

**CTPG Response to
Comments of Bay Area Municipal Transmission Group
Re CTPG Phase 3 Study Plan
March 31, 2010**

Comment:

It is very difficult to comment on what should follow Phase 2 without having access to the Phase 2 findings. More importantly, the March 24th slide presentation lacked many details. BAMx believes this problem is the result of the unrealistic time frames set up for the CTPG study process.

CTPG Study Team Response:

The CTPG Study Team appreciates the concerns that have been raised regarding the schedule overlaps between the issuance of the Phase 2 Study Report and the development of the Phase 3 Study Plan. The CTPG Stakeholder Meeting held on March 24, 2010, was intended primarily to keep stakeholders informed on the nature and progress of CTPG's work and keep stakeholders engaged in the development of the Phase 3 Study Plan. This meeting was not intended to be the only opportunity for stakeholders to provide comments on or inputs to the Phase 3 Study Plan. Under CTPG's current schedule, the Draft Phase 3 Study Plan will be available on April 13th, the Draft Phase 2 Study Report will be available on April 14th, and a Stakeholder Meeting will be held at the headquarters of the Sacramento Municipal Utility District to receive comments and inputs regarding both the Phase 3 Study Plan and the Phase 2 Study Report. The CTPG will take stakeholder comments on both of these efforts through April 28th.

Comment:

BAMx encourages CTPG to focus on developing several combinations of transmission projects under different scenarios as a way of defining a set of "least regrets" projects. All the CTPG Phase 2 scenarios use the same net short in 2020, i.e., 52,764 gigawatt-hours. Phase 1 used the earlier and higher net short amount of 59,710 gigawatt-hours produced by the California Renewable Energy Transmission Initiative ("RETI"). Given the level of uncertainty tied to the calculation of net short, BAMx believes that CTPG needs to put some effort into defining transmission projects needed for lower levels of "net short". For example, the latest RETI net short, which assumes the latest "incremental efficiency" and "distributed generation" outlook, results in a reduced net short of 36,926 gigawatt-hours. BAMx recommends that additional scenarios be developed to meet this lower net short amount and even a smaller net short amount, say 18,000 to 19,000 gigawatt-hours, that could result from assuming additional imports of renewable generation that utilize existing transmission and/or assuming significant amounts of Tradable Renewable Energy Credits (T-RECs) and/or more State led incentive programs for energy efficiency, combined heat and power applications, distributed renewables, and private generation.

The RETI net short “reference case” amount of 52,764 gigawatt-hours adopted in the proposed CTPG Phase 3 Study Plan does not assume any level of T-RECs or any other program that does not exist now to meet the future net short in 2020. The current RETI estimate in the “reference” case assumes 38,174 gigawatt-hours of existing renewable generation by December 31, 2009. The RETI February 22, 2010, paper describes how uncertain the RETI projections are and how these projections are subject to change based upon ongoing work. That same RETI discussion paper acknowledges that not all of the factors which determine the RETI net short value have been evaluated by the California Energy Commission or other agencies. For instance, changes to the Energy Commission’s demand forecast, which might reasonably be expected but are not included in approved plans, are not considered in any CTPG net short scenarios. BAMx believes that several enhancements, such as increased renewable imports that utilize existing transmission, additional energy efficiency, incremental private combined heat and power, increased distributed generation, and the expected heavy use of T-RECs by 2020, could dramatically reduce the transmission needed. BAMx believes that the level and type of transmission needed in these reduced net short scenarios would be significantly different from the ones developed from multiple scenarios at the higher level of net short need of 52,764 gigawatt-hours. BAMx believes it is incumbent upon CTPG to develop cases with smaller net short amounts if it hopes to bracket its study results based on a range of reasonable assumptions.

CTPG Study Team Response:

For the most part, the CTPG Study Team has utilized demand forecasts and “net short” levels that find their basis in the Energy Commission’s Integrated Energy Policy Report and assumptions drawn from RETI’s work. The CTPG also received input from stakeholders with an interest to see an “apples to apples” comparison of electric system studies that have same base assumptions such as demand forecast and “net short”. The CTPG agrees that future studies beyond its planned Phase 3 may be warranted to examine other “net short” values and to determine what impact the California Public Utilities Commission’s recent decision pertaining to T-RECs may have the level of “net short” that should be studied. At this time, however, the CTPG also believes that it would be more appropriate to benefit from that commission’s long-term procurement planning process that is currently underway before developing additional “net short” scenarios.

The CTPG Study Team has considered scenarios with higher out-of-state renewable development in the Phase 2 study and will continue to so during Phase 3. Clearly, higher out-of-state development and T-RECs can utilize capacity on the existing interties, although this could be constrained by the integration capabilities of neighboring balancing authority areas. (Note: System capability for dynamic transfers over the interties is still being evaluated.) Because state policies related to these issues are in flux, the CTPG Study Team believes it should continue to evaluate the higher in-state transmission need cases.

Comment:

BAMx would like to see more attention put into the decision on which generators are reduced to match the increased output of the renewable generators for various peak and off-peak load flow studies being analyzed. BAMx sees the uncertainty of that aspect reflected in the scenario descriptions, but has not found a detailed description of how such “dispatch patterns” will be developed.

Furthermore, CTPG has indicated that Phase 2 would continue to employ a 70/30 constraint in the reduction of fossil generation and that other ratios might be investigated in Phase 3. RETI recognized the inadequacy of their “shift factor” approach to define a transmission system to meet the reliability needs of the grid. However, it appears that CTPG continues to devote all its current efforts in Phase 2 to studying in detail the need to define a transmission system for a few peak and off-peak hours while using a relatively crude approach to determining generation curtailment to accommodate new renewables. This approach does not adequately capture how the grid will be dispatched for optimal economics, how that dispatch could change to relieve criteria violations for those peak hours, and what the economic impact of such changes might be over the course of many years. For instance, terms like “carbon-based dispatch” are not very descriptive of what will be assumed. One way to get away from arbitrary ratios and make the process more transparent to stakeholders would be for CTPG to assume that the entire WECC grid would be dispatched based upon economics assuming a carbon tax of “X” for the peak hour of the study.

BAMx encourages CTPG to utilize the marginal operating cost method to reduce the output of fossil generation without employing arbitrary in-state and out-of-state splits. BAMx recommends either the use of the method of assuming some level of carbon tax adder or the use of some other transparent methodology to recognize the likelihood of regulations to limit carbon releases to the atmosphere. More sophisticated analysis using tools like a security-constrained market simulation model to determine the total economic impact of various transmission additions under various dispatch criteria may not be achievable at this time, but CTPG needs to remind stakeholders of the need for such studies.

CTPG continues to refer to a set of studies that would study the impact of achieving another state environmental goal -- reducing reliance upon existing generation using once-through-cooling (Case OTC). However, no detail has yet been provided which would describe the methodology to study the impact on the transmission system to achieve this goal and how CTPG might be able to separate the incremental impact of achieving this goal in addition to and/or instead of achieving the goal of 33 thirty-three percent renewables goal by 2020.

CTPG Study Team Response:

The CTPG is currently developing a sensitivity scenario that will utilize a Generation Re-Dispatch approach based upon re-dispatch of fossil fuel generation by fuel type. In the proposed scenario, coal plants will be re-dispatched first, followed by oil, and followed next by natural gas regardless of the in-state or out-of-state location of the generation. It is expected that approximately 90 percent of the re-dispatched generation

using this sequence will be located out-of-state. This approach is intended to simulate what might happen with the advent of some form of carbon-emission-limiting legislation and other potential impacts. Without legislation at the state or federal level, it may be speculative to arbitrarily assign a carbon tax value of “X” to fossil fuel generation. It is also unclear if the potential carbon-limiting rules will actually have a measurable economic impact on fossil fuel generation in the decade under study.

After completion of the CTPG Phase 3 studies, it is expected that the respective Balancing Authority Areas will perform additional studies to analyze the transmission needs identified by the CTPG. These studies should include additional alternative analysis approaches that will include operation studies, mitigation analyses, and economic analyses of the type recommended by BAMx.

Finally, the CTPG Study Team will be including a discussion on the impacts that OTC may have on the statewide transmission needs for renewable generation in the Phase 2 Study Report.

Comment:

BAMx appreciates the two additional “Northern” and “Desert Southwest” scenarios as proposed by CTPG under the Phase 2 study plan. BAMx also supports the development of the “Owens Valley Portfolio” scenario. BAMx considers them as a step in the right direction, but as BAMx has indicated earlier, these three scenarios might not be sufficient in demonstrating how to minimize the level of “needed” transmission. In BAMx’s comments dated February 10th, BAMx included a list of candidate assumptions for renewable resource development scenarios that would make efficient use of existing transmission facilities and minimize new transmission costs and environmental impacts. It is as yet unclear how much attention is being placed on developing a scenario that minimizes transmission costs for a given level of “net short”. BAMx believes the CTPG should explicitly develop a minimal transmission scenario and/or identify how the studies are designed to ensure that the transmission assumed in each scenario was developed with a “least cost” criterion in mind.

CTPG Study Team Response:

The CTPG continues to collaborate with stakeholders to develop and analyze diverse procurement scenarios utilizing highly credible renewable energy CREZ locations both in-state and out-of-state. As with existing generation, the cost of delivery of renewable energy to the customer is primarily driven by the cost of generation. Therefore, the CREZs utilized in the CTPG studies have been either determined to be the most economical or the ones which have already established commercial interest. Additionally, higher cost CREZs may require less transmission expansion than some lower cost ones and a least-cost transmission scenario may not be a least total economic cost scenario. The CTPG has also analyzed many different system stress cases that are also credible and are required to maintain the reliability of the electric system. As mentioned above, after completion of the CTPG Phase 3 Study, it is expected that the respective Balancing Authority Areas will perform additional studies to analyze the transmission needs identified by the CTPG. These studies should include additional alternative analysis approaches that will include

operation studies, mitigation analyses, and additional economic analyses of the type recommended by BAMx.