

**CALIFORNIA ENERGY COMMISSION**1516 NINTH STREET  
SACRAMENTO, CA 95814-5512

May 7, 2003

Mr. Robert Looper  
Caithness Blythe II, LLC  
565 5<sup>th</sup> Avenue, 29<sup>th</sup> Floor  
New York, NY 10017-2478

Dear Mr. Looper:

**RE: BLYTHE ENERGY PROJECT PHASE II - THIRD ROUND DATA REQUESTS**

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission requests the information specified in the enclosed Data Requests. We are requesting a third round of data requests to obtain answers to questions not fully answered in the previous data responses and to address new questions associated with off-site transmission lines. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, 5) assess potential mitigation measures, and 6) assess cumulative impacts associated with off-site transmission facilities of the project.

Staff has identified the lack of a complete project description pertaining to the project's electrical interconnection with the existing transmission system. Therefore, we are also requesting information from Southern California Edison, Imperial Irrigation District, and Western Area Power Administration to describe the electrical interconnection configuration selected and the mitigation measures proposed by Caithness Blythe II. It is our expectation that each of these entities will provide letters to the Energy Commission responding to our specific questions. A copy of these letters will also be provided to you.

The current Data Requests are being made in the area of: Cultural Resources (#189-194); Land Use (#195-197); Soil and Water Resources (#198-226); Transmission System Engineering (#227-232); and Visual Resources (#233-235).

Written responses to the enclosed Data Requests are due to the Energy Commission staff on or before June 6, 2003, or at such later date as may be mutually agreed upon.

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If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to the Committee and me within 10 days of receipt of this notice. The notification must contain the reasons for the inability to provide the information or the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions regarding the enclosed Data Requests, please call me at (916) 654-4206.

Sincerely,

BILL PFANNER  
Energy Facility Siting Project Manager

Enclosure

cc: Docket (02-AFC-1)  
Proof of Service List  
Scott Galati  
Tom Cameron

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**Technical Area: Cultural Resources**

**Author:** Gary Reinoehl

**BACKGROUND**

The AFC states on page 7.1-2 that testing and significance evaluation of CA-RIV-6370H is ongoing. A great deal of information on the history of the site (from aerial photographs) was provided. Little information was provided that describes the testing, analysis, and evaluation of CA-RIV-6370H.

**DATA REQUEST**

189. Please indicate any additional monitoring or other cultural resource activities that have taken place at CA-RIV-6370H, the reports that will be generated, and a timetable for the completion of those reports.

**BACKGROUND**

In the response to data requests 30 and 31, Blythe Energy Project II states that they will undertake and provide a survey of the affected area if the City of Blythe requires Riverside Avenue to be paved to a 40 foot width and any areas where landscaping is required within the boundaries of CA-RIV-6370H. The response to data request 11 indicates that the City of Blythe Planning Review Commission will make a decision within 30 days regarding the surfacing of Riverside Avenue along the northern boundary of the Blythe Energy Project II. The AFC contains statements on page 7.1-24, -25, and 26 stating that no significant cultural resources were identified. You have indicated that the City of Blythe, after reviewing the BEP 2 facility site plans, will provide a letter that the widening of Riverside Avenue, landscaping, grading, or other ground disturbing work outside of the fence is not required for the project.

**DATA REQUEST**

190. Please provide a copy of the letter from the City of Blythe concerning the widening of Riverside Avenue.
191. Please indicate whether the City is requiring landscaping, grading, widening of Riverside Avenue, or other ground disturbing activities within the recorded boundaries of CA-RIV-6370H.
192. If the City of Blythe is requiring landscaping, grading, widening of Riverside Avenue, or other ground disturbing activities within the recorded boundaries of CA-RIV-6370H that is in accordance with local laws, ordinances, regulations, or standards, then please provide the proposed mitigation measures that would be implemented to reduce any impacts to cultural resources to less than significant.

**BACKGROUND**

The Draft EIR/EIS identifies a preferred 118-mile transmission line for the Imperial Irrigation District Southwest Transmission Project. The Draft EIR/EIS indicates that

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many surveys have been conducted along the transmission line route. Additional record search data was obtained for the project extending to a mile from the alternative corridor centerlines. BLM has also established several Areas of Critical Environmental Concern (ACEC) near the project components.

**DATA REQUEST**

193. Please provide a map at a scale of 1:24000 (or at a scale agreed to by applicant and CEC Staff) under confidential cover that delineates the locations of known cultural resources including traditional cultural resources or areas of special Native American concern and BLM designated ACECs within a mile of the project components for the preferred alternative.
194. Please identify any potential significant impacts to the cultural resources that may occur as the result of the new line, technologies that are available to mitigate an impact, and mitigation measures that would reduce the impact to a less than significant level.

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**Technical Area: Land Use**

**Author:** Ken Peterson and Eileen Allen

**BACKGROUND**

The proposed IID transmission line from the proposed Hobsonway Substation to the Devers Substation would affect surrounding land uses such as urban developments, agriculture, and recreation areas. We need current information on physical uses of the land in order to be able to assess the potential for significant impacts, and to evaluate the alternative routes.

**DATA REQUEST**

195. Please provide a map(s) at a scale of 1:250,000, showing the current, physical land uses along the proposed preferred alternative route, which would be part of Land Use Section 3.7.1.3. This map would complement the existing land use maps in the DEIS/DEIR which show land use planning designations, land ownership, and Important Farmlands. The maps need to show the array of current land uses (e.g., urban or built-up, agriculture, recreation area, rangeland, desert open space, nature preserve, etc.).

The BLM may have some of this information for the proposed project/preferred alternative.

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**Technical Area:** Project Description/ Land Use  
**Author:** Bill Pfanner and Eileen Allen

**BACKGROUND**

There is a potential overlap between the Imperial Irrigation District's (IID) proposed project and Southern California Edison's (SCE) Devers-Palo Verde 2 500-kV project. SCE recently notified the California Public Utilities Commission of its preliminary plans. Although SCE's project details are not available to the Energy Commission staff right now, the preferred route would likely parallel SCE's existing Devers-Palo Verde 500-kV line, which appears to be the same as IID's preferred project route up to the Blythe vicinity.

If there is a possibility of two new 500 kv lines (i.e., IID's and SCE's) being placed in the U.S. Bureau of Land Management (BLM) corridor, the Energy Commission staff will need to address that scenario with respect to line separation criteria from the reliability perspective, the potential impacts for areas affected by ground disturbance such as land use, biological, cultural, visual resources, soil and water resources, and cumulative impacts.

**DATA REQUEST**

196. Please summarize the nature of any discussions to date between SCE and IID regarding the potential overlap of these transmission line projects.
197. Discuss the minimum line separation criteria required for transmission system reliability purposes in terms of distance, to prevent a three-line outage caused by a disturbance such as a wildfire.
  - a. Discuss whether IID and SCE have agreed on such criteria (e.g., when there are three 500-kV lines in an area, whether one must be separated from the other two by a distance such as one mile, or a greater/lesser distance).
  - b. Discuss the environmental impact and route implications of the response to Item 2 above, for each technical area that would be affected (e.g. land use).
  - c. Discuss whether the existing BLM utility corridor would need to be enlarged to accommodate three 500-kV lines (i.e., SCE's existing line, a new SCE line, and the proposed IID line),
  - d. Discuss whether such an enlargement, if needed, would trigger the BLM corridor amendment process and related schedule requirements.

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**Technical Area: Soil and Water Resources**

**Authors:** Linda Bond  
Mark Lindley  
Rich Sapudar  
Jim Schoonmaker  
Ken Schwarz

**BACKGROUND**

A Water Conservation Offset Plan for BEP 2 (WCOP2) was attached to the USBR's letter of June 14, 2002 as the "Final Voluntary Water Conservation Offset Program for the Blythe Energy Project, Phase II, Caithness Blythe II, LLC" dated June 3, 2002. In the absence of other information, staff assumes that this is the WCOP2 the applicant intends to use. The applicant has indicated that it will implement the WCOP2 on a voluntary basis if BEP 2 is built. The WCOP2 is, thus, a reasonably foreseeable consequence of BEP 2 receiving Commission approval. For that reason, the staff has an interest in understanding the WCOP2 and assessing any impacts that may foreseeably result from it.

Moreover, the applicant has proposed the WCOP2 with the stated intention of conserving the same amount of water as BEP 2 will consume for all purposes, including wet cooling. This is further reason for the staff's interest in assessing the water conservation aspect and environmental effects of the WCOP2. To the extent staff believes that the BEP 2 project's use of groundwater may cause a potentially significant adverse cumulative impact to the Colorado River water supply, the WCOP2 may serve as effective mitigation. Staff is, therefore, interested in understanding the WCOP2 with regard to the parameters and assumptions used, and the implementation, management, monitoring, reporting, and verification procedures proposed.

**DATA REQUEST**

198. Please identify and discuss in detail the parameters and assumptions used in developing the WCOP2, and describe the implementation, management, monitoring, reporting, and verification procedures proposed.

**BACKGROUND**

This Data Request is a follow-up question to Data Requests 144 - 146 regarding the maximum rates of water use that would be required by the project. This information is needed so that the staff can assess the potential maximum impact from well interference that would be caused by project pumping. The CEC technical staff is performing an independent assessment of the maximum pumping rate and the corresponding water-use limits for the project. If the applicant fails to provide the requested information, staff will make its own calculation for the complete analysis.

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199. At a minimum, quantify the maximum projected total water use during the life of the project that would be required for the proposed evaporative cooling system for any consecutive 4-months (presumed to be the hottest summer period). Calculate the additional potential drawdown following 39 years of pumping at the average rate of pumping that would occur at the end of 4 months of pumping at the maximum projected usage rate. Provide a copy of the calculations and the results.

**BACKGROUND**

In the Project Description Section of AFC Revision 1 July 2002 there is an 11 by 17 inch figure labeled "Figure 2.0-6A, Heat Flow Diagram, 59F/60% RH Evaporative Cooler Off". The diagram has figures corresponding to 95 °F inlet air temperature and 78 °F gas turbine air inlet temperature following an inlet cooler that is obviously not turned off.

Immediately following that is Figure 2.0-6B that is labeled "Heat Flow Diagram 59 F/60%RH Evaporative cooler on". This has figures for 95 °F ambient temperature and inlet cooler off. Immediately following is Figure 2.0-6C, which is labeled "heat Diagram 95F/40RH evaporative cooler off" but shows 59 °F ambient air and the inlet cooler on to achieve 52.56 °F turbine inlet temperature. Following this is Figure 2.0-6D labeled "Heat Flow Diagram 95F/40%RH Evaporative cooler on" and shows 59 °F ambient with a mechanical chiller, which is turned off.

None of the diagrams are labeled with explanation of engineering units. All the flow units are difficult to read as the small titles "W" obscure the power of 10 (E) modifier.

**DATA REQUEST**

200. Please provide correct and legible heat flow diagrams.

**BACKGROUND**

The water balance for 59 °F labeled "Figure 2.0-18 Water Balance Diagram for 59 Degrees" shows inlet cooling of 20 gpm flow. The Heat Flow Diagram corresponding appears to show 10 gpm (5000 lbs/hr) inlet cooling flow.

**DATA REQUEST**

201. Please resolve the apparent discrepancy between the heat balance and water balance diagrams.

**BACKGROUND**

Response to Data Request 144 says the project "may use a mechanical refrigeration system for inlet air cooling instead of an evaporative cooling system," which will result in higher water consumption at BEP 2. Water consumption rates are important for CEC Staff to assess potential impacts related to BEP 2. Key aspects related to water consumption rates include determining the offset acreage for the WCOP, determining groundwater drawdown and well interference, and sizing of the evaporation ponds. A complete description of water-use parameters for this new proposal is needed.

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If two options are still being considered, please provide heat balances, water balances, and all other AFC discussion and data for both options.

202. Please provide updated water use estimates that include the proposed mechanical refrigeration system on an average annual, maximum 4-month, 1-month, and 1-week basis for BEP 2.
203. Please update the WCOP fallow acreage computations to reflect the use of the proposed mechanical refrigeration system.
204. Please quantify the average annual projected total water use for the life of the project that would be required for the proposed power plant with this refrigeration cooling system. Calculate and provide a map of the potential drawdown for the average rate of pumping for a 40-year period. Provide a copy of the calculations and the results. Locate and identify all existing residences, commercial buildings and wells, including the Thermo King shop and well, within 1 mile of the project site on the map.
205. Please quantify the maximum projected total water use during the life of the project that would be required for the proposed refrigeration cooling system for any consecutive 4-months. Calculate and provide a map of the additional potential drawdown that would occur at the end of 4 months of pumping at the maximum projected usage rate following 39 years of pumping at the average rate of pumping.
206. Provide a copy of the calculations and the results.

**BACKGROUND**

In response to Data Request-147 through Data Request-151, the applicant provided a more detailed analysis of evaporation pond sizing and revised estimates for solids storage levels and excess capacity. In the data responses, the applicant:

- Confirmed that potential evaporation rates were used to size the evaporation ponds,
- Revised the estimated surge capacity from 6 days of excess cooling tower blow down to 1 to 2 days of blow down depending upon precipitation,
- Revised the 10-year solids storage depth from 6.6 feet to 7.8 feet,
- Provided a starting operating water level of 6.35 feet for pond 2 to accommodate brine flows for one full year (note that the operation level is below the solids storage level), and
- Demonstrated that the evaporation ponds should have sufficient capacity for the annual average brine discharge during summer months as well as a major precipitation event.

Information on evaporation pond design is important for CEC Staff to assess whether the evaporation ponds are sized adequately to prevent overflows of concentrated brine that could lead to significant environmental impacts.

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Given the assumptions provided by the applicant, the responses demonstrate that the evaporation ponds have been adequately sized for normal operation. However, several of the assumptions made by the applicant may not be adequate for maximum operation. The use of a potential evaporation rate as compared to an actual observed evaporation rate could lead to an over-estimation of evaporative capacity. The applicant based the capacity computations on the average annual brine discharge rate with the evaporative cooling system included in the original AFC as compared to the maximum brine discharge rates for the proposed mechanical refrigeration system for the summer months.

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207. Please discuss how the actual observed evaporation may deviate from the potential evaporation. Also, how does the average potential evaporation compare to the minimum and maximum annual potential evaporation rates over the past 20 years? If the actual observed evaporation is likely to be lower than the potential evaporation, please revise the evaporation rates utilized to analyze the evaporation pond capacity.
208. Please confirm that the evaporation ponds are adequately sized under summer environmental conditions considering potential high magnitude precipitation events (as observed) and using a revised evaporation rate and the 4-month maximum brine discharge rate for the recently proposed mechanical cooling system.
209. Please explain how the decrease in estimated excess capacity associated with the more detailed analysis presented in response to Data Requests 147-151 and further decreases in estimated excess capacity as a result of using a more conservative evaporation rate and summer time brine discharge rate will affect plant operation and maintenance.
210. Please discuss maintenance protocols regarding evaporation pond shutdown and brine removal.

**BACKGROUND**

In response to Data Request-161 through Data Request-167, the applicant provided information related to the sizing of the retention basin for BEP 1 and BEP 2. CEC Staff asked the applicant to provide:

- Topographic maps detailing the size of the contributing watershed,
- Verification of the estimated percolation rate and discuss any effects that clay lenses or sedimentation will have on long-term percolation rates,
- Stage-Area-Volume relationship for the retention basin, and to
- Confirm that the retention basin is adequately sized to accommodate 100-year storm events.

This information is important for CEC Staff to assess whether the retention basin has been designed to retain the runoff generated by 100-year storm events and will “easily capture and percolate project related storm water flows” as claimed on page 2-26 of the BEP 2 AFC. CEC Staff asked the applicant to provide this information in order to verify

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the estimates for the runoff volume for 100-year storm events and that the retention basin can retain and percolate the estimated runoff volume.

- The topographic maps provided in response to Data Request 161 were illegible and CEC Staff could not verify that the contributing watershed was correctly delineated. In response to Data Requests 162, 165, 166, and 167, the applicant provided a brief description of a surface percolation test and a basin maintenance plan. However, the applicant did not address the potential for saturation of clay lenses and sedimentation to affect the long-term percolation rate. In response to Data Requests 163 and 164, the applicant provided the stage-area-volume relationship for the retention basin and a runoff curve number analysis for runoff volume produced in a 100-year 24-hour rainfall event. However, the applicant did not complete the analysis to demonstrate that the runoff from the 100-year 24-hour rainfall event would be captured and percolated within the retention basin. CEC Staff have examined the retention basin storage volume (55.2 acre-feet), the 100-year 24-hour runoff volume (96.5 acre-feet), and the percolation rate (6.68 cfs or 13.2 acre-feet/day) estimates provided by the applicant. The retention basin design presented by the applicant does not have sufficient storage capacity to capture and percolate project related storm water flows.

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211. Please provide a legible topographic map with the contributing watersheds delineated so CEC Staff can verify watershed acreage and slopes.
212. Please provide details on the emergency spillway design for the retention basin and describe how overflows from the retention basin will be routed off site.
213. Please provide a discussion on how the long-term percolation rate will decline over time due to saturation of sub-surface clay lenses and sedimentation, and provide a reasonable estimate for the long-term percolation rate that takes into account these effects.

**BACKGROUND**

This Data Request is a follow-up question to Data Request 152. In response to Data Request 152, the applicant states that BEP 2 will install two (2) wells during construction; however, the well location map that was provided (Attachment 154, Figure 64-1) does not show the location of both of the proposed wells. The location of both project wells is required to assess potential project pumping impacts.

**DATA REQUEST**

214. Please provide a map showing the location of both proposed project wells.

**BACKGROUND**

This Data Request is a follow-up to Data Request 153. The applicant confirmed that the BEP 2 wells would be interconnected with the BEP 1 wells. The applicant explained that the interconnection would be used only in the event that both wells failed or are out of service at either of the projects. However, the applicant did not quantify the maximum period of use, which is required to assess potential impacts.

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**DATA REQUEST**

215. What would be the maximum continuous time period that the interconnection would be used during the life of the project. Specify the period in days, weeks or months.

**BACKGROUND**

This Data Request is a follow-up to Data Request 155. Data Request 155 requested that the applicant provide the following well interference calculations for the well at the Thermo King shop. (1) Calculate the potential drawdown for the average rate of pumping for a 40-year period. (2) Calculate the additional potential drawdown that would occur at the end of 4 months of pumping at the maximum projected usage rate following 39 years of pumping at the average rate of pumping.

Although the applicant provided the drawdown results that were presumably calculated, that applicant stated that calculations would be provided under separate cover. As of April 16, calculations have not yet been submitted.

**DATA REQUEST**

216. Please submit the calculations that were used to generate the results provided in response to Data Request 155.

**BACKGROUND**

This Data Request is a follow-up to Data Request 160. Data Request 160 requested a map and calculations that described the projected cone of depression of the combined pumping for BEP 1 and BEP 2. The applicant stated that it would not respond to this request until the BEP 1 aquifer test results were completed and approved by the CEC. The BEP 1 aquifer test results may or may not be completed and approved by the CEC prior to the completion of the assessment of the proposed BEP 2. Staff proposes that the applicant provide the requested well interference assessment based on the information currently available. Staff suggests that the applicant refer to aquifer test data in BEP 1's November 2002 report, Results of the Aquifer Retest on Blythe Production Well PW-2, and the staff's December 16, 2002 comments on this report. Steve Munroe, the Compliance Project Manager for BEP 1, can assist you in obtaining a copy of these documents ([smunro@energy.state.ca.us](mailto:smunro@energy.state.ca.us)). (The applicant should not use the data and conclusions presented in the first aquifer report, Results of the Aquifer Test and Drawdown Predictions, Blythe Energy Project (Greystone Environmental Consultants, Inc., March 2002) because there were significant errors in aquifer procedures and results.)

**DATA REQUESTS**

217. Provide calculations of drawdown and a map that shows the projected cone of depression of the combined average annual projected total pumping for BEP 1 and BEP 2 for the life of the projects. Locate and identify all existing residences, commercial buildings and wells, including the Thermo King shop and well, within 1 mile of the project site on the map.

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218. Provide calculations of drawdown and a map that shows the projected cone of depression of the maximum projected pumping for BEP 1 and BEP 2 for any consecutive 4-months during the life of the projects. Locate and identify all existing residences, commercial buildings and wells, including the Thermo King shop and well, within 1 mile of the project site on the map.
219. Provide calculations of drawdown and a map that shows the projected cone of depression for the worst-case projected pumping for BEP 1 and BEP 2 if all pumping were to be produced from the BEP 2 project wells for the maximum continuous time period that the interconnection would be used. Locate and identify all existing residences, commercial buildings and wells, including the Thermo King shop and well, within 1 mile of the project site on the map.

**BACKGROUND**

This Data Request is a follow-up to Data Requests 156, 157, and 159, which requested that the applicant identify sites shown on the figure entitled “Overview Map – 846494.1s that was an attachment to the response to Data Request 65-1. (Greystone Environmental Consultants). The requested sites included:

- the lettered sites (Data Request 156) and
- up-gradient or nearby sites (Data Request 157)
- existing residences and commercial buildings, including the Thermo King shop and well, within 1 mile of the project site on the map.

The applicant identified some but not all of the lettered sites and some of the “up-gradient” sites on this map. The applicant did not identify the existing residences and commercial buildings.

**DATA REQUESTS**

220. Please complete the site labeling on Figure 159 (Overview Map – 846494.1s) including the sites labeled A, B, E, F, G, H, I, J, K and L.
221. Please identify and label the locations of the following “up-gradient” sites on Figure 159 (Overview Map – 846494.1s) that were listed in the response to Data Request 65-1:
- Wells Defrain – Old Blythe Airport (CHMRS)
  - Sun World or Blythe Lemon Ranch No. 41 and No.69 (LUST, ERNS, and CORTESE)
  - Blythe Airport (LUST and CORTESE)
  - West Coast Flying Service (FINDS, CORRACTS, CER-NFRAP, and CA-SITE).

In addition, locate and identify all existing residences, commercial buildings and wells, including the Thermo King shop and well, within 1 mile of the project site on the map.

222. Please clarify the identity of Site D on Figure 159 (Overview Map – 846494.1s) and identify and label both of the following “up-gradient” sites that were listed in the response to Data Request 65-1:

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- Southwest Travel Plaza/Unocal 76 Auto Truck Stop (LUST and CORTESE) and
- Unocal 76 Auto Truck Stop (LUST and CORTESE)

223. Please clarify the identity of Site 4 on Figure 159 (Overview Map – 846494.1s), which was labeled “City of Blythe.”

**BACKGROUND**

In response to Data Request-170 through Data Request-172 and Data Request-174 through Data Request-175, the applicant provided information related to soil and wind erosion on agricultural lands included in the WCOP following plan. Specifically, the applicant provided information on soil types, RUSLE and wind erosion estimates for fallowed lands, discussions on the selection of parameters utilized for the computation of erosion estimates for fallowed lands, a discussion of the applicant’s conservation plans for the fallowed lands, and a discussion of cumulative impacts related to erosion issues. However, the applicant did not provide similar information for erosion estimates for the same lands in the existing active agricultural land use. This information is important for CEC Staff to assess whether fallowing of active agricultural lands under the planned conservation program will cause significant environmental impacts.

**DATA REQUESTS**

224. Please provide RUSLE and wind erosion estimates and discussions on the selection of parameters utilized for the computation of the erosion estimates for lands included in the WCOP in their existing active agricultural land use.
225. Please add the land management measures included in Data Response-174 in the detailed WCOP2 requested originally in Data Request-142 and subsequently in this round of Data Requests.

**BACKGROUND**

In Data Request-175, the applicant was requested to provide information related to the cumulative impacts related to the WCOP2 and any current or future project related to soil and water resources. The applicant provided a discussion of the cumulative impacts related to the MWD following project, but did not discuss any cumulative impacts related to the BEP 1 project.

**DATA REQUESTS**

226. Please provide a detailed and specific cumulative impacts discussion related to the WCOP that includes the PVID/MWDSC project, and any other current or reasonably foreseeable projects, including BEP 1, related to water and soil resources. This discussion should consider the following: groundwater supply and the relationship of impacts to local and regional groundwater resources and the Colorado River and other cumulative hydrologic impacts.

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**TECHNICAL AREA:** Transmission System Engineering  
**Authors:** Ajoy Guha, P. E. and Al McCuen

**BACKGROUND**

Staff needs a complete, coordinated interconnection study to analyze the reliability impacts, including feasibility of selected mitigation measures, to be confident of identifying the interconnection facilities and any new or modified “downstream facilities”<sup>1</sup> necessary to support interconnection of the 520 MW Blythe Energy Project Phase II (BEP II) to the Western Area Power Administration (Western) or Southern California Edison systems. According to the Response to Data Request No. 179 dated March 14, 2003 the study results for the selected transmission options 3 & 4, in respect to overload criteria violations and the extent of overload, are different than the corresponding results of the previous studies for the same transmission options. Such interconnection should comply with the Utility Reliability and Planning Criteria, North American Electric Reliability Council (NERC) Planning Standards, Western Systems Coordinating Council (WSCC) Planning Standards, and California Independent System Operator (Cal-ISO) Planning Standards.

Staff also notes that the transmission options 3 & 4 currently proposed do not match with corresponding transmission options as mentioned in the EIS/EIR for the Desert Southwest Transmission line.

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Please submit the following for transmission options 3 & 4 along with a summary of the study results:

227. Provide power flow diagrams (in MW, percentage loading and P. U. voltage) with and without BEP II for all base cases (including 2006 spring study) and sensitivity cases under normal conditions and for all overload criteria violations under N-1 and N-2 contingency conditions.
  - a. Where modification of switchyards, substations or switching stations are proposed or under consideration provide before and after plan and profile sketches.
  - b. For all sensitivity studies and the 2006 spring study, provide lists of all overload criteria violations in a table format showing the contingency, overloaded element, rating of the overloaded element in MVA or amperes, and the loadings of the overloaded element in MVA or amperes & percentage before and after adding the BEP II generation and their differences (incremental and decremental loading) in percentage side by side. Include all pre-project overload criteria violations.

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<sup>1</sup> Downstream facilities are those that are beyond the point where the line emanating from the power plant joins with the (existing) interconnected transmission system (Cite).

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- c. Provide electronic copies of GE PSLF Power Flow base cases (including 2006 spring study) and sensitivity cases (\*.sav, \*.drw files) and EPCL or Autocon contingency (for N-1 & N-2) files for transmission options 3 & 4. Provide also a hard copy of the list of contingencies evaluated.
  - d. For connecting Coachella Substation with the selected transmission options 3 & 4 through the proposed Dillion Road Substation, please provide a one-line diagram showing the proposed installations. Also provide Power Flow study results under normal and N-1, N-2 contingency conditions with and without BEP II with power flow diagrams and relevant electronic copies of the base cases.
  - e. Provide a letter or state in a report from members of the BART study group (SCE, Western, IID, MWD, SDG&E, APS, SRP and Cal-ISO) that they concur with the study methodology and results. Provide also a letter or state in a report from the respective transmission owner and, where applicable, from the Cal-ISO verifying the rationale and feasibility of the mitigation measure and its implementation for each criteria violation prior to the on-line date of the new plant.
228. Analyze the Western, IID, SCE and SDG&E systems for Transient Stability (20 second dynamic simulation required) with the BEP II plant with three-phase and single line to ground faults with delayed clearing at strategic buses under critical N-1 & N-2 contingency conditions. In addition, consider a three phase five-cycle fault at the BEP II switchyard 230 or 500 kV bus followed by full load rejection of the plant. Submit the following along with a summary of the study results:
- a. Provide hard copies of the switching files and dynamic plots.
  - b. Provide electronic copies of the \*.dyd & \*.swt files and dynamic plots.
  - c. Provide the results in table format showing the bus name with kV faulted, type of fault (3-phase or line to ground), duration (cycles) for clearing, lines tripped, reference diagram and comments (stable, unstable or marginally stable).
  - d. For stability criteria violations, discuss candidate mitigation measures and select one for each violation in consultation with the transmission owner and Cal-ISO if applicable. Provide revised dynamic plots and switching file showing stable condition with the selected mitigation measure. Provide a letter or state in the report from the respective transmission owner or the Cal-ISO, where applicable, verifying the rationale and feasibility of the mitigation measure and implementation of the selected mitigation measure prior to the on-line date of BEP II.
229. Analyze Western, IID, SCE and SDG&E systems for Short Circuit currents with and without the BEP II plant at strategic buses for three-phase and single line to ground faults. Submit the following along with a summary of the results:
- a. Provide the results in table format showing the bus name with kV faulted, type of fault (three-phase/line to ground), existing breaker size and interrupting rating (kA), fault currents (kA) before and after addition of the BEP II plant and their differences (incremental fault currents) side by side.

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- b. Identify the substation breakers, which would be considered overstressed for incremental fault currents due to the addition of BEP II and would need replacement with higher capacity or other mitigation to eliminate overstressing. Provide proposed ratings of the breakers to be replaced in the table. Provide a letter or state in the report from the respective transmission owner or the Cal-ISO, where applicable, verifying the rationale and feasibility of implementing the selected mitigation measure before the on-line date of BEP II.
- 230. For any mitigation measure selected per Items 1-3 above that would include new interconnection facilities or new downstream facilities, or downstream facilities requiring modifications, reconductoring or any other change, provide a full description of the project with one-line diagrams, plans and profiles showing pre-project and post-project facilities. Where new or modified linear facilities are proposed outside a substation fence line, provide in consultation with the transmission owner the routes, construction methods, environmental setting, environmental impacts and recommended mitigation measures to offset any adverse environmental impacts.
- 231. The latest study indicates that a 230 kV double circuit or a 500 kV single circuit line starts from Buck Blvd. Substation and terminates at SCE's Devers Substation. But the EIS/EIR for Desert Southwest Transmission line indicates that Alternatives A, B or C start from the proposed new Hobsonway Substation and terminate at Devers Substation (may or may not be through the new proposed Dillion Road Substation). Please clarify.
- 232. Provide a copy of the Application for Interconnection of BEP II to the Western System and summarize the status of negotiations Caithness has with Western, SCE and IID. Provide a schedule including application data, date for completion of the necessary interconnection studies, and expected approval by Western.

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**Technical Area: Visual Resources**

**Authors:** Michael Clayton

**BACKGROUND**

The simulations presented in the Visual Resources section do not reflect the current status of Blythe I and therefore are not adequate to support staff's cumulative visual analysis of the Blythe II Project. Also, the electric interconnection between Blythe II and Blythe I is not sufficiently described and it is not clear as to the extent that the Blythe I switchyard would need to be modified to accommodate the Blythe II.

**DATA REQUEST**

233. Please provide new setting photographs and revised visual simulations for KOPs 1, 2, 3, and 6 as follows:
- Obtain a current base photo that shows the completed Blythe I Project, and
  - Use appropriate colors for the Blythe II structures (colors should be representative of the actual colors proposed to be used).
234. Please describe in narrative and graphic form: (a) the electric transmission interconnection between Blythe II and the Blythe I switchyard including number of transmission towers, the type (lattice or tubular), and heights, and (b) the extent to which the Blythe I switchyard would be modified to accommodate the Blythe II Project.

**BACKGROUND**

There is insufficient information regarding the proposed Hobsonway Substation to conduct the Blythe II cumulative visual impact analysis.

**DATA REQUEST**

235. Please describe in narrative and graphic form the proposed Hobsonway Substation.