2015-2016 Transmission Planning Process (TPP)

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Comments on Stakeholder Meeting of November 16, 2016

PG&E appreciates this opportunity to comment on the 2015-16 TPP Phase 2 draft study results presented at the November 16, 2016 Stakeholder Meeting, including the reliability, policy, economic, and 50% RPS special studies. PG&E supports the CAISO's significant efforts in preparing and presenting its draft findings with stakeholders, and we look forward to viewing the final results as they become available.

In the interim, PG&E would like to offer a few general comments with regard to the study methodology.

1) PG&E supports the CAISO undertaking a 50% RPS Special Study as part of the 2015-2016 TPP. In the CAISO's "Overview of the 50% Special Study", slide 3 lists as part of the Study Scope "Identification of renewable curtailment, congestion and transmission constraints that may limit renewable generation development." PG&E requests that the CAISO in its analysis clearly distinguish between renewable curtailment due to over-generation versus congestion and transmission constraints in the study results. As stated in PG&E's initial comments to the 2015-2016 TPP Study Plan:

> An important distinction should be made in this special study between curtailment from over-generation and curtailment from congestion. As described in E3's "Investigating a Higher Renewables Portfolio Standard in California" report, a higher penetration of renewables has been shown to potentially increase the amount of curtailment due to system over-generation. Therefore, localized transmission congestion may be a secondary effect when compared with system over-generation curtailment for some resources. The CAISO should seek to separately identify the amount of marginal congestion that occurs where there is not a system over-generation condition. It will be important to consider the impact of both of these types of curtailment and also to avoid double-counting curtailment.

Additionally, the CAISO lists as one of the Special Study objectives to "Test the transmission capability numbers used in RPS calculator v6 and update these for the next release of RPS calculator" (Slide 2 of the "Overview of the 50% Special Study"). The CAISO should clarify how the transmission capability numbers will be defined (e.g., how any thresholds for congestion or curtailment are defined and measured). Additionally, the CAISO should define the transmission capability numbers with regard to the resource mix (e.g., wind, solar, baseload resources, etc.), as the generation profile of the different resources assumed may impact the results.

2) While PG&E supports the CAISO's Policy Driven Planning Deliverability Assessment as part of the 2015-2016 TPP Study, PG&E does not believe there is a requirement that all generation procured to meet RPS targets needs to be fully deliverable. Partially deliverable and energy only contracts are currently a viable option for some renewable resources. PG&E encourages the CAISO to continue to work closely with the CPUC and CEC to clarify the intended state policies for the level of deliverability for resources within its portfolios. It is important to ensure that the cost of deliverability for resources driving policy driven upgrades is evaluated consistently among all the stakeholders and processes.