Response of the
California Transmission Planning Group Technical Steering Committee
To Comments of the
Bay Area Municipal Transmission Group

January 15, 2009

The California Transmission Planning Group (CTPG) expresses its appreciation for the Comments of the Bay Area Municipal Transmission Group ("BAMx") regarding the CTPG's Draft Study Plan as presented during the technical conference of December 17, 2009. The Technical Steering Committee is charged with the design and performance of the planning studies being performed by the CTPG and provides these responses to BAMx's Comments. In addition to the responses provided here, the CTPG Technical Steering Committee advises BAMx that many of the concerns and issues raised in BAMx's Comments will be addressed more completely as the work of the Technical Steering Committee progresses. The responses provided below follow the organization of the Comments as submitted by BAMx.

Planning Standards

CTPG agrees that generator dropping and/or run-back is allowed for Category A conditions (all-lines-in-service (N-0)) provided there is no resulting loss of load. Specifically, NERC TPL Standards do not allow loss of demand or curtailed firm transfers for "No Contingency conditions with all facilities in service." As is also the case for Category B and Category C contingencies which give rise to criteria violations, transmission planners consider the relative costs and benefits of mitigating N-0 criteria violations with transmission system upgrades, the redispatch of generation (which may include shutting down some generation), and other potential mitigation strategies, to determine the most cost-effective course of action for consumers.

For Category B contingencies (loss of a single element (N-1)), the CTPG Technical Steering Committee agrees that generation dropping is a permitted mitigation option, however, within some balancing authority areas there are limits to the amount of generation that may be dropped for a Category B contingency. For example, within the California ISO balancing authority area no more than 1150 MW of generation may be dropped for a single contingency. As regards radial facilities and "local networks," generator dropping may occur so long as there is no adverse impact to the overall reliability of the interconnected system.

For Category C contingencies (loss of two elements (N-2 or N-1-1)), the CTPG Technical Steering Committee agrees that planned/controlled removal of generators from service to maintain the overall reliability of the interconnected system is an allowed mitigation option. However, once again, within some balancing authority areas, there are limits to the amount of generation that may be dropped for Category C

contingencies. For example, within the California ISO balancing authority area, no more than 1400 MW of generation may be dropped for the outage of two lines.

CTPG envisions some degree of Remedial Action Scheme (RAS) usage that automatically trips generation as part of an overall transmission plan.

Renewable Transmission Plan Alternatives

The CTPG Technical Steering Committee agrees with BAMx regarding the use of a multiple scenario approach and expects to perform additional scenario analysis in future phases of CTPG's work. The CTPG Technical Steering Committee believes that limiting its analysis to Category A conditions is inconsistent with the intent of NERC reliability standards and does not provide sufficient information to determine the best overall transmission plan to meet the state's thirty-three percent (33%) renewable goal. In addition, the CTPG Technical Steering Committee has developed "batch" mode contingency analysis tools that allow for all contingency categories (including power flow, post transient, and transient stability) runs to be made simultaneously with very little additional computation time.

Renewable Dispatching and Fossil Displacement Methodology

The CTPG Technical Steering Committee agrees with BAMx that there are many possible redispatch alternatives. CTPG also expects to perform additional analyses in this area based on stakeholder input.

Additional Specific Comments/Questions

1. The second bullet on Slide 7 was intended to communicate what the initial study "did not do." In other words, imports into the California ISO balancing authority were not fixed at historical levels.
2. Yes, the Haskell Canyon / Rinaldi and Ramon - Devers & Coachella Valley – Devers upgrades were included in the WECC 2019 base case.
3. The 2670 MWh is comprised of miscellaneous renewable energy from digester, landfill, biogas and small hydro. CTPG understands RETI is reevaluating this value and CTPG will update this number based on the updated RETI input.
4. As recognized by BAMx, there are several differences between RETI and CTPG renewable generation amounts. As directed by the RETI Stakeholder Steering Committee, RETI developed its conceptual transmission plan with the intent of accommodating planned renewable resource additions capable of providing approximately 1.6 times the RETI-estimated renewable "net short" number. Because RETI started with an estimate of the economically feasible renewable energy development potential within each CREZ--which far

exceeded the 1.6 times RETI net short target--RETI applied a "success factor" to reduce the identified development potential to an amount that would approximate the 1.6 times RETI net short target. Second, for CTPG's initial phase of work, CTPG members that are load serving entities used their own renewable procurement plans to identify the amount of renewable energy that would be produced within each RETI-identified CREZ in order to meet the each member's renewable goals.

5. The CTPG Technical Steering Committee represented rooftop solar as a load reduction. During the base case building process, each megawatt of load reduction must be balanced by a megawatt of backed-down generation.