

**Response of the California Transmission Planning Group
Study Team**

**Comments of CPUC Division of Ratepayer Advocates
Re CTPG's Draft Phase 3 Study Plan**

Comment Received:

In Section 1.2, Phase 3 Overview, the concept of a set of "least regrets" lines is introduced without definition and explanation. This concept should be fully defined and explained.

CTPG Study Team Response:

The CTPG Study Team agrees with the Division of Ratepayer Advocates ("DRA") that the term "least regrets" should be defined. The CTPG is currently considering the manner in which the concept of "least regrets" transmission upgrades can and should be defined.

Comment Received:

The Phase 3 Study Plan, at Section 1.2, Phase 3 Overview, F. Generation Redispatch, does not include redispatch criteria important to the ratepayer. While CTPG's use of heat rate has merit in deciding which fossil units are redispatched (decremented) first, the "higher marginal costs of production" are insignificant compared with the potential costs to ratepayers for the transmission infrastructure changes that result from using this methodology. The Phase 2 Study OTC case clearly shows the value of considering location in the sequence and selection of units to be redispatched. DRA requests a case be run in Phase 3 utilizing the following criteria:

1. For each increment of renewable resource added in a particular area of the state, there should be a corresponding decrement of fossil generation in the same area of the state;
2. If that is not possible, then fossil generation should be decremented at a location based on an assessment of the impact of the added renewable generation on the major foundation transmission infrastructure of the state, e.g., Path 15, Path 26 and others; and,
3. Lastly, least economic fossil generators should be decremented before highly efficient plants providing criterion 1 and criterion 2 are met.

This was not done in Phase 2. DRA believes that use of these criteria will result in the following:

1. Appropriate renewables will be added as needed;
2. Fossil will be removed on a least impact and thus a least cost basis; and,
3. Impact on the Transmission Infrastructure will be greatly reduced.

DRA also requested this scenario when providing formal input to the Phase 2 Study Plan on March 24, 2010. This scenario was not included in the Draft Study Plan for Phase 3 issued on April 13, 2010 and should be included.

DRA disagrees with the last sentence of the last paragraph of Section 6.1: "The location of the renewable generation rather than the corresponding decremented fossil generation is a more

significant factor in determining where reliability criteria violations are likely to occur and the set of 'least regret' transmission additions that will mitigate the violations." DRA requests this sentence be deleted.

CTPG Study Team Response:

As noted in the responses provided to the DRA previously, the CTPG Study Team believes that the scenario described by DRA above is essentially a scenario designed to minimize the number of reliability criteria violations that may arise and therefore reduce the amount of new transmission infrastructure that would be identified to mitigate those reliability criteria violations. In this way, we considered DRA's proposed scenario to be similar to BAMx's recommended "minimal transmission scenario."

After completion of the CTPG Phase 3 studies, it is expected that the respective Balancing Authority Areas (BAAs) will perform additional studies to analyze further the transmission projects CTPG has determined will mitigate the identified reliability criteria violations. These studies should include analyses of other wires and non-wires alternatives that may be effective in addressing the identified reliability criteria violations. These analyses would include operational studies and economic evaluations. Given the limited timeframe for completing the Phase 3 work and analyzing other scenarios to which CTPG has assigned higher priority, CTPG will not be evaluating in its Phase 3 studies any scenarios designed to minimize the amount of new transmission that mitigates identified reliability criteria violations. However, the studies of alternatives that CTPG expects BAAs to perform should have the result that only the most economical alternatives are pursued and this will likely result in the adoption of some non-wires alternatives, addressing the ratepayer interests referenced by DRA in its comments.

Regarding the last paragraph of Section 6.1, DRA's comment is noted and under evaluation.

Comment Received:

In Section 2.3, Grid Configuration, approval status of the third circuit to the Barren Ridge/Haskell Canyon/Renaldi planned upgrades is unclear. CTPG states that this addition has been recently approved, but it is unclear who has provided that approval. Additionally, Table 2.2 is unclear in that it includes "Upgrades Removed". DRA is assuming that CTPG plans to include both "Upgrades with Key Regulatory Approvals and Environmental Permits" and "Upgrades without Key Regulatory Approvals and Environmental Permits" in the analysis.

CTPG Study Team Response:

The project referenced here is the Los Angeles Department of Water & Power's Barren Ridge Renewable Transmission Project (BR RTP) from the Barren Ridge to Haskell Canyon substations. A portion of the proposed BR RTP includes three circuits (one reconducted and two new 230-kV lines) from the Barren Ridge Substation to the Haskell Canyon Substation. The approval referenced in the report is the approval by LADWP management to include the third 230 kV circuit between Barren Ridge and Haskell Canyon substations. This third circuit is one of the two new

230 kV circuits in the proposed BRRTP. At this time, BRRTP has not completed its NEPA/CEQA environmental reviews.

For further information about the BRRTP, please visit LADWP's website at <http://www.ladwp.com/ladwp/cms/ladwp009508.jsp>.

Regarding the Table 2.[1], the "Upgrades Removed" column includes upgrades modeled in previous phase(s) of study but are removed from Phase 3. All other upgrades in both "Upgrades with Key Regulatory Approvals and Environmental Permits" and "Upgrades without Key Regulatory Approvals and Environmental Permits" were included.

Comment Received:

In Section 3.1, Reliability Criteria, the Phase 3 Draft Study Plan states: "In the pre-contingency state and with all facilities in-service, the Bulk Electric System (BES) shall demonstrate transient, dynamic, and voltage stability. Facility rating shall not be exceeded and uncontrolled separation shall not occur." DRA does not find results of this basic case in the Draft Phase 2 Report. If the BES does not exhibit these characteristics prior to the contingency runs, then the results of the contingency runs are suspect. CTPG should assure that this step is included in the Phase 3 analyses and document this step in the Phase 3 Study Report.

CTPG Study Team Response:

The Draft Phase 2 Study Report documents results for BES thermal overloads and low voltages under the pre-contingency state and with all facilities in-service. In regards to transient, dynamic and voltage stability, these studies are underway or are being considered for study by a separate team of experts.

Comment Received:

The WECC regional standard for Generator Voltage Ride Through is not defined or referenced in 3.3, Transient Stability Analysis Guidelines. It is DRA's understanding that there is no current WECC Regional Standard for Generator Voltage Ride Through. There is a pending procedure in NERC regarding Synchronous Generators that addresses this issue but it is far from approval. This issue should not be addressed until an industry standard has been approved.

CTPG Study Team Response:

DRA's comment is noted and under evaluation.

Comment Received:

DRA is concerned about the peak demand number used in the cases. In the stakeholder meeting of April 14, 2010, DRA asked for clarification of the use of the Northern 1-in-10 Peak and a

coincident Southern 1-in-2 Peak to arrive at the CEC Northern California Peak Demand shown in Table 4.2. DRA is concerned that peak demand is being overstated. On page 16 of the Referenced CEC Report, the CEC states: "Statewide peaks are non-coincident; that, they are the sum of the individual coincident peak demands for each planning area in California. These individual peaks often occur at different hours of the day. Peak demands provided in this report for individual planning areas are coincident peaks." CTPG should assure that the correct peak demand is used in the analysis.

CTPG Study Team Response:

CTPG's requirement was to model two different peaks a 1-in-10 northern peak and a 1-in-10 southern peak. The CEC has provided the data for modeling purposes. Loads in the south during a northern 1-in-10 peak, and loads in the north during a southern 1-in-10 peak, are approximately at 1-in-2 load levels based on historical data.

Comment Received:

No reference is given for the WECC Transmission Expansion Planning & Policy Committee's (TEPPC's) 2017 economic database, described in Section 6.3, Re-Dispatch Methods. A reference should also be provided for cited work.

CTPG Study Team Response:

Please contact WECC for a copy of the TEPPC 2017 economic database.

Comment Received:

All Fossil Generation Decrement Blocks are not included in the Draft Phase 3 Study Plan or in the Draft Phase 2 Study Report. DRA requests that these data be included.

CTPG Response:

Please submit a request for the specific power flow cases that contain the simulated output levels of the fossil-fired generators of interest to DRA. CTPG has developed a process for handling requests for power flow cases. This information, coupled with the incremental heat rates provided in the TEPPC 2017 economic database, allows for a determination of which fossil-fired generators are operating in what specific blocks.

Comment Received:

The draft Phase 3 Study Plan, at Table 6: Must Run Units, includes only plants for the Los Angeles Department of Water and Power, the Sacramento Municipal Utility District and the Turlock Irrigation District. Must Run Units for Pacific Gas & Electric, Southern California Edison, and San Diego Gas

& Electric should also be included. Further, Generator Code names should be modified to reflect the plant name. Power output and type should also be included in Table 6.

CTPG Study Team Response:

The Excel file embedded below identifies those oil and gas-fired generators which are believed to be dispatchable, i.e., that are not “must-run.” By comparing this list of generators to the complete list of oil and gas fired generators from the TEPPC 2017 economic database, the “must-run” oil- and gas-fired units in the PG&E, SCE and SDG&E distribution service areas can be identified.



Fossil_redispatch_v2
.xls

Comment Received:

DRA is concerned that closure of the “Feedback” window on the CTPG website after the review period precludes the “Openness” necessary for a stakeholder process. This window should remain open for stakeholder feedback at any time.

CTPG Study Team Response:

DRA’s comment is noted.