

**California Transmission Planning Group (CTPG)  
Technical Study Team Response to Comments by  
Terra-Gen Power (TGP) on  
CTPG's revised Phase 4 Study Plan**

*TGP Comment:*

We continue to strongly support the proposed Plan to focus on assessing potential transmission needs to facilitate generation imports from outside California. The last version of the Plan ("Last Plan") contained extensive description of a planned examination of generation in the interconnection queues of other states, which our last comments also strongly supported.

The Last Plan specifically mentioned the considerable generation under development in Nevada to meet the California Renewable Portfolio Standard. This would be a reasonable approach, since most of the nearly 7,700 megawatts of generation in the NV Energy queue (including about 1,000 megawatts of geothermal capacity, most of which would be located in northern Nevada) is being developed for California markets.

However, we are puzzled by the disconnect between the objectives in the Plan (which remain the same as those in the Last Plan) and the assumptions and scenarios proposed in the analysis. Moreover, we are dismayed by the lack of inclusion of the other relevant factors that our prior comments recommended be considered, *i.e.*:

- Potential synergies between out-of-state and in-state development that could improve transmission economics for both;  
  
Relative economic, operational, and scheduling features of different renewable energy technologies;
- Relative timing of the need for transmission development in different areas; and,
- Larger regional transmission issues in northern California, including the potential benefits from tying Owens Valley and Nevada generation into the Fresno area.

*CTPG Technical Study Team Response:*

The CTPG Technical Study Team is unclear as to what "disconnect" TGP believes exists between the objectives in CTPG's draft Phase 4 Study Plan and the "assumptions and scenarios" proposed by the CTPG for Phase 4.

With respect to the "other relevant factors" that TGP provided in its earlier comments on the CTPG's draft Phase 4 Study Plan, the CTPG Technical Study Team has provided a response to those earlier comments. That response is posted on the CTPG website at [www.ctpg.us](http://www.ctpg.us).

*TGP Comment:*

**Updated import assumptions:** On the September 30th conference-call (and in the associated slides), the CTPG said that it had already begun looking into the details of the NV Energy generation interconnection queue. The Last Plan indicated that the CTPG intended to continue that investigation, including research into neighboring-BAA queues as well.

Our comments recommended that the CTPG include in that research public information indicating generation-project viability and/or likely development for California markets, *e.g.*, pending Transmission Service Requests with identified export points into California or advanced interconnection progress (*e.g.*, advanced study stages and/or provision of financial security or deposits to transmission providers).

However, the Plan seems to have substituted a RETI scenario in place of any reasoned analysis of out-of-state interconnection queues. Generally speaking, the CTPG should modify any RETI-based assumptions to reflect the generation development – for geothermal and other resources – that is actually underway in Nevada and, where relevant, other out-of-state CREZs as well.

*CTPG Technical Study Team Response:*

The CTPG's Phase 4 work will include information provided by a variety of planning entities outside the state of California, including – to the extent provided – information along the lines suggested by TGP.

The CTPG is not substituting a "RETI scenario" in place of the information being collected from planning entities outside the state of California. Further, the CTPG does not intend to change the renewable resource development portfolio provided by RETI for purposes of conducting the West of River Stress scenario. TGP is encouraged to work closely with RETI in fashioning the renewable resource development portfolios that RETI provides to the CTPG in connection with the CTPG's ongoing studies.

*TGP Comment:*

- ***Southern California Alternative Analysis:*** The Southern California Alternative Analysis described in Section 1.4, and the portfolios for those scenarios described in Tables 4.5 and 4.6, would be based on the "RETI West of River Stress Scenario." The Plan says that this scenario is described in "Appendix A," but no such appendix is included in the posted Plan document.

The portfolios described in Tables 4.5 and 4.6 reflect considerable additional generation for the Nevada South CREZ for Phase 4. However, that portfolio reflects exactly zero electricity output for:

- Any Nevada Central (or Nevada North – see below) generation resources; or,
- Any geothermal generation in any Nevada CREZ.

Because the appendix is not included, it is not clear how these assumptions were developed. However, they were clearly not based on any examination of Nevada interconnection queues and should be revised to reflect more realistic assumptions about that development.”

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

The document that can be accessed via the hyperlink below is provided in lieu of the “Appendix A” referenced in the revised Phase 4 study report. This document is also posted on [www.ctpg.us](http://www.ctpg.us). This document was received from RETI and includes a few clarifying edits indicated in track-changes mode.

[http://www.ctpg.us/public/images/stories/downloads/wor\\_stress\\_scenario\\_10-10-11\\_jjs.doc](http://www.ctpg.us/public/images/stories/downloads/wor_stress_scenario_10-10-11_jjs.doc)

TGP is correct that the renewable resource development portfolio provided by RETI for the CTPG’s “West of River Stress” scenario does not include renewable generation in the Central Nevada renewable resource development area or any geothermal generation in Nevada. The reasons can be traced to RETI’s development of the portfolio which includes a “discounted core” component, a component drawn from RETI’s “best CREZ” portfolio, and a component reflecting assumptions about additional renewable resources modeled as being injected at Eldorado, Palo Verde and North Gila substations. The details behind this renewable resource development portfolio are provided in the spreadsheet that can be accessed via the hyperlink below. This spreadsheet is also posted on [www.ctpg.us](http://www.ctpg.us).

[http://www.ctpg.us/public/images/stories/downloads/ctpg\\_wor\\_scenario\\_v8.xls](http://www.ctpg.us/public/images/stories/downloads/ctpg_wor_scenario_v8.xls)

The CTPG Technical Study Team encourages TGP to work closely with RETI to shape the renewable resource development portfolios that RETI supplies to the CTPG.

***TGP Comment:***

***Northern California Alternative Analysis:*** The Plan states, at p.5, that:

The CTPG has concluded that other transmission upgrades located between the California-Oregon border and northern California load areas and between the Northern California load areas and **northern Nevada** would provide the additional transmission capacity needed to import a proportionally larger amount of renewable resource from northern California, the Pacific Northwest and **northwest Nevada** than is assumed in other scenarios evaluated by the CTPG should California load serving entities choose to obtain a larger share of their renewable energy from renewable resources located in these areas. CTPG considered additional analysis in this area to be of significant importance to ensure the CTPG’s statewide transmission plan provides for a northern import alternative which could be balanced against utilizing southern in-state renewable resources to meet California’s RPS goals. (*Emphases added*)

The Plan further states that the CTPG intends to: (1) “review the viability of northern California CREZs along with renewable resource development areas located in the Pacific Northwest and Northern Nevada”; and (2) “determine if there are additional ‘high potential’ and/or ‘medium potential’ transmission upgrades that should be considered.”

However, these statements are inconsistent with the generation-portfolio assumptions shown in the Plan. There is no indication that the portfolio assumptions proposed in the Plan would actually accomplish the stated objectives, at least with respect to Nevada North generation (geothermal or otherwise).

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

It appears TGP misunderstands the work that the CTPG Technical Study Team intends to perform during Phase 4. The CTPG will be conducting the “West River Stress” scenario separate and apart from the out-of-state information-gathering exercise which is being done in Phase 4. These separate efforts were both described in the Phase 4 Study Plan, and apparently were construed to be a single activity that would result in the study of transmission needs for those resources evaluated in the resource-viability analysis. The CTPG Technical Study Team apologizes if the revised Phase 4 study plan was not clear on this point.

***TGP Comment:***

As noted above, the proposed Phase 4 portfolios described in Section 4.3 (“Renewable Generation Portfolios”) and shown in Tables 4.5 and 4.6 refer only to the RETI West-of-River Stress Scenario that will be used for the “Southern California Alternative Analysis” described in Section 1.4. These tables show zero Nevada North generation of any kind, and there is no information anywhere else in the Plan indicating that different assumptions would be used for the Northern California Alternative Analysis.

Clearly, if there is no generation (geothermal or otherwise) assumed in Nevada North, the analysis will not result in any transmission upgrades to serve such generation. It is counterintuitive to actually assume less Nevada North generation than earlier scenarios – as noted in our prior comments, even that level was not reflective of the actual Nevada Power interconnection queue.

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

The information-gathering exercise for the Northern California Alternative Analysis is currently in progress so it is premature to draw conclusions as to what the data may show and what the implications of the information may be. The results of this effort will be provided in the draft Phase 4 study report.

***TGP Comment:***

**Broader regional development potential:** The Plan persists in the very narrow analysis methodology used in Phases 1-3 – *i.e.*, running the assumed portfolios and adding piecemeal transmission upgrades needed to remedy reliability-criteria violations. The results are likely to be an overly expensive and sub-optimal development plan.

Instead, the CTPG should take a broader view in Phase 4, *i.e.*, one that considers:

- ***Potential multi-CREZ solutions***, *e.g.*, upgrades that would serve multiple CREZs, *e.g.*, that would take advantage of potential locational and generation-technology synergies between CREZs that could improve transmission economics and reduce stranded-cost risks. There are potentials for a combination of gateway CREZs and transmission development with a broader regional perspective. Our earlier comments cited, as some examples:
  - Potential benefits from considering northern Nevada geothermal development and Owens Valley wind/solar development together; and
  - A potential 500-kV interconnection between Control Substation and the Fresno area, to relieve south-to-north transmission constraints and provide alternative transmission paths that could avoid Los Angeles Basin and related constraints to deliver renewable energy from Owens Valley and Nevada North directly into the northern California grid.

Undoubtedly, there are other examples of broader regional transmission development that would provide similar system benefits. However, the proposed CTPG methodology is unlikely to identify these more creative solutions due to limited nature of the scenarios.

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

See the CTPG Technical Study Team's response to TGP's comments on the draft Phase 4 Study Plan. These comments are posted on the CTPG website.

***TGP Comment:***

- **Transmission and operational economics**, *i.e.*, lower relative costs to meet California's RPS requirements from transmission construction to serve: (1) high-load-factor resources; and (2) generation technologies that will require few or no integration resources on the CAISO or other transmission systems, and can provide downward flexibility to help manage potential overgeneration conditions.

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

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***TGP Comment:***

**Relative transmission-development timing:** Our earlier comments included what we considered an obvious observation that any practical and usable statewide transmission plan to meet a thirty-three

percent (33%) Renewable Portfolio Standard must consider the relative timing of transmission needed to serve different areas. Transmission owners cannot build all the needed new facilities simultaneously, and hard choices will have to be made about where to start implementing any transmission plan.

It simply makes sense to prioritize transmission projects to serve generation likely to come on-line sooner ahead of projects to serve newer areas expected to develop later. Information to help make timing determinations is readily available, *i.e.*, the expected Commercial Operation Dates (CODs) in generation Interconnection Requests and (where applicable) Transmission Service Requests and Power Purchase Agreements. We simply do not understand why the CTPG would not take advantage of this clear opportunity to improve its statewide plan by taking advantage of this information.

As we stated earlier, transmission-project timing is particularly important for the projects vying for federal stimulus incentives (so-called "ARRA Projects"), several of which are in the BLM "Fast Track" process and could enter the market quickly. These projects, and others in advanced development, have a near-term need for certainty, and for actual transmission sooner rather than later, to remain viable and meet their development milestones."

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

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