

**California Transmission Planning Group (CTPG)
Technical Study Team Response to
June 2, 2011, Comments of Terra-Gen Power (TGP) on the
CTPG's Proposed 2011 Work Plan**

Comment:

While generally supportive of the proposed study plan, TGP has specific concerns and comments with regard to the “2011 Proposed Scenarios.” By excluding the Owens Valley High Potential Corridor, the proposed plan has not taken into account the significant benefits, both in terms of renewable potential and new import capacity, which could be offered by this area.

TGP urges the CTPG to include a scenario to account for the renewable potential of the Owens Valley area and the additional import potential of renewable projects proposed in central and southern Nevada. The details of scenario are presented below.

Owens Valley High Potential Corridor

The relevance of this scenario is due the several factors that make the Owens Valley Corridor uniquely important for renewable generation and transmission import into California. These factors include:

Renewable Potential

The California RETI analysis has identified the potential for renewable generation in the Owens Valley CREZ. Recognition of the renewable potential with the identification of the transmission needed to accommodate the potential, would significantly expedite the development of in-state renewable projects in the area.

Gateway CREZ

For optimal use of the transmission infrastructure, it is best to pursue the California RETI concept of “gateway CREZ” analysis. With significant amount of geothermal and wind resource potential located in Nevada to the north of Bishop, CA, it is prudent to use a common transmission corridor that would benefit from both out-of-state and in-state renewable resources.

Import Terminus

While it is obvious that several thousand MW of renewable projects are proposed for delivery to California, the only significant path into California is the West-of-River import path. A robust transmission interconnection between Nevada and California could create an additional import path for renewable resources from the East. The proposed Esmeralda high-voltage substation in Nevada can be the north-end of such an interconnection. The transmission in Bishop, California, can be developed as the South-end of the import path with an associated transmission upgrade to the load centers to the south and west of Bishop. Such an upgrade will reduce the risk of congestion along the West-of-River import path.

Resource Mix

Owens Valley area, with the local solar potential, combined with the potential of the geothermal and wind resources in Nevada offers a diverse mix of renewable resources which would significantly reduce the variability of generation sourced from the area. In addition, by establishing an import terminus in Bishop, CA, the transmission capacity can be fully utilized with imports during conditions low renewable generation.

CTPG Technical Study Team Response:

The CTPG Technical Study Team appreciates TGP's input but believes the CTPG has already evaluated renewable resource development portfolios that reflect amounts of new generation in the Owens Valley, central Nevada and southern Nevada areas that are reasonably likely to be developed. A more detailed discussion of these portfolios is available in the CTPG's 2010 Phase 1, 2, 3, and 4 Study Reports available on the CTPG website at www.ctpg.us. In addition, the CTPG Technical Study Team suggests TGP review: the CTPG's November 11, 2010, responses to comments by Nye County, Nevada; the CTPG's November 11, 2010, responses to comments by TGP; the CTPG's November 18, 2010, response to comments by TGP; and the CTPG's response to TGP's April 7, 2010, comments.

TGP references an "Owens Valley High Potential Corridor." To date, the CTPG has not identified such a "high potential" corridor.

TGP references a "gateway CREZ analysis." The CTPG Technical Study Team is unclear what TGP means by a "gateway CREZ analysis," and how a "gateway CREZ" is distinguishable from any other CREZ for purposes of identifying reliability criteria violations that may arise with assumed levels and patterns of renewable resource development.

TGP suggests that the proposed Esmeralda substation in Nevada could be the north end of a "robust transmission interconnection" between Nevada and California; an "additional import path for renewable resources from the East." From information provided in the July 1, 2009, document entitled "*Governor Jim Gibbons' Nevada Renewable Energy Transmission Access Advisory Committee Phase II, Volume I, Executive Summary and Report*," the Esmeralda substation is proposed to connect with new north-south transmission in Nevada that runs between the Reno area and the southern Nevada area. The Esmeralda substation and the new north-south transmission line also appear on NV Energy's Renewable Transmission Initiative (RTI) website at www.nvenergy.com/company/doingbusiness/RTI/RTI.cfm. As was demonstrated by the CTPG's "West-of-River Stress" scenario conducted during Phase 4 of the CTPG's 2010 studies, renewable energy reaching the southern Nevada area is unlikely to cause significant reliability criteria violations on the existing transmission facilities between southern Nevada and the Victorville/Lugo area north of Los Angeles. Sections 8.2 through 8.5 of the CTPG's Final Phase 4 Study Report discuss the results of the "West-of-River Stress" scenario.

The proposed Esmeralda substation appears to be located reasonably close to the point where the existing 230-kV Dixie Valley-Control #1 line would cross the proposed north-south transmission

in western Nevada. As described on Table 8.2 of the CTPG's Phase 2 Study Report under the "Owens Valley/North of Lugo area" heading, several new substations looping in the existing 230-kV Dixie Valley-Control #1 line have been proposed. It is possible that the location of one of these substations would coincide with the planned location for proposed Esmeralda substation. If so, the CTPG Technical Study Team believes this could address TGP's interest in accommodating "renewable resources from the East." However, the CTPG Technical Study Team notes that TGP has provided no indication of exactly where the "several thousand MW of renewable projects...proposed for delivery to California" are located, and no indication of the specific size and technology for each of the renewable generators comprising these "several thousand MW."

The CTPG has determined that it will not conduct economic grid simulations as part of its 2011 study work. Accordingly, the CTPG will not be investigating the frequency and economic impacts of potential congestion "along the West-of-River" import path. However, the CTPG is aware of congestion analysis conducted by the California ISO in connection with its California ISO Board-approved 2010-2011 transmission plan. For year 2020, the California ISO identified no significant congestion on the West-of-River path for any of the 33-percent Renewable Portfolio Standard (RPS) portfolios it evaluated. See Chapter 6 of the California ISO report located at <http://www.caiso.com/2b88/2b8872c95ce10.pdf>.

Finally, the CTPG notes that all of the renewable resource portfolios evaluated in its 2010 study work included a geographically diverse mix of wind, solar, geothermal and biomass resources. The CTPG Technical Study Team agrees with TGP that geographic and technological diversity "would significantly reduce" the net amount of solar and wind intermittency that a given balancing authority will need to manage.