

TANC COMMENTS ON THE CAISO'S DRAFT 2013-2014 TRANSMISSION PLAN

The Transmission Agency of Northern California (TANC) appreciates this opportunity to provide comments on the California Independent System Operator's (CAISO) Draft 2013-2014 Transmission Plan. Review of the draft Transmission Plan indicates that it does not address written comments which TANC submitted on October 10, 2013 and December 11, 2013, or the comments made by TANC at the Transmission Planning Process (TPP) Stakeholder meetings on September 25 and 26, 2013 and November 21, 2013. TANC's earlier comments focused on the reliability assessment results for the Pacific Gas and Electric Company's (PG&E) bulk transmission system and on how issues (such as the unavailability of existing Remedial Action Scheme (RAS) and system modeling inaccuracies) associated with the PG&E bulk system could impact the California-Oregon Intertie (COI) and the California-Oregon Transmission Project (COTP), which is a major component of the COI and for which TANC is the Project Manager and largest Participant.

TANC's comments are as follows:

Over-Reliance by the CAISO on Reductions in COI OTC to Mitigate Overloads

The TPP studies noted a number of issues due to an outage of the Table Mountain-Tesla and Table Mountain-Vaca Dixon (the "Table Mountain-South") 500-kV lines if the California Department of Water Resources (CDWR) generation at Hyatt and Thermalito is not tripped via RAS, and identified potential mitigation solutions for each. The solutions suggested by the CAISO included upgrading the impacted line(s), limiting COI transfers, limiting generation in northern California, or modifying other existing RAS to drop generation at other locations. However, with one exception, the only form of mitigation discussed in any detail in the draft Transmission Plan was limiting COI transfers. As noted previously, TANC is:

- Concerned that not assessing all of the available mitigation options might lead stakeholders to believe that the only option is to limit COI imports and lead the CAISO to a sub-optimal result; and
- Convinced that all of the impacts of limiting COI imports have not been adequately studied and is concerned about CAISO statements that limiting COI import capability (by reducing the existing nomograms) does not impact the reliability of the system.

With respect to the above, it is noted that operating studies done for 2013 and 2014 have indicated that curtailing generation interconnected to the impacted PG&E 115-kV system south of Table Mountain would be considerably more effective in mitigating overloads on these facilities than would curtailing COI transfers.

System Modeling Inaccuracies in the CAISO Base Cases

During recent operational studies for the summer of 2013 and the spring of 2014, the involved parties (the CAISO and members of the Operating Studies Subcommittee) determined that the base cases initially used in these studies (derived from WECC cases) did not model the correct ratings on a number of PG&E facilities in northern California. The issue as to how these facilities were modeled in the TPP cases was raised by TANC (as well as by the Western Area Power Administration (Western) and the Sacramento Municipal Utility District (SMUD)) at the November 21, 2013 stakeholder's meeting and in TANC's written comments submitted on October 10, 2013 and December 11, 2013. To date, these comments have not been addressed by the CAISO.

As TANC never received a response to the above comments, TANC initiated discussions with PG&E in December 2013 as to the correct modeling of the PG&E 115-kV lines located south of Table Mountain in the 2015, 2018, and 2023 time frames. PG&E did provide such information and TANC compared it to the modeling of these facilities in the TPP cases posted by the CAISO. The results of this comparison (shared with the CAISO on February 5, 2014) indicated that:

- The 2015 TPP case modeled incorrect ratings on four of the pertinent facilities;
- The 2018 TPP case modeled incorrect ratings on three of the pertinent facilities and incorrect ratings and impedances on nine of the pertinent facilities¹; and
- The 2023 TPP case modeled incorrect ratings on three of the pertinent facilities.

The above information indicates that had the modeling for the PG&E facilities used in the TPP cases corresponded to the information provided by PG&E, the results of studies done by the CAISO for all three study years would have been different than those presented in the draft Transmission Plan. As a result of the above modeling inaccuracies, TANC remains concerned that the potential impacts on COI transfer capability or the need for reinforcements to the transmission grid could well be greater than those identified during the TPP studies.

On February 5, 2014, TANC forwarded to the CAISO a document that discussed the modeling inaccuracies discussed above. On February 21, 2014, TANC received a response from the CAISO which notes that "...we have ensured that the issues identified do not affect long term results." Later in the CAISO's response, it is acknowledged that there were inaccuracies in the 2018 data due to changes in forecast in-service dates for certain transmission projects and it is implied that the CAISO does not view any issues in 2018 as "long term" in nature. While it may be argued that 2018 is not "long-term," TANC is of the opinion that the modeling inaccuracies noted in 2018 need to be addressed and that there remain issues that need to be addressed in northern California as soon as possible, and that cannot wait until the 2014-2015 TPP studies are completed.

¹ These nine modeling issues were due to the fact that the 2018 TPP case modeled the South of Palermo Transmission Reinforcement Project which will not be in service until 2019

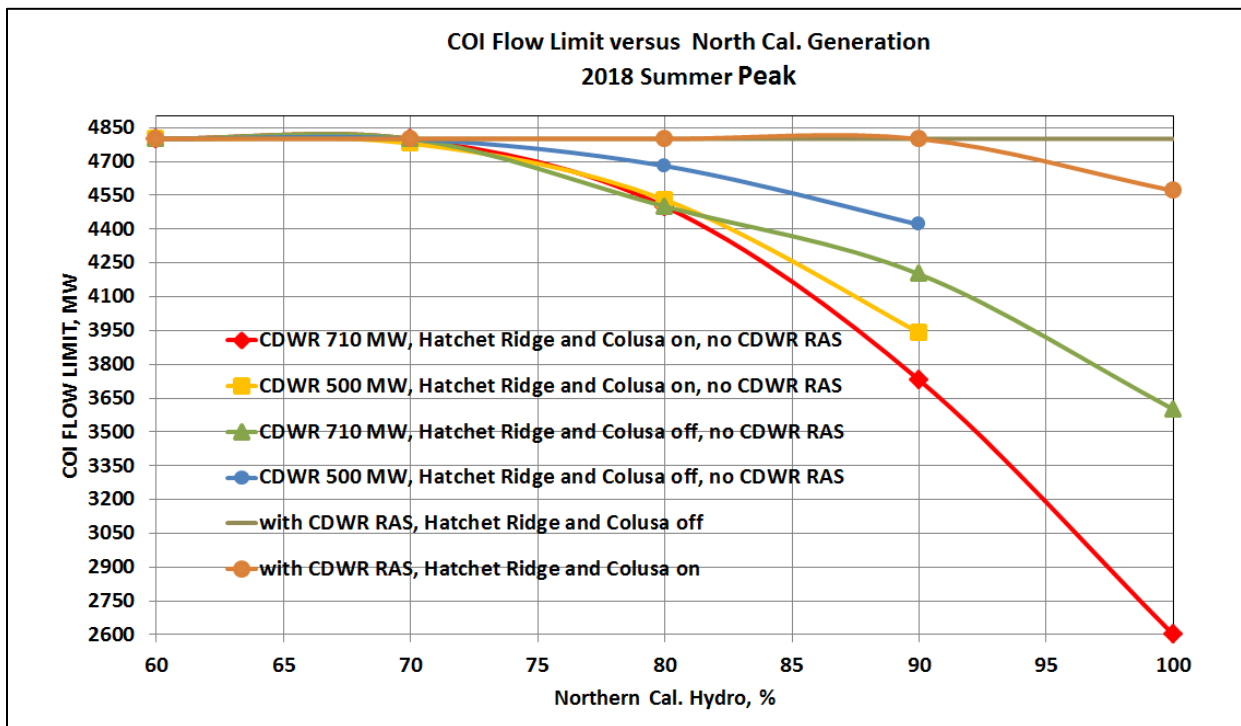
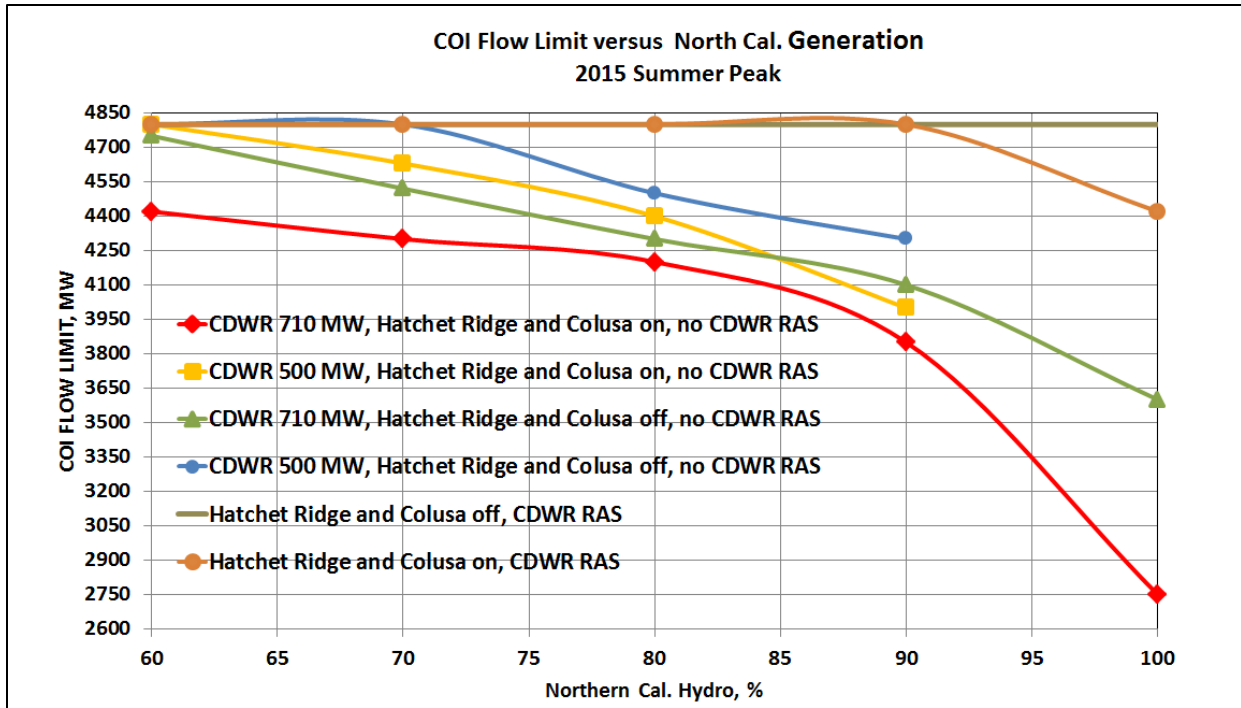
With respect to the South of Palermo Transmission Reinforcement Project, TANC notes that in Appendix B to the draft Transmission Plan it states that this Project was expected to be in-service by 2018 and was modeled in the 2018 Heavy Summer Peak case. However, Table 7.1-2 in the Transmission Plan states that the South of Palermo Transmission Reinforcement Project will not be in service until May 2019.

Discussion of Study Results

Appendix B to the draft Transmission Plan contains nomograms for 2015 and 2018 (Figures B1.2-4 and B1.2-5) that depict the COI flow limits for different levels of northern California hydro generation and for various scenarios with and without the DWR RAS (refer to the nomograms on Page 4). Appendix B also contains two tables (Tables B1.2-1 and B1.2-2) that summarize the information on the nomograms as well as provide information as to the limiting facility for the pertinent operating point. As noted above, both the 2015 and 2018 TPP bases case used in developing these nomograms contained modeling inaccuracies.

The decreases in the COI flow limit at the 80 percent hydro level for the 2015 and 2018 cases, as depicted in the above mentioned nomograms, are summarized in Table 1.

TABLE 1 SUMMARY OF COI FLOW LIMIT IMPACTS (80% Northern California Hydro)				
Generation (MW)			Decrease in COI Limit (MW)	
CDWR	Colusa	Hatchet Ridge	2015	2018
500	0	0	300	120
500	690	103	400	270
710	0	0	500	300
710	690	103	600	300



Preliminary studies by TANC that utilized the posted TPP cases (in which the CDWR generation was at 710 MW in 2015 and at 806 MW in 2018, Colusa generation was at 690 MW in both cases, and Hatchet Ridge generation was at 103 MW in both cases), indicate that the above reductions in the COI flow limit would likely be much larger if the modeling deficiencies in the 2015 and 2018 TPP cases were corrected. Specifically, these studies indicate that:

- The reductions to the COI flow limit in 2015 would be 1,500-1,600 MW higher than the values noted above; and
- The reductions to the COI flow limit in 2018 would be 1,200-1,300 MW higher than the values noted above.

As discussed above, TANC is of the opinion that there are issues that need to be addressed in northern California as soon as possible, and that cannot wait to be resolved until the studies associated with the 2014-2015 TPP effort are completed. TANC is willing to work with the CAISO and the other impacted parties (PG&E, SMUD, Western, and PacifiCorp) on resolving these issues.

Economic Analyses

As noted in the previous comments submitted by TANC, the lack of congestion on Path 66 shown in the economic studies is a considerable departure from historical congestion on that Path. TANC references the CAISO's own market reports for the high level of historic congestion along the COI and the high costs that have been associated with that congestion. The draft report shows just three hours of congestion on the COI for 2018 and no congestion for 2023. The 2018-2023 congestion assumptions represent a significant departure from recent reports from the CAISO. In fact the *2012 Annual Report on Market Issues & Performance* published by the CAISO Department of Market Monitoring (April 2013 Table 7.1 [p. 151]) shows considerable congestion over the prior three years: 11percent of the hours in 2010 and 2011, and 42 percent of the hours in 2012 for the Pacific AC Intertie (PACI) were congested, and the COTP rights within the CAISO BAA was congested 1 percent, 12 percent, and 8 percent in 2010-2012, respectively. This table indicates that Path 66 was the most congested path in the state every year. It is consistently the most costly in terms of congestion charges. The *Market Monitoring Report*, Table 7.1, showed that congestion on the PACI cost between \$20 million and \$84 million from 2010 to 2012.

TANC is concerned that the CAISO's TPP studies understates the congestion along Path 66 and fails to account for the impact the expected reduction in the transfer capability of Path 66 will have on congestion on COI (see comments above regarding DWR RAS). Congestion on Path 66 is very costly to California. By assuming in the 2013-14 economic studies that there is virtually no congestion along the COI, the CAISO fails to fully account for recent experience, the CAISO's own tariff, and the financial impact of congestion from PG&E's loss of the CDWR remedial action.

Transmission Access Charge Forecast

TANC appreciates the addition of a Transmission Access Charge (TAC) forecast indicating the impact of recommended and approved projects from this cycle. TANC encourages the CAISO to continue the development and improvement of this model. TANC recommends the CAISO re-visit its \$250 million dollar floor on transmission development in the outer years and possibly rely on a value more representative of recent history.