

**2016-2017 Transmission Planning Process (TPP) – February 17, 2017  
Stakeholder Meeting**

Submitted by	Company	Date Submitted
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PG&E provides the following comments on the Stakeholder Meeting held February 17, 2017, which presented an overview of the Draft 2016-17 Transmission Plan (issued on January 31, 2017), including reliability, policy, economic, and select special study results. Results of two special studies (the out-of-state portion of the 50% RPS study and the Large Energy Storage study) were also presented as part of a supplemental discussion at the Stakeholder Meeting of February 28, 2017 and PG&E’s comments on those study topics are included here, as well.

Project Re-evaluations

PG&E appreciates CAISO’s continuing commitment to re-evaluate previously approved projects in the PG&E service territory that may no longer be needed, due to changing assumptions. PG&E strongly supports CAISO efforts toward maintaining affordability for PG&E customers, by avoiding the construction of unnecessary capacity, and re-sizing or re-scoping projects that have not yet begun construction, to better meet the current projection of future needs.

In the Draft 2016-2017 TPP, CAISO recommends placing 15 PG&E projects on a hold status to allow completion of CAISO’s review. Four of the projects are placed in a category for “Hold, but Continue” with the design, siting, and permitting activities necessary to inform CAISO review. The remaining 11 projects are placed on “Hold”, with all development activities to cease until the CAISO review is complete.

PG&E requests that CAISO re-classify (move) three projects from the current designation of “Hold” to “Hold but Continue”, for the reasons stated below:

- Northern Fresno 115 kV Area Reinforcement** - There are critical project interdependencies for a minor portion of the project work slated to be done within Herndon and McCall Substations. If this work cannot be completed in the next 12 to 18 months, numerous critical upgrades at both of these substations cannot proceed. Therefore, PG&E is requesting to move forward only with the



Herndon and McCall Substation portions of the overall project scope, which involves installing sectionalizing circuit breakers at both of the substations. PG&E confirms that the remainder of the project will remain on hold, and no other project work will proceed until the CAISO has completed its review and reached a decision on the project.

- **Vaca-Davis Voltage Conversion Project** - PG&E requests that this project be moved to “Hold, but Continue” to facilitate PG&E ability to perform the studies necessary to inform CAISO review of this project. In addition, PG&E is currently working with transmission level customers in this local area and by allowing some minor work to continue it is possible to capture efficiencies in evaluating potential options that would serve the customers and the long terms reliability needs associated with this project. PG&E confirms that the project as a whole will remain on hold, and no other project work will proceed until the CAISO has completed its review and reached a decision on the project.
- **Weedpatch-Wheeler Ridge 70 kV Reconductor** - PG&E is requesting to move forward only with a small but critical portion of the overall project scope, driven by a critical system need during summer peak conditions which is currently being addressed by a temporary system set-up (shoo-fly) at Weedpatch Substation. The work requested to continue is the reconductoring of the 3/0 Cu section of the line between Weedpatch Substation and structure 9/119 (approximately 5.5 miles). Completion of this work will allow the removal of the temporary shoo-fly which will mitigate system and customer risk. PG&E confirms that the remainder of the project will remain on hold, and no other project work will proceed until the CAISO has completed the review and reached a decision on the project.

PG&E requests the CAISO expedite the review of capital projects put on Hold as part of the 2016-2017 TPP in order to ensure the evaluation is completed within the 2017-2018 TPP planning cycle. Completion of this review in the October/November timeframe, coincident with the conclusion of the reliability assessment and request window, would allow PG&E to maintain project continuity, design completion, and in some cases permit work, allowing CPUC application submittal as soon as practical, so that those projects that are still needed may move forward (with either the original or a revised scope).

### Economic Planning Study

PG&E would like to thank the CAISO for further investigating the COI congestion as part of this year’s TPP economic planning studies. PG&E also appreciates the CAISO updating its model to consider historical scheduled outage information. While the study results do not appear to have been significantly impacted by the inclusion of this new information, adopting these changes is a step in the right direction in being able to perform better congestion studies in the future. As it relates to the COI, PG&E recommends the CAISO continue to work closely with the OCOA parties to ensure analysis methods and results are understood, and to look into further analysis as requested on the matter as the COI path operator.

### Gas/Electric Coordination Special Study

The Gas/Electric Coordination Special Study utilizes information and analysis related to the Aliso Canyon constraint prior to 2017. This study does not include more recent information contained in the documents listed below or the impacts of the rules pertaining to storage fields expected from the California Department of Oil, Gas, and Geothermal Resources (DOGGR) this year. PG&E requests that the CAISO continue to update the Gas/Electric Coordination Study in next year's TPP with relevant information as it becomes available.

- “Aliso Canyon Working Gas Inventory, Production Capacity, Injection Capacity and Well Availability for Reliability” – Revised Report – Public Utilities Code 715, Energy Division, January 17, 2017.
- SoCalGas’ Storage Safety Enhancement Plan, as described in letters to the CPUC on February 15, 2017 and February 17, 2017.  
[http://www.cpuc.ca.gov/uploadedFiles/CPUC\\_Public\\_Website/Content/News\\_Room/News\\_and\\_Updates/SoCalGasStorageSafetyEnhancementPlan.pdf](http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/News_Room/News_and_Updates/SoCalGasStorageSafetyEnhancementPlan.pdf)

### 50% RPS Special Study

PG&E is concerned that 33% RPS resource portfolios are being used for the 2016-2017 TPP. PG&E recognizes the interdependencies between CAISO transmission planning and resource planning processes at the CEC and CPUC. We encourage the CAISO to accelerate coordination with the other planning agencies during the 2017-18 TPP cycle, to begin proactive examination of capacity needs to meet RPS procurement beyond 33%, as a necessary pathway to affordably achieve 50% or even higher objectives by 2030 and beyond.

In addition, PG&E requests the following information:

- A detailed explanation of the net export constraint should be provided in the final TPP. Curtailment for a 50% RPS portfolio increased from ~9.5% in the 2015-16 Special Study to ~20% in the 2016-17 Special Study. PG&E requests the CAISO provide the details for how the changes to net export modeling between the two studies may have contributed to this increase.
- The deliverability results and the conclusions regarding energy-only resources should be provided to the CPUC for incorporation into the IRP model (currently E3’s RESOLVE), which PG&E views as the venue for generating portfolios for the CAISO to examine policy driven transmission upgrades. This role was previously provided by the RPS Calculator and now more appropriately fits into the IRP proceeding, where the cost of new transmission to access RPS resources can be weighed against other resource options. The CAISO should also inform the CPUC of how the deliverable or energy-only capacity changes under different RPS resource assumptions (e.g. X MW of deliverability if wind is sited in a given zone vs. Y MW of deliverability if solar and geothermal are sited there).

### **Benefits Analysis of Large Energy Storage Special Study**

The results of the Large Energy Storage Study were released on February 28. Based on PG&E's limited review of the analysis and results, PG&E offers the following comments at this time:

- PG&E recommends that the CAISO develop a levelized value of capacity that captures future RA capacity prices in the benefit calculations. The CAISO's RA capacity benefit assumption (\$35/kw-year in 2016\$) appears to underestimate the capacity benefit of pumped storage in that it does not account for potential future capacity price increases when new capacity may be needed. In addition, PG&E recommends that the capacity value should be considered as a benefit, rather than as reduction to the cost of pumped storage as it is currently treated in the CASIO analysis.
- The 0.7% renewable curtailment amount is lower than previous CAISO study results. As such, PG&E recommends a more thorough review of the curtailment results to ensure that the level of curtailment observed in the Plexos simulations is reasonable. PG&E notes that in the CAISO's Large Energy Storage Study shows a very low level of curtailment (app. 740 GWh or 0.7%) compared to the renewable curtailment amounts (~16%-21%) in the 50% RPS Special Studies and the renewable curtailment amounts in CAISO's previous studies, including the SB350 studies.
- Finally, PG&E recommends that the CAISO consider other benefits streams such as the ability to provide Black Start capability, the reduction in CO2 emissions, reduction in curtailment, and any improvements in system efficiency from Pumped Storage in its benefits calculations.

In future updates of the Large Energy Storage Study, PG&E encourages the CAISO to include the following in their assessment:

- Use more than one snapshot (i.e., only 2026). One snapshot is very helpful, but it is not sufficient to perform a convincing economic analysis of a Pumped Storage asset having a very long useful life.
- Consider the impact and price swings of real-time LMP prices, congestion prices, and ancillary services prices on pumping and generation dispatch. Considering only day-ahead price behavior may not be sufficient to capture the full value of a large energy storage investment.
- Study the neighbors' need for and size of CAISO's seasonal and hourly exports, and also assess the likelihood that CAISO and neighbors are both long simultaneously, and thus curtailments occur inside and outside CAISO.

PG&E appreciates the opportunity to provide these comments on the Large Energy Storage Study and looks forward to engaging with the CAISO on continued review of the analysis and results.