California Transmission Planning Group (CTPG)
Technical Study Team Response to the October 27, 2010, October 6, 2010, August 18, 2010, and June 30, 2010, Comments of the
Independent Energy Producers Association (IEP)

*Q1 (submitted to the CTPG by IEP on October 27, 2010)*

On June 30, 2010, August 18, 2010, and then on October 6, 2010, IEP provided the CTPG feedback questions (attached below) regarding the CTPG's Phase 3 Study Report and the Phase 4 Study Plan. The CTPG's receipt of IEP's questions for June 30 and August 18 is confirmed by their presence on the CTPG website. Unfortunately, for the sake of this feedback opportunity and all others since August, the CTPG has not replied to IEPs feedback questions and thus IEP has been unable to inform its subsequent feedback with the CTPGs responses.

During its October 20, 2010, stakeholder call, the CTPG indicated that it would provide answers to all outstanding stakeholder feedback questions by November 22, 2010.

*Comment/question:*

- *IEP requests that the CTPG address all unanswered comments and questions as soon as practicable and prior to its planned November 22, 2010, target date. A response from the CTPG to all outstanding IEP questions by this date will allow IEP to inform its final comments (due December 10, 2010) as much as can be done so many weeks after the fact.*

*CTPG Technical Study Team Response:*

The CTPG Technical Study Team's response to all pending IEP comments is provided below. We apologize for the delays in providing these responses.

*Q2 (submitted to the CTPG by IEP on October 27, 2010)*

During the October 20, 2010, stakeholder call, the CTPG indicated that the CTPG is using the "west of river" stress scenario as provided by RETI. Discussion during the call appeared to indicate that some of aspects of the RETI scenarios may have required modification/simplification to adapt to the CTPG Phase 4 Study Plan.

*Comment/question:*

- *Please provide detailed descriptions of any assumptions or other manipulations that may have been part of the CTPGs process necessary to interpret and implement the RETI scenario data and please indicate why assumptions/simplifications were necessary.*

*CTPG Technical Study Team Response:*

The CTPG has not modified any of the "West of River Stress" scenario data provided by RETI. As of November 1, 2010, the CTPG is working with RETI to determine specifically which month and hour RETI prefers that the CTPG study for purposes of the "West of River Stress" scenario.

*Q1 (submitted to the CTPG by IEP on June 30, 2010)*

The CTPG Phase 3 Study Report states on page five that an "important further qualification of the CTPG process…is that CTPG is not a transmission or generation project decision-making body." The Report goes on to say that such decisions will be made by the CTPG members that are planning entities for their Balancing Authority Areas and therefore the 2010 statewide is meant to be "truly conceptual, not prescriptive…"

> *<u>Questions</u>:*
> *The comment appears to ignore the fact that the CTPG is itself made up of those precise entities that will make project decisions, therefore, how will CTPG ensure that preferences driven out in private during proprietary CTPG study work aren't "rubber stamp" approved by the Balancing Authority Areas (read: the CTPG members) when project selection time arrives? What will the CTPG do to ensure that the outcome of the CTPG's efforts is indeed considered by California ISO, Transmission Owners, Load-Serving Entities, California Public Utilities Commission, and others as "conceptual"?*

*CTPG Technical Study Team Response:*

The members of the CTPG have agreed, both in the Membership Agreement under which the CTPG was created and as a matter of practice, that they each have the responsibility to evaluate and implement the findings of the CTPG studies within the context of their own planning processes. In addition, the CTPG study plans and reports bear the important admonition and limitation that the transmission needs identified in the CTPG studies and the potential transmission solutions to those needs included in the conceptual statewide transmission plan require additional analyses and evaluations, *e.g.,* comparisons to other potential transmission solutions and/or non-wires solutions. The CTPG assumes that those admonitions and limitations are understood by its members and stakeholders to the CTPG and other planning processes and will be given appropriate consideration. In addition, because these planning entities and agencies conduct their processes in public, the CTPG further assumes that, even were the planning entities and agencies inclined to disregard these admonitions and limitations, the stakeholders to those public processes would invoke and consider them.

*Q2 (submitted to CTPG by IEP on June 30, 2010)*

On page 5 of the Phase 3 Study Report, the CTPG states that at the end of Phase 3 it expects the identified bulk transmission needs will be "further analyzed and refined, including wires and non-wires alternatives for addressing those needs, by different planning entities, evaluated through their respective stakeholder process."

> *Questions:*
> *Please elaborate on this statement by identifying the "planning entities" envisioned as well as the "stakeholder process" they will follow, if known. In addition, please state what exactly the CTPG considers as "non-wire" alternatives in this context and how plans created by these other entities via their stakeholder processes will fold back into the CTPG process, if it will.*

*CTPG Technical Study Team Response:*

Except for those transmission expansion projects included in CTPG's Phase 1, Phase 2 and Phase 3 study work currently being addressed by certain planning entities, the CTPG has not catalogued nor attempted to determine which "planning entities" will be involved with specific transmission infrastructure needs and potential solutions identified by the CTPG studies. Those transmission expansion projects that are already being addressed include those which have been identified through the California ISO's Large Generator Interconnection Process (LGIP), those that have been approved by the Los Angeles Department of Water and Power, and certain projects within the Imperial Irrigation District Balancing Authority Area. The CTPG does not know exactly what stakeholder processes different planning entities may use in the future to obtain input from stakeholders. However, the CTPG knows that the California ISO holds periodic stakeholder meetings in connection with its Transmission Planning Process and knows that the California Public Utilities Commission invites intervener participation in its process for determining whether to issue jurisdictional applicants a Certificate of Public Convenience and Necessity (CPCN) to construct specific transmission projects.

"Non-wire" alternatives for addressing identified reliability criteria violations can include pre-contingency redispatch of generation (*i.e.*, congestion management), tripping generation for certain N-1 and N-2 contingencies, tripping load for N-2 contingencies, cross-tripping transmission facilities for certain contingencies, inserting or bypassing transmission devices in certain conditions (*e.g.*, bypassing series capacitors), adding generation or load (for example energy storage facilities) in strategic locations on the transmission network, increasing the penetration of distributed generation, and expanding energy efficiency and demand-side management programs. There may be other alternatives in addition to this representative list of exemplary alternatives.

The transmission expansion plans of different planning entities would be folded back into the CTPG process through input provided to the CTPG by these planning entities, and through the WECC process by which power flow base cases are developed and made available to parties holding the appropriate non-disclosure agreements with the WECC.

*Q3 (submitted to CTPG by IEP on June 30, 2010)*

On pages six and seven, the Phase 3 Study Report states that the CTPG provided wires recommendations only, and "did not conduct a deliverability analysis to determine the necessary improvements and operating methodology for delivery of renewables to fulfill Resource Adequacy eligibility and to provide integration capability for variable generation…"

> *Questions:*
> *When and how does the CTPG expect to integrate this level of planning (RA & VG integration) into its own process and moreover the larger California ISO Revised Transmission Planning Process?*

*CTPG Technical Study Team Response:*

As of November 3, 2010, the CTPG has no plans to replicate the deliverability analysis that the California ISO undertakes. The California ISO analysis is intended to determine the transmission upgrades that may be necessary for certain generators requesting interconnection within the California ISO Balancing Authority Area to become eligible to be counted by a California ISO Load-Serving Entity (LSE) towards the LSE's Resource Adequacy (RA) obligations. The CTPG notes that other Balancing Authorities participating in the CTPG do not use the California ISO's deliverability analysis and do not have the same resource adequacy process administered by the California ISO.

Similarly, as of November 3, 2010, the CTPG has no plans to study the real-time integration requirements for intermittent renewable resources. The California ISO resource-adequacy eligibility analyses and intermittent renewable integration requirements are possible areas of future CTPG study work and the CTPG welcomes IEP's suggestions as to whether, when and how such work should be undertaken.

As noted previously, the CTPG leaves to the California ISO the manner in which the California ISO will determine whether, when and how the California ISO may choose to incorporate resource-adequacy eligibility analyses and intermittent renewable integration requirements into the California ISO's Revised Transmission Planning Process. As of November 3, 2010, approval of the tariffs governing that process remains pending before the Federal Energy Regulatory Commission.

*Q4 (submitted to the CTPG by IEP on June 30, 2010)*

On the same point as above, the Phase 3 Study Report anticipates that evaluations of resource adequacy and variable-generation integration will be completed by the entity responsible for each project utilizing "its own analysis assumptions." The Report concludes that the CTPG may perform this analysis in future studies.

> *Questions:*
> *What process does the CTPG envision that will ensure some standardization in the assumptions utilized in these processes?*

*CTPG Technical Study Team Response:*

At this time, the CTPG has no proposal as to how consideration of California ISO Resource-Adequacy eligibility analyses and integration requirements for intermittent renewable resources could be standardized among the entities sponsoring specific transmission expansion projects.

*Q5 (submitted to the CTPG by IEP on June 30, 2010)*

The CTPG modified various RETI 2A findings in the Phase 1 Study that serve as the basis for Phase 2 and now Phase 3 findings. In Phase 1, the CTPG provided Table 6 (excerpted below) to identify differences between the generation resource scenario in RETI 2A and the CTPG.

**Table 6: CTPG Renewable Generation Comparison to RETI**

| | CTPG | | RETI* | |
|---|---|---|---|---|
| **Location (Region/CREZ)** | **Installed Capacity (MW)** | **Identified Annual Renewable Energy Production (GWh)** | **Maximum Potential Installed Capacity adjusted for success rate (MW)** | **Identified Potential Annual Renewable Energy Production adjusted for success rate (GWh)** |
| British Columbia | 0 | 0 | 340 | 1849 |
| Washington | 963 | 2594 | 0 | 0 |
| Montana | 413 | 1111 | N/A | N/A |
| Idaho | 130 | 350 | N/A | N/A |
| Oregon | 1637 | 4408 | 392 | 3062 |
| Round Mountain-A | 0 | 0 | 101 | 710 |
| Round Mountain-B | 78 | 319 | 49 | 196 |
| Lassen North | 873 | 2262 | 387 | 999 |

The Report states that Phase 1 differed from RETI in that the CTPG studied a portfolio based on "the commercial interest" expressed by the CTPG Load-Serving Entity procurement plans. Phase 2, as reported, further refined the portfolio based on interconnection requests and other factors that the CTPG believed would better determine projects that were more likely to be developed.

*Questions:*
*The Report indicates the CTPG methodology was employed to create the modified portfolios using some means or metric to evaluate actual generation projects and weight them by specific criteria. Please provide the evaluation work papers/analysis tools that were utilized to modify each phase of planning from RETI 2A through each step of refinement up through Phase 3 and the current Report.*

*Tables 4.3, 4.4 and 4.6 of the Report identify projected generation resources from each CREZ between RETI 2A through CTPG Phase 3, and includes detail regarding assumed resource by generation type. For those significant changes in expected CREZ resource quantities (i.e., 100 MW or more for all combined generation types in a CREZ) and significant changes in generation-specific resource assumptions within any CREZ, please provide commentary about the assumptions that support those changes.*

*Where specific projects are impacted by planning assumptions perhaps specific to a CREZ, technology type, or other factor, please identify each.*

*CTPG Study Team Response:*

The spreadsheet embedded in the hyperlink below provides the CTPG workpapers showing the generating project-level detail of CTPG's generator interconnection queue portfolio. Refer to the worksheet named "Generator Data."

http://www.ctpg.us/public/images/stories/downloads/ctpg_phase2_queue_scenario_v7.xls

CTPG did not "change" any RETI Phase 2A assumptions to develop the CTPG's generator interconnection queue portfolio. Rather, the CTPG developed the generator interconnection queue portfolio as shown in the embedded worksheet above.

The CTPG is unclear as to what is meant by IEP's reference to "specific projects impacted by planning assumptions" and cannot provide an answer to this question without additional clarifications.

*Q6 (submitted to the CTPG by IEP on June 30, 2010)*

On Page 7 of the Phase 3 Study Report, the report states that, in Phase 1 the CTPG studied "a renewable generation portfolio that was based on the commercial interest expressed by the CTPG member's [sic] Load Serving Entity Procurement Plans."

*Questions:*
*Please: (1) indicate the documents referred to as "the CTPG member's Load Serving Entity Procurement Plans;" and (2) if the supply sources and procurement amounts are not the same as stated in those documents, please describe the changes that were made and the reasons for those changes.*

*CTPG Technical Study Team Response:*

The CTPG is not authorized to release the individual procurement plans of its members used to develop the Phase 1 procurement plan-based renewable development portfolio. The CTPG's study reports reflect the relevant data provided to the CTPG by its members. In the event stakeholders require the procurement

plans of individual load-serving entities, they are directed to contact the specific load-serving entities in which they are interested and to follow the procedures applied by each entity to its commercially sensitive information.

*Q7 (submitted to the CTPG by IEP on June 30, 2010)*

Tables 4.3 and 4.4 in the Phase 3 Study Report both show the RETI Best CREZ portfolio, but the CREZ/area identifications appear to be labeled 187 megawatts of installed renewable capacity and 1,259 gigawatt-hours of renewable energy capacity for "Nevada" (Table 4.3), with 1,120 gigawatt-hours of this generation apparently consisting of geothermal generation in the "Nevada-Owens" area.

*Questions:*

*(1) Please explain the differences between the CREZs/areas in the two tables, e.g., between the "Nevada" area in Table 4.3, the "Nevada-Mountain Pass" and "Nevada-Owens" areas in Table 4.4, and the Nevada North CREZ.*

*(2) Please explain any differences between the transmission paths assumed in the RETI analyses and the transmission paths in the CTPG Report, e.g., for Nevada North generation.*

*CTPG Technical Study Team Response:*

(1) The correct numbers with the geographic breakdown between northern Nevada, central Nevada, and southern Nevada are provided on Table 8.3.1 in the final Phase 3 Study Report. Note that the "NW Scenarios" were conducted in Phase 3, not Phase 2. IEP is advised to contact RETI to ascertain exactly what RETI intended by the terms "Nevada – Mountain Pass" and "Nevada – Owens Valley."

IEP is advised to contact RETI to determine exactly what "transmission paths" RETI's analysis assumed for renewable resources located in Nevada and the Owens Valley. The CTPG's analysis does not ascribe specific "transmission paths" for specific renewable resources since the WECC grid is configured as a network which means power from every renewable generator flows, in varying amounts, on every element of the WECC grid. The power flow analysis conducted by the CTPG provides a scenario-specific pattern of power flows across the entire WECC such that the aggregate output of all WECC generation (including the renewable resources added in each of the scenarios) matches the aggregate WECC load plus losses.

The specific connection points of all renewable generators to the WECC transmission network, including renewable generators located in the state of Nevada, can be determined by examining the power flow cases used by the CTPG. These cases can be obtained by following the procedures described on the CTPG website (www.CTPG.us) at the top of the "Study Plans, Base Case Development & Study Results" section.

*Q8 (submitted to the CTPG by IEP on June 30, 2010)*

In Section 8 ("Transmission Needs Alternative Analysis"), the Phase 3 Study Report states that, "in order for the comparison studies [of transmission alternatives submitted by stakeholders] to be consistent, the CTPG will use the scenarios developed in Phase 2 as basis for the power flow studies" to assess those alternatives.

*Questions:*

*Why is it necessary to use the Phase 2 scenarios instead of the Phase 3 scenarios for the analyses to be "consistent"? Why couldn't they be made "consistent" by assuming the Phase 3 scenarios instead, or by examining them under both the Phase 2 and Phase 3 scenarios? This is particularly important for project suggestions, like #3 ("Path 52 Connections for Nevada Resources") that would be particularly well-suited for the Phase 3 scenarios (e.g., those with higher (we would argue more realistic) amounts of Nevada North geothermal generation).*

*CTPG Technical Study Team Response:*

The CTPG agrees that comparison studies of transmission alternatives submitted by stakeholders could be based on scenarios other than those developed in Phase 2. However, because the evaluation of transmission alternatives submitted by stakeholders was being conducted in parallel with the evaluation of other Phase 3 scenarios, the other Phase 3 scenarios were not finalized in time to be used for purposes of evaluating the transmission alternatives submitted by stakeholders.

*Q9 (submitted to the CTPG by IEP on June 30, 2010)*

In Section 8 ("Transmission Needs Alternative Analysis"), the Phase 3 Study Report states at page 75 that the Phase 3 analyses assumed only half of the Nevada North geothermal and wind resources in the NV Energy interconnection queue would actually be developed, and that this generation would be interconnected through the Lassen North CREZ. It appears that the report simply calculated a number for the additional assumed Nevada North wind and geothermal generation and then "characterized" it as "Nevada North" generation – *i.e.*, it did not actually add any Nevada North generation but simply called what was Lassen North generation "Nevada North" generation.

*Questions:*

*(1) Please describe the reasons why the Nevada North generation in the NV Energy queue was cut in half for this analysis.*

*(2) How does this assumption compare with the treatment of generation in the CTPG members' interconnection queues? Were those also cut by 50 percent and, if not, why not?*

*(3) What is the basis for assuming that this generation would interconnect through the Lassen CREZ, instead of through the existing Path 52 transmission path? What was the reason for making this assumption in the RETI Best CREZ scenarios, even though the RETI analyses*

*assumed a Path 52 import point? Please provide specific citations of documents or quotes from your sources.*

*CTPG Technical Study Team Response:*

(1) It is unlikely that all of the generation in the NV Energy queue will actually be developed. In the Northwest Scenario, the CTPG assumed 50 percent would be developed and connected to the California grid through transmission between northern Nevada and Lassen County. See the "*Response of the California Transmission Planning Group Study Team, Comments of Geothermal Energy Association (GEA), Re CTPG's Draft Phase 2 Study Report and Draft Phase 3 Study Plan*" for further information. This response is posted on the CTPG website.

(2) It is unlikely that all of the generation in the CTPG members' interconnection queues will actually be developed. The CTPG has developed a number of different renewable resource development portfolios that make varying assumptions about the amounts and locations of new renewable resource development. Depending on the portfolio, these assumptions focus on load-serving entity procurement plans, on economically and environmentally viable development potential, on measures of commercial interest, and on relative progress in generator interconnection queues.

(3) Renewable generation in northern Nevada was assumed to be connected to the California grid through transmission between northern Nevada and Lassen County. The basis for this assumption is described in CTPG's response to Terra-Gen Power, which is posted on the CTPG website. It is the CTPG's understanding that RETI assumed the importation of up to 450 megawatts of geothermal resources from central Nevada could be carried by the existing 230-kV line north of Control substation, provided that the system south of Control were upgraded. In the CTPG studies, renewable generation in central Nevada was assumed to be connected to the California grid through the existing 230-kV Dixie Valley line north of Control substation and a new 230-kV substation near the city of Bishop. See the "*California Transmission Planning Group Study Team's Assessment of the 'Transmission Needed' for Path 52 Imports (As Suggested in Terra-Gen Power's Comments on CTPG's Phase 3 Study Plan)*" for further information. This assessment is posted on the CTPG website.

Q10 *(submitted to the CTPG by IEP on June 30, 2010)*

Section 9 ("Least Regrets Analysis") is entirely blank, and Section 10 ("Findings, Conclusions, and Recommendations") appears to be a simple compilation of the findings of the different scenario analyses.

*Questions:*

*(1) Please describe: (1) how the CTPG plans to conduct such "least regrets analysis" from all the different cases and scenario results in the Phase 1-3 study reports; (2) when the CTPG plans to release that analysis; and (3) the opportunities that stakeholders will have to comment on this portion of the report.*

(2) *How will the "least regrets" results that will be in Section 9 relate to the "findings, conclusions, and recommendations" in Section 10?*

*CTPG Technical Study Team Response:*

(1) The CTPG provided a list of "high potential" and "medium potential" transmission upgrades in Appendix C of the final Phase 3 Study Report. In addition, Section 10 of the final Phase 3 Study Report provides the methodology used to identify these transmission upgrades. This final Phase 3 Study Report is available on the CTPG website and the CTPG welcomes comments on this report.

(2) The final Phase 3 Study Report provides a list of "high potential" and "medium potential" transmission upgrades as well as certain conclusions and recommendations.

*Q0 (submitted to CTPG by IEP on August 18, 2010)*

On June 30, 2010, IEP provided the CTPG a set of ten feedback questions (attached to this document) regarding the CTPG's Phase 3 Study Report. The CTPG's receipt of IEP's questions is confirmed by their presence on the CTPG website. To date, the CTPG has not yet responded to any of IEP's original questions.

*Comment/question:*

- *When will the CTPG respond to IEP's questions, dated June 30, 2010?*
- *Will the CTPG's responses to IEP and other commenters' questions become a part of the record going forward, included in the final report, or otherwise memorialized?*

*CTPG Technical Study Team Response:*

- The CTPG's responses to IEP's comments submitted on June 10. 2010, are provided above.
- As is the case for all stakeholder comments and the CTPG's responses to those comments, the CTPG will post its responses to IEP's comments on the CTPG website. The comments and responses are typically posted on the CTPG website and, in that sense, become part of the CTPG study records and files. The CTPG did not reflect all of its responses to stakeholder comments in the final Phase 3 Study Report, but the final report does address some of the suggestions and matters raised by stakeholders.

*Q1 (submitted to the CTPG by IEP on August 18, 2010)*

In both its written Phase 3 documents and recent presentations to stakeholders, the CTPG defines the study process as conceptual and limited in scope to largely technical evaluations (*i.e*., power flow and system operations). The CTPG's focus has been on load and resource volumes, locating resources with immediate commercial potential, and defining a set of network upgrades that might connect sources to sinks in a manner that won't exacerbate and perhaps relive system constraints. By design, the CTPG limited its assessment to certain resources. However, the CTPG explains in its recommendations (page 126) that it will be conducting further analysis on (1) the "high" and "medium" potential projects, (2) the northern California transmission needs, and (3) the out of state resource scenarios.

*Comment/question:*

- *How will the results of Phase 3 be prudently used by investor-owned utilities, publicly owned utilities, regulators, balancing authority areas, and others going forward?*
- *Is it realistic in the CTPG's estimation to assume that agencies and entities will start expending resources based on this report, and if so, how would the CTPG suggest they proceed in order to minimize their losses when/if the upcoming rounds of planning efforts identify different preferred solutions?*

*CTPG Technical Study Team Response:*

The manner in which any entity, whether an investor-owned utility, publicly owned utility, regulatory agency, balancing authority, or other entity will use any of the CTPG studies is a matter left to the discretion of each entity. The CTPG studies, which are technical in nature, are intended to identify the transmission needs that could arise if and when resource development occurs in the resource areas studied or if and when specific projects seek to interconnect with the California transmission system at various points on the grid. The interpretation of CTPG's study results and how any of the transmission needs identified in the studies should be addressed will be determined by the appropriate authorities. This would entail, as suggested by IEP, evaluations as to how such an entity should "minimize their losses" if subsequent planning efforts or proceedings identify different preferred solutions.

The CTPG anticipates that certain agencies and entities will take the final CTPG Phase 3 Study Report results into account as they exercise and meet their planning and implementation authorities and responsibilities. Southern California Edison, as an example, has already filed with the Federal Energy Regulatory Commission a request for incentive ratemaking for the 500-kV Pisgah-Lugo rebuild project and for the Red Bluff substation that references the CTPG's identification of these projects as "high potential" transmission upgrades.

*Q2 (submitted to the CTPG by IEP on August 18, 2010)*

The CTPG's work is nearing a transition point in which a broader planning/permitting audience will look to this study (and subsequent CTPG efforts) to support decisions that are likely to drive project development and define California's energy market now and for years to come. Wholesale prices, retail rates, and

California's energy market will be directly influenced by the generation and transmission decisions influenced by California's long-term transmission plan, a portion of which the CTPG Phase 3 study aims to define. With those long-term consequences in mind, the need to "get it right" is obvious and, admittedly, no simple task. In Phase 3 CTPG initially hoped to produce a "least regrets" set of projects, but has since modified its thinking due to what it describes as a lack of convergence on the outcomes resulting from the power flow studies.

*Comments/question:*

*IEP is eager to ensure that long-term opportunities for economic and environmental benefit to California are preserved. IEP is also concerned that near-term planning decisions may result in forfeiture of future options. Under such conditions, the approach "First, do no harm" may be more appropriate than "least regrets".*

- *What can the CTPG provide by way of study data to support a prioritization of the list of "high potential" projects such that those interpreting the project prioritization may have some assurance that those projects would "do no harm" to (and perhaps help ensure that) California's opportunities to access resources not included in the current Phase 3 plan?*
- *How can the CTPG more cautiously define the limitations of the study results so that certain planning entities will understand the risks associated with the final results?*

*CTPG Technical Study Team Response:*

The final Phase 3 Study Report provides information regarding the manner in which high- and medium-priority transmission needs were selected. In addition, the California ISO has workpapers that provide the data supporting the CTPG's identification of "high-priority" transmission upgrades. Also, the CREZ environmental scores that were used in the process of identifying the high ranked CREZs (the "high ranked" CREZs were subsequently used in the methodology selecting the "high potential" and "medium potential" transmission upgrades) were developed by the California Renewable Energy Transmission Initiative Environmental Working Group (EWG). The data supporting the EWG's environmental scores for CREZs should be obtained from California Renewable Energy Transmission Initiative. (Contact Rich Ferguson, the RETI Coordinator, at *Rich@CEERT.org*.)

As to IEP's references to "do no harm" and "least regrets", these are terms of art and there is considerable ambiguity about what these terms mean and how they should be applied in a transmission planning context. In any event, the CTPG does not believe that an objective of efficient transmission planning is to assure that every potential generation project not contemplated in the CTPG's analysis has access to the transmission grid. Such an objective is overly broad. Moreover, interconnection rules adopted by the Federal Energy Regulatory Commission may perform this function by obligating most transmission owners to interconnect generators regardless of whether the subject generators were incorporated in the transmission owner's transmission planning process and providing a method by which the network facilities

necessary to receive and deliver energy from interconnecting generators can be identified, built and financed.

As the CTPG has repeatedly stated, its study results are based on an analysis of a limited number of scenarios under a few different system conditions. The CTPG expects that its analyses would need to be augmented by additional studies as the planning processes of each entity considering these analyses proceed. Further, as the CTPG has made clear throughout its Phase 1, 2 and 3 studies, it has not compared any of the transmission infrastructure additions identified through its studies to other wires-based and non-wires alternatives that would also meet the state's policy goals, including the Renewable Portfolio Standard. There may be other solutions which afford better results in terms of environmental impacts or net economic benefits for consumers than the transmission projects identified in the CTPG studies. Planning entities need to understand and evaluate these limitations when using the CTPG's study results. As indicated earlier in these responses, the CTPG will leave it to the entities considering the CTPG analyses to determine the manner in which its studies should be interpreted and applied in any given context.

*Q3 (submitted to the CTPG by IEP on August 18, 2010)*

At the August 4, 2010, stakeholder meeting, IEP requested a more expansive role for the independent generators in an enhanced and more collaborative CTPG planning process starting immediately after Phase 3 ("Phase 4" as discussed by CTPG). The CTPG agreed to take IEP's request to the CTPG steering committee.

*Comments/question:*

- *IEP is interested in the CTPG's response to that request and is prepared to offer active support in an enhanced planning process. IEP members represent a source of valuable market and planning information which, heretofore, has not been exploited by CTPG for the benefit of the larger planning process.*

*CTPG Technical Study Team Response:*

The CTPG welcomes input provided by IEP and will consider such input in developing the CTPG's work plans for future work. In addition, the CTPG Executive Management Committee has decided to take public comment at its regularly scheduled meeting at the request of the Western Independent Transmission Group and expects to provide similar opportunities to other stakeholders upon request in the future.

*Q4 (submitted to the CTPG by IEP on August 18, 2010)*

The Phase 3 Study Report lacks the mapping that was provided in presentation format at the August 4, 2010, stakeholder meeting.

*Comments/question:*

*IEP requests that all mapping be presented in the final report.*

*CTPG Technical Study Team Response:*

The map showing the general location of high- and medium-priority transmission upgrades that was presented at the August 4, 2010, stakeholder meeting was included in the final Phase 3 Study Report.

*Q5 (submitted to the CTPG by IEP on August 18, 2010)*

Data tables, as used for scoring the projects and resources in Phase 3, should be available to stakeholders, in the same format used by the CTPG, as well as an additional format that would enable a comprehensive review by all stakeholders. References in the CTPG reports about utilizing specific data (e.g. "based on RETI 2A…") are welcome and appreciated, but don't allow the reader to easily confirm the source data and how it may or may not have been reformulated by the CTPG in its process.

*Comments/question:*

- *Please make non-proprietary data available on the CTPG website. Each table within the CTPG reports would be helpful to stakeholders to have in Excel (or Word) format rather than Adobe .pdf.*
- *Where practical, please include CTPG's notes & calculations in these documents.*

*CTPG Technical Study Team Response:*

Given the large amount of data and information that are involved in the CTPG's study work, the CTPG asks that stakeholders submit requests to the CTPG indicating specifically what data, notes and/or calculations are being requested, and the desired format for providing that information. Based on the request, the CTPG will determine the most efficient and practical way of providing the requested data.

*Q6 (submitted to the CTPG by IEP on August 18, 2010)*

The Phase 3 Study Report (page 120) explains that the interconnection queue resources for the non-California ISO entities stems from Phase 2 efforts. The Phase 2 Study Report says (page 31) "*From outside the California ISO queue, the generation interconnection queue-based portfolio also included proposed renewable generation projects and associated transmission from the other CTPG Members (Imperial Irrigation District, the Los Angeles Department of Water and Power, the Sacramento Municipal Utility District, the Transmission Agency of Northern California, and the Turlock Irrigation District). These entities identified projects totaling over 3,000 megawatts of installed renewable generation capacity considered by these planning entities to be the most advanced in their respective approval processes.*" These volumes are clearly material and a substantial part of the entire California renewable energy picture.

The CTPG expects that the Phase 3 Study Report will inform the development of a transmission plan to cover the entire state, including non-CAISO balancing authority areas and non-CPUC jurisdictional Load-Serving Entities. However, several times in the Phase 3 Study Report, the CTPG is required to mention that differences exist in the methodologies employed to quantify resources for the two types of entities. On page 122 of the Phase 3 Study Report, the CTPG says that it is "attempting to gather comparable "discounted core" data for these non-CPUC" load-serving entities, but that at the time of the report, the data was not available.

*Comments/question:*

- *Please provide additional information to explain to the reader the steps taken by each non-ISO entity to develop its own generation queue, specifically as those methodologies compare to the CAISO-jurisdictional entity approach.*
- *Given that the amount of load served by non-ISO LSEs is so large – 20 percent by the CTPGs calculations - one would expect that section 11, "Next Steps", would include some description of how the CTPG will (a) reconcile the any differences between the methods of quantification between CAISO and non-CAISO Load-Serving Entities, and b) some description of process that CTPG's non-CAISO Load-Serving Entities will be taking to close the information gap identified on page 122.*
- *What data/information can the CTPG members provide to confirm that the processes used by the investor-owned utilities and publicly owned utilities are sufficiently similar such that the planning is reliable and the results are supported by the data?*

*CTPG Technical Study Team Response:*

Stakeholders seeking information that explains how the various utilities and balancing authorities develop their generation interconnection queues should submit their specific questions to the respective utilities and balancing authorities in whose information the stakeholder might have an interest. Certain of this information are proprietary and not available to the CTPG.

The CTPG is currently undertaking a data-gathering effort to identify municipal utility-contracted renewable generation comparable to the investor-owned utility-contracted generation included in the Aspen "discounted core" of renewable generation.

The determination that a functionally equivalent process is being used to identify renewable generators that are comparable to those Aspen included in the discounted core for the investor-owned utilities is currently being made by the municipal utilities that are collecting the data.

*Q7 (submitted to the CTPG by IEP on August 18, 2010)*

The Phase 3 Study Report goes into some detail to describe the individual assessments and rankings that make up the full study. For example, significant space is provided to discuss environmental scoring. The report also describes the details behind the assessment of "commercial interest".

The report would be considerably easier to accurately interpret if there were a method employed that illustrates the combined details behind the scoring that lead to the designation of "high" and "medium" potential. The study report would benefit greatly from information that allows the reader to see how each studied line and line segment measures up against all others. The "alternative projects" should also be included as part of this comparison/listing.

*Comments/question:*
*The table on the following page is suggestive, but a table with similar information would allow the reader to understand the delivered benefit from a specific transmission project with regards to its meeting the RPS and in comparison to other options. An approach of this nature may improve CTPGs information transfer to those 'stakeholders' not actually working on this content. Follow-on phases would benefit from this record as well. (See table on next page).*

| | | | | | |
|---|---|---|---|---|---|
| Line Name Identifier | | | | | |
| To/From Substation Names | | | | | |
| Interconnected CREZ(s) Name(s) | | | | | |
| Assumed Megawatts | Wind | | | | |
| | Solar | | | | |
| | Geothermal | | | | |
| | Biomass | | | | |
| Number of Projects | Wind | | | | |
| | Solar | | | | |
| | Geothermal | | | | |
| | Biomass | | | | |
| Environmental Score | | | | | |
| Interconnection Queue Score | | | | | |
| Discounted Core Score | | | | | |
| Total "Weighted" Score | | | | | |
| "High" & "Medium" & "Alternative" Indicator | | | | | |
| Annual MWH Delivered | | | | | |

*CTPG Technical Study Team Response:*

CTPG included additional information in the final Phase 3 Study Report as to the method CTPG used to identify "high potential" and "medium potential" transmission upgrades.

CTPG is also currently developing an estimate, with only the "high potential" transmission upgrades in place, of the amount of renewable energy that can be delivered to loads without encountering contingency-based thermal overloads. It appears that this study will provide some of the information that the table suggested by IEP would include.

*Q1 (submitted to the CTPG by IEP on October 6, 2010)*

At the August 4, 2010, CTPG Stakeholder meeting in San Diego, IEP requested that CTPG allow for a more substantive role of IEP as a participant in the balance of the Phase 3 study process and the anticipated Phase 4 process. At that meeting, CTPG agreed to consider the request and stated that it would take IEP's request to the next CTPG Executive Committee meeting, anticipated the following day.

The CTPG's documented stakeholder Q&A[1] from the August 4, 2010, meeting confirms CTPG's verbal commitment to take the matter to its Executive Management Committee. To date, IEP has not received an answer to its direct question to CTPG from August 4, 2010. The Phase 4 Plan, thus far, does not articulate any expansion of independent generator participation in this vital process.

*Comment/question:*

- *Has CTPG already replied this request in the negative and neglected to inform IEP?*
- *If so, please explain why CTPG has denied this request for more meaningful participation by California's independent electricity generators.*
- *If IEP's request has not been denied, please indicate when CTPG will formally address this request?*

*CTPG Technical Study Team Response:*

- IEP's request remains under consideration.
- IEP's request remains under consideration.
- The CTPG Executive Management Committee has agreed to take stakeholder comment at the November 4, 2010, Executive Committee meeting at the request of the Western Independent Transmission Group. The CTPG anticipates that similar opportunities will be provided to other stakeholders, including IEP.

*Q2 (submitted to CTPG by IEP on October 6, 2010)*

The Phase 4 Study Plan outlines a schedule that requires comments/feedback by October 7, 2010 – the same day that CTPG expects to receive the Southwest import scenario from RETI. As indicated by

[1] http://www.ctpg.us/public/images/stories/CTPG_Stakeholder_Comments_AM_8-4-10_Combined.pdf

stakeholders in the CTPG stakeholder call on September 30, 2010, the constitution of the RETI scenario AND how CTPG intends to employ that scenario in Phase IV if of critical interest.

The next scheduled stakeholder interaction on the Phase IV Plan is set for October 20, 2010 – a second stakeholder call. The schedule further outlines the final opportunity to provide comment on December 10, 2010, ten days before CTPG expects to post its final Phase 4 Study Report and statewide plan.

*Comments/question:*
*IEP is concerned that the sequence of events defined by CTPG in the Phase 4 Study Plan does not allow stakeholders either the data necessary to make useful comments nor sufficient points of interaction with CTPG that would enable CTPG to truly consider and implement stakeholder feedback that may improve the outcomes of the study.*

- *What can CTPG do to allow stakeholders to provide comment on a timelier basis that insures that a) stakeholders have timely information and b) CTPG will have the time required to thoughtfully consider stakeholder input?*

*CTPG Technical Study Team Response:*

The CTPG appreciates the difficulty of conducting a robust stakeholder process that is consistent with the timelines for organizing and conducting the study work necessary to reach timely conclusions as to the transmission infrastructure additions that will support California's 33% Renewable Portfolio Standard (RPS) goals. The CTPG endeavors to draft and publish its proposed study plans and reports as quickly as possible and encourages all stakeholders to review these drafts and reports and respond to the CTPG as soon as possible after they are published. The CTPG anticipates that the scheduling of stakeholder comment periods will be extended as part of the 2011 Study process.

*Q3 (submitted to the CTPG by IEP on October 6, 2010)*

As defined by the CTPG during its September 30, 2010, stakeholder presentation, RETI will be tasked with delivering to the CTPG the import scenarios for the desert southwest and northern California that the CTPG will run in its power flow studies. Also articulated in the presentation is that the Phase 4 Study will consider the WECC Foundational transmission projects (page 22) as those projects may deliver resources that RETI identifies from out of state. The presentation also indicates to some degree the WECC Potential projects (page 22) will also be considered in Phase 4 for out of state resources. Transmission "futures" are but one of likely many assumptions that RETI will necessarily make to provide the CTPG with the import scenarios.

*Comments/question:*
*As the CTPG is aware, the issue of modeling assumptions has been a key area of concern for many of the non-CTPG stakeholders.*

- *Please provide a comprehensive list of the assumptions that the CTPG is providing to RETI for their work with regards to the Desert Southwest and northern California import scenarios.*

*CTPG Technical Study Team Response:*

CTPG is not providing RETI with any assumptions for work that RETI may be conducting with regards to imports from the desert Southwest and northern California. Rather, the CTPG is using assumptions provided by RETI.