**COMMENTS OF THE STAFF OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION**

**ON THE 2014-2015 DRAFT TRANSMISSION PLAN FOLLOWING THE FEBRUARY 17, 2015 STAKEHOLDER MEETING**

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**March 3, 2015**

## Introduction

The Staff of the California Public Utilities Commission ("CPUC Staff") appreciates this opportunity to provide comments on the Draft 2014-15 Transmission Plan ("Draft Plan") posted February 2 and discussed at the February 17 stakeholder meeting. Our brief comments are limited to three areas where the Transmission Planning Process (TPP) has moved into new or significantly expanded territory in ways that we believe are constructive and should be continued.

### *1. The San Francisco Peninsula Extreme Event Study Brought Significant Rigor and Transparency to an Inherently Difficult and Non-Transparent Planning Problem, and the Resulting Recommendations Appear to be Prudent and Appropriate.*

*CPUC Staff hope that our comments on this topic are sufficiently general that they can be posted on the public website.*

The planning problem addressed by the San Francisco Extreme Event Study appears to represent an unprecedented challenge for the TPP, especially regarding stakeholder process and potential mitigation investments. CPUC Staff support both the ultimately utilized analytic process and the ultimate decision regarding infrastructure needs. The analytic and stakeholder processes evolved constructively to produce enhanced understanding of risks and key risk drivers. We hope that this kind of structured assessment may be used or extended if there is future consideration of complex extreme event risks and mitigation options for the San Francisco Peninsula or elsewhere. Also, we hope to ultimately learn more about how the San Francisco Peninsula mitigation recommendations in the Draft Plan are translated into specific actions and investments.

### *2. The TPP and Related Processes Clarified Interrelated Planning Options Regarding Southern California Local Capacity Needs and Imperial Valley Deliverability, in a Usefully Proactive and Contingent ("What if…") Manner That Should be Continued.*

CPUC Staff appreciate the CAISO's effort to analyze interacting transmission planning issues regarding coastal Southern California load center reliability ***and*** access to Imperial Valley resources in a proactive, integrated manner in consultation with stakeholders. In this regard, CPUC Staff finds the extended (10-year) LCR Study and the Imperial County Transmission Consultation to have been valuable adjuncts to the TPP.

In particular, it is important, and we support these efforts, to clarify:

1. what transmission *is or is not* needed (e.g., for LA Basin/San Diego reliability, and delivering Imperial Valley resources) under present policy and reliability requirements, given specific planning assumptions regarding loads, resources and transmission; and
2. what might be needed under *specific alternative assumptions* (e.g., failure of certain assumed local resources to materialize or perform, or required additional delivery of renewable generation from Imperial Valley); and
3. what are the options for achieving 2. above?

Such proactive identification of options that may be needed in the event of specific changes in assumed future conditions gives us time and opportunity to identify, assess and collect information regarding both the options and the possible conditions. This includes information on environmental feasibility of transmission options, and on progress in achieving local resources assumed in the base case. We believe that the 2014-15 TPP represents continued useful refinement in these kinds of studies and information, such as preliminary studies of a number of transmission options that are not currently needed. It is important for such studies to specifically identify what the estimated local capacity value of a given transmission option represents, e.g., substitution for what *specific types and amounts of local resources, at what locations*.

We look forward to continuation of this proactive approach to Southern California transmission options and the contingencies that might drive them, which was evident and appreciated in the last planning cycle.

### *3. Over-generation (Frequency Response) Studies Were Conducted for the First Time in the 2014-15 TPP Cycle, and CPUC Staff Look Forward to Refinement of Such Studies in the Future, to Address Interaction of RPS/Carbon Policy with System Reliability.*

The CAISO's over-generation study examined frequency response to a major outage (both Palo Verde nuclear units), which would drive down west-wide frequency until mitigated via frequency response. Based on AC powerflow and voltage stability studies of conditions derived from a Gridview production simulation for April 7, 2024 (renewables-driven over-generation), CAISO observed WECC frequency response to be adequate but with the CAISO area not contributing its required (under reliability standards) share and thus "leaning on" the rest of WECC. CAISO stated that study assumptions may have been optimistic in several respects, but on the other hand certain favorable assumptions and explicit consideration of potential mitigation measures have yet to be examined.

CPUC Staff appreciate the CAISO's introduction of over-generation/frequency response studies into the planning cycle. We look forward to refinement of these studies in the future both to examine appropriately conservative (stressful) scenarios and also to evaluate realistic mitigation options such as system operational changes (commitment and dispatch re-optimization), effective use of storage and demand-side resources, potential frequency responsive capabilities in nonconventional resources (inverter-based, wind, storage) and increased exports under over-generation conditions.

Finally, we are uncertain (and perhaps the final 2014-15 Transmission Plan could clarify) which aspects of over-generation-related reliability problems and solutions are intended to be addressed, versus not addressed, in these studies. For example: Is the focus limited to governor response or does it include inertial response? Are those frequency response issues being studied considered to be the most critical or limiting reliability risks from over-generation, essentially "the canary in the coal mine", or might other

(which ?) over-generation related issues be equally or more critical, and under what conditions?

Again, CPUC Staff look forward to continuation of these studies. We may provide additional comments in connection with the Draft 2015-16 TPP Study Plan that was discussed at the February 23 stakeholder meeting.

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