

Comments from MegaWatt Storage Farms on CTPG Phase 4 Study

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Executive Summary

- * The Phase 4 results are very sensitive to the input assumptions. The study team said this was not expected.
- * AB 2514 (signed into law well after the CTPG modeling began) is likely to result in significant storage (perhaps 4 GW) on the grid in the timeframe covered by the CTPG study.
- * If estimates of the deployed storage are not added to the CTPG model, the planning results of the CTPG study are likely to be very wrong due to this high sensitivity to input assumptions.
- * Accordingly, we strongly urge the CTPG (and any entity using the CTPG results, such as the BA's – CAISO, SMUD, LADWP, IID and TID) to update the models and analysis with reasonable assumptions on storage deployment in 2020 (we advocate 4 GW) before making transmission deployment decisions.

Discussion

Thank you to the CTPG for their work on modeling the 2020 transmission needs of California. We appreciate the opportunity to provide our comments.

As stated in the CTPG Phase 4 study, there are significant uncertainties in the assumptions used in the CTPG study, including which renewables will come online, where those renewables will be located, the fossil deployment assumptions used, and other factors.

As stated in the slides presented January 7, 2011, in Phases 1-3, going into the study there was "some expectation that a diverse set of scenarios would suggest a common set of conceptual transmission upgrades". However this convergence didn't occur - what happened was "there was significant divergence of results across scenarios."

The Phase 4 slides also reported that "Adding high potential lines to NorCal and SoCal provides capacity to deliver 22% - 24% RPS given study assumptions" but the limits are "mainly driven by reduction in fossil-generation within California load centers" (underlines as shown in the slides.)

These observations, as well as comments made multiple times by presenters at the meeting, show that there are high degrees of uncertainties in the assumptions. Varying the input assumptions a little can cause very different results ("significant divergence of results across scenarios".)

The AB 2514 legislation creates a framework for deploying storage. While the specific amount of storage is to be determined by the CPUC, as an initial working assumption we could use the 2020 target of 5% of peak load (approximately 4 GW). This could be modeled as 1 GW in the San Diego load center, 2 GW in the LA Basin and 1 GW in the Bay Area.

Given the CTPG's goal of determining the transmission needed in 2020, and given the CTPG's report that the results of the CTPG models are sensitive to the input assumptions (including the fossil in the load centers), it stands to reason that deployment of GWs of storage in CA load centers will materially change the conclusions reached for transmission requirements.

Accordingly, we strongly urge the CTPG (and any entity using the CTPG results, such as the BA's – CAISO, SMUD, LADWP, IID and TID) to update the models and analysis with reasonable assumptions on storage deployment in 2020 (we advocate 4 GW) before making transmission deployment decisions.

We recognize that AB 2514 was not signed into law until September 2010, well after the CTPG was into constructing and running its models, but given that AB 2514 is now in force, it is essential to include its impact in transmission planning. This is especially true given the significant sensitivity on input assumptions that CTPG has reported for its models and analysis.