

Response to Comments on Section II, Economic Assessment of CREZs  
Draft RETI Phase 1B Report

The majority of the comments and changes on the Draft Phase 1B Economic Assessment can be divided into the following three categories:

- 1) Requests for clarifications and more in-depth explanations of results
- 2) Requests to correct or modify existing analyses
- 3) Requests for additional analyses

Below is outlined the changes made to the report in response to comments by parties.

1) Clarifications and Detailed Explanations

- a. The distinction between proxy/pre-id projects is explained in greater depth. The percent of generation from proxy projects in each CREZ is shown in a summary table in Section 4. Recommendation is provided to further validate the viability of all projects within the CREZs.
- b. The discussion regarding the treatment of transmission costs for transmission lines that are approved but not yet constructed has been expanded.
- c. An explanation of the purpose of gen-ties and trunk lines and their locations on RETI maps is provided. Gen-tie and trunk lines do not represent actual or proposed routing of lines, rather they are simply representations of conceptual linkages. These linkages are for the purpose of measuring distances and estimating transmission costs.
- d. More detailed discussion was provided regarding the process used to create sub-CREZs.
- e. The transmission costs for distributed solar PV projects were clarified. Only interconnection costs and the CAISO's transmission access charge were included for distributed solar PV projects. Large-scale transmission upgrades or transmission line losses were not included.
- f. An expanded discussion of the significance of the thin film solar PV sensitivity is provided. Caution is also provided that the analysis is preliminary. Further study is recommended.
- g. Two additional detailed maps were created showing CREZs in relationship to roads, cities, and environmental features. These are available on the RETI website.
- h. Information is provided on the potential for non-conventional geothermal resources, which were not quantified as part of the RETI process.
- i. Limitations of the project identification process are explained. For example, land ownership fragmentation was not considered in the project assessment.
- j. A brief explanation of California Executive Order S-06-06 is provided. This order identifies significant goals for biomass as part of the RPS program. The number of biomass projects that would need to be built in order to fulfill its requirements are identified.

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- k. Issues regarding the transmission methodology, capacity valuation approach, and project identification were identified in the summary section and are recommended for further study in Phase 2.

2) Requests to modify existing analyses and corrections

- a. The number of pre-identified biomass projects located in British Columbia was corrected. This did not affect the amount of biomass generation modeled or the economics of the BC resource area.
- b. The environmental black-out area that previously covered the Cabazon wind project in Palm Springs was adjusted so that this project no longer falls inside this area. Existing law allows development of this project, despite it being within the boundaries of a (relatively new) national monument.
- c. A more accurate characterization of the wind resource potential in the Lassen CREZs was completed based on input from project developers. As a result of this assessment, several projects were expanded and one project in North Lassen was removed. The project removed had been mistakenly placed in an environmental black-out area. The net change was an increase of 333 MW in Lassen North A. Sub-CREZ A in this area was redefined. The weighted average rank cost for the sub-CREZ increased slightly, because the project that was eliminated had very attractive economics relative to the remaining projects. In Lassen South, the single wind project area was reduced significantly, resulting in a net reduction of about 600 MW in this CREZ. This was due to updated project location information. The rank cost also increased slightly. These CREZs and all associated maps and tables were updated to reflect the changes. The slight changes in the Lassen CREZ economics resulted in slight changes to many of the other tables in the document.
- d. Based on information from the military, the solar project located on Edwards Air Force base was moved from the southwestern corner to the northwestern corner of the base.

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3) Black & Veatch conducted additional analyses as appropriate to address comments. Additional analyses were performed when it was required to clarify the results, at the request of the SSC, and in cases Black & Veatch identified necessary because of newly available data or to make the report more comprehensive.

- a. The analysis of the California BLM renewable energy right of way applications was updated to reflect a new BLM database received on November 25<sup>th</sup>, 2008. This included reviewing RETI proxy projects to insure that all "pre-id'ed" projects are represented. This did not result in new projects, but did result in some proxy projects being switched to pre-id. The latest BLM application list was incorporated into the appropriate tables and is reflected in Appendix A.
- b. If approved, the proposed Twentynine Palms Marine Corps base expansion will affect some of the projects identified in RETI Phase 1B. Approximately 15 projects located in three CREZs in southeastern California are affected by the proposed expansion. These projects were

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identified, but not removed from the dataset. A discussion and map of the affected CREZs and the proposed base expansion is provided in Section 4.

c. Black & Veatch conducted a sensitivity analysis on the effect of including approved, but pre-operational, transmission lines in the base case. In the base case certain generation projects received “free” transmission from approved transmission projects, the costs of which were assumed to be sunk and were not attributed to the generation projects. A sensitivity analysis was run in which there was assumed to be no free transmission allocation.

d. Out-of-state resources were split into sub-CREZs based on their relative resource economics. This change is reflected in the all-resource supply curve.

e. A more robust uncertainty analysis has been performed. The previous uncertainty analysis was flawed. It represented uncertainty using an unrealistic combination of the most optimistic and pessimistic error assumptions. For example, for wind, it was assumed that uncertainty errors representing the lowest capital cost and highest capacity factor would be coincident. This is unlikely. A Monte Carlo analysis of uncertainty was performed to refine the analysis. Probability distributions were assumed for each of the major uncertainty variables, and a resulting uncertainty band was generated for each technology type. The uncertainty range for one and two standard deviations is used to identify the impact of uncertainty in the input assumptions.

f. An additional assessment of the Baja wind resource was performed to identify the technical potential in the area. Although the total generation capacity modeled in the area was unchanged (5,000 MW), two things were identified in the updated draft: (1) the technical potential is about 25,000 MW, significantly higher than the generation modeled in RETI; this technical potential estimate does not include any reduction to account for developable potential. (2) There is much information that still needs to be collected to further quantify the resource, especially with regard to environmental restrictions and development costs. Further study of this resource area is recommended in Phase 2.

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