

**California Transmission Planning Group (CTPG)  
Technical Study Team Response to the  
Comments of the Bay Area Municipal Transmission Group (BAMx) on  
CTPG's Draft Phase 4 Study Report and the CTPG's Draft Statewide Transmission Plan**

**Comment:**

BAMx's overarching comment is that despite a valiant attempt to produce a set of common "least regrets" transmission lines that were constant through a wide variety of future scenarios, the CTPG found out that such a set of projects could not be found. That is important information in itself and does not take away from the work accomplished to develop a defined set of transmission issues that need to be addressed for each of the scenarios. But BAMx would caution the CTPG to not try to draw conclusions that are not fully supported by their first year of study results.

**CTPG Technical Study Team Response:**

The first year of studies is the opening round in what the CTPG expects will be an on-going update and refinement process for both data and study methodology.

**Comment:**

BAMx appreciates the CTPG's efforts in undertaking efforts in Phase 4 to perform additional studies on the potential delivery of much larger amounts of out-of-state renewable energy resources into California that utilizes existing transmission infrastructure. BAMx understands that when the CTPG ran their studies as part of Phase 4 and began drafting the Statewide Transmission study plan, the CTPG did not have access to the California ISO comprehensive planning analysis to meet the 33-percent Renewable Portfolio Standard. In the future, BAMx requests that the CTPG closely coordinate their analysis with the study works performed by the balancing authority areas (BAAs) within the State, such as the California ISO. Including the summaries of the BAA studies in the statewide transmission plan is very helpful, but more work needs to be done to better integrate the efforts of the CTPG with that of the balancing authorities.

BAMx has observed that there was very important work accomplished by the California ISO that has just recently been reported. There may be no way to incorporate such alternative assumptions made by the BAAs in the CTPG's current-year assessment. The CTPG may need to consider those assumptions in a subsequent planning cycle, but earlier coordination should be considered. When there are considerable discrepancies between the CTPG and the California ISO studies, at a minimum, the differences between the study assumptions need to be clearly identified.

Importantly, the CTPG also needs to recognize critical work done by the balancing authorities in the Statewide plan and any conclusions it makes in the Statewide plan needs to take into account BAA studies done on a concurrent basis. Merely appending the report by the BAAs in the statewide plan is not sufficient.

## CTPG Technical Study Team Response:

The CTPG Technical Study Team agrees with BAMx that the CTPG can always improve on its coordination with the transmission planning conducted by the various balancing authorities. The CTPG Technical Study Team has representation from each of the CTPG members and non-member participants and therefore includes representation from each of the California balancing authorities. The four CTPG study plans developed in 2010 included base cases and assumptions that received the benefit of review and input by the CTPG Technical Study Team and by stakeholders. In addition, the CTPG 2010 study schedule was driven primarily by the CAISO's request for CTPG input into the CAISO 2010 study process. At the completion of Phase 3, the CTPG provided a list of "High and Medium Potential Transmission Upgrades" for consideration by the California balancing authorities. The CTPG welcomes specific suggestions as to how such coordination could be improved. Also, the CTPG expects to apply to the WECC Transmission Expansion Policy and Planning Committee for recognition as a subregional transmission-planning group, which is expected to increase the level of coordination that occurs between other western transmission-planning entities and the CTPG.

## Comment:

In Phase 4, the CTPG analysis concluded the initial set of "high potential" transmission elements could potentially provide transmission capacity to avoid reliability standard violations when energy deliveries from renewable resources are equal to 22 percent to 24 percent of total retail energy deliveries in the year 2020. This finding is at odds with the California ISO's 33-percent RPS transmission plan, which concludes that that the foundational transmission upgrades already approved by the California ISO, when coupled with other identified incremental upgrades, can achieve the 33-percent RPS target. These transmission upgrades, except for a project such as the Coolwater-Lugo 230-kV project assumed by the California ISO, are a complete subset of the CTPG's "high potential" transmission projects. (See Table 9: ISO Approved Transmission Projects in the *Draft 2010 CTPG Statewide Transmission Plan*.) BAMx requests that the CTPG clearly identify assumptions that might have contributed to the apparent discrepancy in the findings.

Both the CTPG and the California ISO utilize the same amount of net short to achieve the 33-percent RPS by 2020, *i.e.*, 52,764 gigawatt-hours. However, their conclusions regarding the need for new transmission to accommodate the renewables are starkly different. BAMx suggests the following reasons might have contributed to differences between the California ISO and the CTPG findings as described below.

BAMx in its past comments over the last year has been critical of the CTPG's approach to modelling the arbitrary 70/30 in-state/out-of-state generation redispatch approach. In its presentation in the stakeholder meeting on January 7th, the CTPG stated, "Assumed fossil dispatch pattern significantly affects the ability of the transmission system to accommodate renewable energy development." The CTPG further stated, "The ability of the transmission system to accommodate renewable development could (be) increased by:

- Changing the starting-point fossil dispatch pattern in the WECC powerflow Case;
- Using an "out-of-merit order" re-dispatch of fossil when adding renewable."

BAMx agrees with the CTPG's above comments, and therefore feels that the arbitrary 70/30 redispatch assumption has contributed to the need for new transmission, which otherwise would be shown to be unnecessary under a WECC-wide optimal fossil dispatch. The California ISO approach, on the other hand, based upon a comprehensive production cost simulations; does not fix the in-state/out-of-state redispatch. BAMx believes that the California ISO approach, based on 8,760 hourly simulations that lets the system condition determine the appropriate generation dispatch, is more appropriate than the CTPG approach for snapshots that fix the generation redispatch. Assuming the CTPG agrees with BAMx's conclusion, it appears appropriate for the CTPG to include the California ISO study findings in developing its conclusions of the 2010 Statewide Transmission Plan.

#### **CTPG Technical Study Team Response:**

The CTPG Technical Study Team agrees that the CTPG results and the California ISO results produce different findings. These differences are mainly due to the base case assumptions and redispatch approaches. As discussed above, the CTPG studies and assumptions were developed with input from the California ISO. The California ISO chose to use study assumptions that are different from those used by the CTPG. The use of different assumptions is within the California ISO's prerogative, as it is for the other balancing authorities who have the responsibility for planning and decision making for their respective balancing authority footprints.

The CTPG stands behind its study assumptions, findings, and recommendations -- assumptions, findings and recommendations that are a result of review by the CTPG Technical Study Team and stakeholders. The CTPG process was intended to provide input into the respective balancing authority processes. The CTPG believes it is important to publish its findings and move on to determining the work that should be completed in 2011. The CTPG is committed to reviewing its study assumptions that will be used in 2011 within the CTPG Technical Study Team and CTPG stakeholder process. Note that the CTPG has decided it will not conduct hourly economic grid simulations ("comprehensive production cost simulations") as part of its work for year 2011.

#### **Comment:**

In addition to the *Discounted Core* and Out-of-State generation, the CTPG (for example, in the *West-Of-the-River Stress* case) chose the California Renewable Energy Transmission Initiative ("RETI") Phase 2B Competitive Renewable Energy Zones ("CREZs") to select the renewable resources to achieve the 33-percent Renewable Portfolio Standard goal. The RETI Best CREZs are based on economic and environmental criteria only. They are not selected based on any "commercial interest" potential of the renewable projects. The use of RETI California Best CREZs to "fill-in" the remaining amount of net short renewable energy is not necessarily a more reasonable and realistic assumption than utilizing the CREZs related to existing and approved transmission projects for this scenario.

#### **CTPG Technical Study Team Response:**

It was not the CTPG that "chose" to "fill-in" the net short in the West-of-River Stress scenario with renewable resources from the "Best CREZ" renewable resource development portfolio. Rather, RETI made

this choice based on input from the stakeholders and provided this input to the CTPG. The CTPG agrees with BAMx that “commercial interest” is a significant indicator of where, and which, renewable resources will actually get built, however, it is not the only indicator.

**Comment:**

The California ISO's analysis appears to be more closely based on the California Public Utilities Commission Scoping Memorandum scenarios. Although BAMx is not sure why they are not even closer to the Long-Term Procurement Proceeding scenarios, BAMx believes the California ISO assumptions are more appropriate than those assumed by the CTPG. In the California ISO's analysis, except for the Trajectory Portfolio, which require some amount of new transmission to achieve the statewide 33-percent Renewable Portfolio Standard goal, none of the other scenarios require any new transmission facilities.<sup>1</sup> Furthermore, the reliability studies run by the California ISO for each of the investor-owned utility areas and sub-areas within the California ISO control area demonstrate that additional transmission needs to accommodate the additional renewable projects by 2020 is minimal.<sup>2</sup> BAMx believes the differences in the approaches to select CREZs for the renewable projects might have contributed to the different conclusions regarding the need for new transmission in the California ISO and the CTPG studies. The CTPG needs to recognize and explain those differences in the final report. BAMx would also like to request that the CTPG identify differences in the modeling of transmission network, if any, that might explain part of the reason for the differences between the California ISO and the CTPG results, especially in regards to how much can be imported into California using the existing transmission.

**CTPG Technical Study Team Response:**

The California ISO studies do not reach the conclusion that no new transmission facilities will be required. In fact, Table 1 in the California ISO's conceptual statewide plan lists 20 different “new” projects. The CTPG Technical Study Team agrees with BAMx that different renewable resource development portfolios will have different impacts on the transmission grid. To the extent that the California ISO's analysis used a different renewable resource development portfolio than the CTPG's, it is reasonable to expect that there would be different findings as to the amount of renewable resources that the “high potential” transmission upgrades can accommodate without reliability criteria violations. As discussed above, there are other reasons why there could be different findings. In particular, the pattern of WECC generation prior to, and after the addition of, renewable resources can significantly affect the amount of renewable generation that can be added without reliability criteria violations. This being said, the CTPG will not be undertaking the analyses requested by BAMx regarding the provision of comparisons between the CTPG's and California ISO's transmission plans or study methodologies, or study assumptions.

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<sup>1</sup> See the presentation by R. Sparks (CAISO) titled, “CAISO Comprehensive Transmission Planning to Meet 33% RPS, Preliminary Study Results,” dated December 2, 2010, and by K. Casey (CAISO) titled, “Briefing on ISO Transmission for a 33% RPS Plan” dated December 16, 2010.

<sup>2</sup> See December 2, 2011 CAISO Stakeholder meeting presentations (<http://www.caiso.com/2861/2861c58722c60.html>).