, in priority order
 - Recommended actions (and responsibility) for fixing these barriers
- Comprehensive list itemizing barriers by current CA jurisdictions/stakeholder proceedings (the good news is that most of the barriers are being worked on already) This document can be cross referenced to the above document outlining key barriers by use case.
- Development of a consensus plan for wholesale and retail rate application to the load side of the battery, as recommended by Arthur O’Donnell. This is a high priority issue that CESA is working on and will proactively share with CAISO any developments.
- As requested, we will send you more specific comments on the issues plaguing the PLS program. This is good timing, as that program expires at the end of this year and the SGIP is due for a revamping as a result of SB 861.
- Approach for transparently determining, quantifying and valuing the GHG reduction and other system benefits of energy storage
- Regarding safety – CESA is collaboratively working with the ESA to document existing and recommended safety measures and standards with respect to energy storage projects. This effort is being coordinated with other national safety organizations, such as the NFPA. There are many facets to safety and we will communicate progress proactively with CAISO for the road mapping effort.

Finally, we would be very grateful if DNV would add CESA to the list of contributors in their August 28 Appendix to Summary of Survey Results report. We understand that this was an honest oversight, but we would appreciate this correction as we would not want any of our member companies to think we were not highly involved in this process! I am re-attaching our earlier comments for your convenience. As always, we are happy to schedule a follow-on phone conversation at your convenience to discuss these suggestions and any other topic.