

**Blythe Energy Project  
Phase 2  
(02-AFC-01)**

**Responses to Data Request #3  
Questions 189 - 235**

**Submitted: June 13, 2003**

**Blythe Energy Project  
Phase 2  
(02-AFC-01)**

**Data Responses**

**TABLE OF CONTENTS**

	<b>Page</b>
<b>1. CULTURAL RESOURCES (RESPONSES #189-194)</b>	<b>3</b>
<b>2. LAND USE (RESPONSES #195-197)</b>	<b>8</b>
<b>3. SOIL AND WATER RESOURCES (RESPONSES #198-226)</b>	<b>11</b>
<b>4. TRANSMISSION SYSTEM ENGINEERING (RESPONSES #227-232)</b>	<b>35</b>
<b>5. VISUAL RESOURCES (RESPONSES #233-235)</b>	<b>40</b>

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

**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.

**RESPONSE TO DATA REQUEST 189**

This World War II period refuse deposit was originally recorded during cultural resources investigations completed during licensing of the Blythe Energy Project. CA-RIV-6370H is located on the terrace below the historic Blythe Airport and is probably associated with military activity at this site. This historic refuse deposit is was originally recorded as covering an area roughly 160 meters north to south by 275 meters east to west. Inclusion of bulldozer tracks within the site boundaries and more accurate mapping indicate the site is 268 meters north to south by 293 meters east to west. The site extends outside the 76-acre expansion area, including north of Riverside Drive. This area of the site is approximately 43 meters north to south by 195 meters east to west. A bulldozer track extends from this area north to a portion of the Blythe Airport. The site has been partially created by excavating areas with bulldozers and using the excavated material, in addition to material scraped from the surrounding area, as cover for the refuse. The site thus contains buried deposits and some of the material was burned before burial. Melted glass was noted in several areas. CA-RIV-6370H has two parts: a northern part comprising mounds of rubble containing artifacts (hereinafter, the northern part), and a southern part containing bulldozer scars and push pile mounds with almost no artifacts (hereinafter, the southern part).

The large amount of building material at all parts of the site suggests that it was placed at this location at the end of military activity at the Blythe Airport. The site may be the result of demolition and cleanup of the base prior to transfer of the land to the county. The site was not indicated on Government Land Office, parcel maps for the area, or remaining base maps. The first record of the site is a 1951 aerial photograph (See Appendix 7.1 of the AFC) of the area. Although unclear, the 1951 aerial photograph shows that the portion of the site that is outside the expansion area boundary is present. The large dump of concrete building debris outside the project area of potential effects (APE), approximately 1/4 mile north from CA-RIV-6370H, is also present, indicating that a large amount of the base demolition has taken place. Buildings within the hospital area of the base, approximately 1/2 mile from the dump are shown as present and intact

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

at this time. The 1953 aerial photograph, although faint, also shows evidence of the dump outside of the expansion area. Contrast on this photograph is poor but there are possible indications of site activity within the expansion area. Base structures to the north are present at this time. The 1960 aerial photograph (See Appendix 7.1 of the AFC) of the area shows CA-RIV-6370H clearly inside and adjacent to the expansion area, in essentially the same condition as existed prior to the Blythe Energy Project. Buildings in the hospital area of the base to the north of the site, have been removed and remain only as foundations.

The paragraphs below provide a summary of the activities and investigations completed at CA-RIV-6370H. Recent activities in and around CA-RIV-6370H have been completed by BEP in consultation with the agencies. The BEP II proposal is not expected to impact this area.

In August of 2001, a cultural resource survey for the expansion area of the Blythe Energy project was conducted by Tierra Environmental Services. The previously recorded cultural resources site CA-RIV-6370H was relocated and updated on the figures for the site. The information from this survey was submitted to the CEC in a cultural resources survey report attached to the BEP II AFC in February 2002 and in the revised AFC in July 2002. An addendum to the cultural resources survey report dated June 2002 and titled "Addendum to Cultural Resource Survey Report for the Riverside County Power, 76-Acre Expansion Site, Riverside County, California" was submitted to the CEC. This addendum provided additional information on work completed at Riverside Avenue and a revised site form.

During January 2002, Tierra completed backhoe trenching at CA-RIV-6370H to locate subsurface cultural deposits, help evaluate integrity and identify concentrations of material for further investigation. Additionally, a controlled excavation sample consisting of four 0.5 by 1 meter excavation units was also conducted. The results of the materials found within CA-RIV-6370H were presented, as agreed in a Memorandum of Agreement with Western and SHPO, in a December 2002 report "Archaeological Site CA-RIV-6370H: An Analysis of Eligibility for Nomination to the National Register of Historic Places" (Tierra Environmental Services 2002). This report determined that the site does not possess the integrity or characteristics of significance necessary for the site to be listed on the National Register or the California Register.

In February of 2002, Andrew R. Pigniolo, RPA, conducted additional testing and data collection to assess the effects of tortoise proof fence placement on site CA-RIV-6370H. It was determined, based on surface indications and the results of subsurface testing, that construction of the permanent fence and construction and removal of the temporary tortoise fence displaced cultural material associated with CA-RIV-6370H. The disturbance covered approximately 45 square meters based on surface and subsurface indications. A letter report prepared by Tierra Environmental Services on September 15, 2002, documenting this investigation was submitted to the CEC.

In June of 2002, Tierra conducted a cultural resource survey along an approximately  $\frac{3}{4}$  mile long unimproved segment of Riverside Avenue. The goal of the survey was to  
June 2003

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

determine if CA-RIV-6370H would be affected by proposed improvements to the unimproved stretch of Riverside Avenue. It was determined that the alignment of Riverside Avenue was constructed before the refuse associated with CA-RIV-6370H was placed at the site and that the artifacts associated with this site do not extend into the APE associated with the proposed Riverside Avenue Improvements. A monitoring report for this activity was prepared by Tierra Environmental Services in October 2002 and was submitted to the CEC. The monitoring was completed in September and October 2002 and is summarized below.

Fence construction and associated monitoring was initiated on September 10 through 12, 2002. All monitoring was conducted by Mr. Jonathan Erb of Tierra Environmental Services under the direction of Andrew Pignuolo. The majority of the work during this period was related to the initial layout, grading, and watering of the areas where the fence was to be installed. Monitoring consisted of a close inspection of all ground disturbing activities occurring near site CA-RIV-6370H. On September 18 monitoring of the fence construction continued. This portion of the project consisted of observing the drilling of postholes and trench excavation along the southern section of the fence. Trenching activity was associated with tortoise fence construction.

Fence construction and associated monitoring was again initiated on October 24 and 25. Monitoring of the western, northern, and eastern segments of the cultural avoidance fence was completed during this phase of the monitoring project. Monitoring focused on ground disturbance occurring near or within CA-RIV-6370H.

Additional activities completed during the summer of 2002 included monitoring of trailer placement and trenching in the 10-acre laydown area adjacent to CA-RIV-6370H. A monitoring letter report dated July 26, 2002 prepared by Laguna Mountain Environmental was submitted to the CEC. Also, an additional detailed survey of the "southern portion" of CA-RIV-6370H was completed by Andrew Pignuolo and a letter report dated August 21, 2002, titled "Additional Documentation of Features in the Southern Portion of Archaeological Site CA-RIV-6370H" was submitted to the CEC.

In response to additional work planned at Riverside Avenue (not for BEP II), a survey and testing program was conducted on February 5 and 6, 2003 by Andrew R. Pignuolo, RPA and Jonathan Erb. The methodology for the fieldwork was developed in direct consultation with Western and CEC. Fieldwork began with a close transect walkover of the APE through CA-RIV-6370H. Transect intervals were approximately 1 to 2 meters. The survey resulted in the identification of three areas of concern. A series of five shovel test pits were excavated in these areas to evaluate the subsurface content and integrity of the deposits within the APE. The materials recovered were catalogued and a report was submitted to the agencies.

Cultural resource monitoring of grading of the southern portion of CA-RIV-6370H was conducted on March 24, 25, and 26, 2003 by Andrew R. Pignuolo. Monitoring was completed to ensure that significant deposits were not uncovered or disturbed during construction. Construction work was photodocumented and only three artifacts were identified and collected during monitoring. No significant cultural materials were

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

identified and it was confirmed that grading of the southern portion did not adversely affect CA-RIV-6370H.

In April of 2003, in response to the conditions of certification for BEP Amendment I-B, FPL submitted a report regarding the investigations and materials found at CA-RIV-6370H.

**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.

**RESPONSE TO DATA REQUEST 190**

As we have indicated in previous responses to data requests, Caithness Blythe II will not be required by the City of Blythe to perform any improvements outside the property lines of the project (landscaping, grading, widening of Riverside Avenue). Additionally, we confirm that no work is planned by Caithness Blythe II, LLC during the construction of BEP II, nor will be required by the City of Blythe within the portion of CA-RIV-6370H which is permanently fenced and contained within 152 acre BEP/BEP II site.

We are still in discussions with the City of Blythe regarding several matters unrelated to the permitting process. Once we complete our discussions with the City, the PRC process can then be completed and the requested letters provided. We are hopeful this will be completed in the next 60 days.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 191**

See Data Response #190

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 192**

See Data Response #190

**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 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.

**RESPONSE TO DATA REQUEST 193**

The maps will be submitted under confidential cover as requested.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 194**

Potential significant impacts to cultural resources that may occur as the result of the new transmission line and corresponding mitigation measures that would reduce the impacts to a less than significant level are identified in Section 3.2.3.2 of the Desert Southwest Transmission Project Draft EIS/EIR.

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

**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.

**RESPONSE TO DATA REQUEST 195**

Attachment 195 contains six maps at a scale of 1:250,000 that depict the requested information.

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

**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.

**RESPONSE TO DATA REQUEST 196**

The Desert Southwest Transmission project identifies several alternative corridors for location of the proposed 500 kV or 230 kV transmission line extending between the Buck Blvd to Devers Substations. The northern route following I-10 is currently the preferred alternative identified in the BLM DEIS for the Project. The Southern California Edison PVD2 corridor is one of the alternatives for the northern route, but is not the selected preferred alternative. The Edison Project is a separate project proposing to construct a new 500 kV line from Palo Verde to Devers Substation and must be evaluated accordingly. The Edison project is behind the DSWTP project in its environmental process and the BLM will need to evaluate the cumulative impacts PVD2 on DSWTP.

**DATA REQUEST**

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.

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

- 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.

**RESPONSE TO DATA REQUEST 197**

This minimum line separation criteria was addressed by a representative from Southern California Edison at the Transmission Workshop. The response, which is consistent with discussions between IID and Edison, is that no such line separation criteria exists. Good engineering practice allows for enough separation that a structural failure of a 500 kV tower in one corridor would not impact a 500 kV tower in an adjacent corridor. Edison has commented on the DSWTP DEIS and IID and the BLM will be responding to their comments. There are currently no known issues related to line separation.

The BLM corridor does not need to be enlarged to accommodate the potential for three 500 kV lines, therefore no amendment to the BLM Desert Plan or other BLM corridor process is required.

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

**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.

**RESPONSE TO DATA REQUESTS 198**

Staff states in its background that the purpose of this Data Request is to provide information to fully assess the impacts that may result from implementation of the voluntary WCOP for BEP II. We agree that under CEQA Staff should evaluate any potential physical changes in the environment that would be caused by implementation of the voluntary WCOP. Staff further states in the background that the purpose of the WCOP is to conserve the same amount of water as BEP 2 will consume for all purposes, including wet cooling. As has been stated at numerous workshops and previous data requests, this statement is an oversimplification of the history, development and purpose of the WCOP. Please see Response to Data Requests 142.

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

Staff further states in its background that the information requested in this Data Request is necessary to evaluate the effectiveness of the voluntary WCOP to mitigate a potentially significant cumulative impact to the Colorado River water supply. As stated in Response to Data Request 142 through and as clearly stated in the letter dated June 14, 2002 to Terry O'Brien from Mr. Robert Johnson, Regional Director of the U.S. Bureau of Reclamation that with implementation of the WCOP "...the BEP II will not increase the consumptive use of Colorado River water in California and therefore, will not have impacts on the Colorado River system or junior water rights holders within that system. Therefore, Reclamation approves the voluntary WCOP as submitted." We believe that since the U.S. Bureau of Reclamation is the Water Master for the Colorado River system, its opinion should put the issue of whether the BEP II would cause impacts to that system to rest. We do not understand why Staff continues to want to substitute its opinion for the Colorado River system expert.

With respect to Staff's request for information describing the implementation, management, monitoring, reporting and verification procedures proposed, Caithness Blythe II, LLC (CB II) offers the following to address Staff's concern specifically related to the potential physical changes to the environment from implementation of the WCOP. In our opinion the only potential physical changes to the environment that we have been able to evaluate relate to the potential loss of prime agriculture land or the potential to cause soil loss through fallowing. We have previously addressed soil loss issues in Responses to Data Requests 170-172, 174 and 175. Please see also Responses to Data Requests 224 and 225 for further clarification. Those responses demonstrate that the WCOP will not increase soil erosion and in fact fallowing will result in a net reduction of soil loss. As stated in Responses to Data Adequacy Requests at the beginning of this project, CB II has agreed to make the following procedures a mandatory condition of the contract with any landowner who participates in the fallowing program:

- Maintenance of stubble residue for fields previously planted in alfalfa, wheat, barley or similar crops; and
- Clod tilling for non-irrigated fields without stubble residue or sod cover

In addition to these measures, to address Staff's concerns about enforcement, CB II agrees to conduct annual windshield surveys of participating land to ensure compliance with the above measures. CB II proposes to include the results of the survey and any enforcement measures taken in its Annual Compliance Report to be submitted to the Compliance Project Manager. CB II agrees to a condition of certification incorporating the above measures.

With respect to the potential to adversely affect prime or important farmland, CB II has agreed to implement the same Condition of Certification contained in the BEP license. That condition (**LAND-2**) states:

**LAND-2** The proposed water conservation offset program shall not retire lands in the Palo Verde Valley (Priority 1 Lands) designated as

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

Prime Farmlands or Farmlands of Statewide Importance as defined by the Department of Conservation, or lands included in a Williamson Act Preserve. Fallowing or retirement of farmlands shall not violate any provision of a Williamson Act Contract. Lands selected for retirement on the Mesa shall not include lands currently involved in active orchard crop production.

**Verification:** At least 60 days prior to implementation of the Water Conservation Offset Program (WCOP), the project owner shall submit detailed information to the CPM regarding the lands involved in the WCOP, including: 1) location and assessor parcel number, 2) Department of Conservation Important Farmland Program Classification, 3) crop and cultivation history, and 4) Williamson Act Preserve and contract status. If the program will fallow or retire any lands under Williamson Act contract, the project owner shall provide documentation that such fallowing or retirement has been reviewed and approved by Riverside County Planning Department and does not violate any provision of a Williamson Act contract. Any WCOP agreements that are altered or added to the program shall be submitted to the CPM at least 30 days prior to taking effect.

## **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.

## **DATA REQUEST**

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.

## **RESPONSE TO DATA REQUESTS 199**

Staff states in its background to this data request that the purpose of the information requested is to assess the potential maximum impact from well interference that would be caused by project pumping. CB II proposes to accept the same Conditions of Certification (**SOIL & WATER 6** and **7**) related to pumping impacts that are contained in

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

the BEP license. **SOIL & WATER 7** would require CB II to “..pay or reimburse all well owners if a well interference analysis performed in accordance with **SOIL & WATER 6** predicts that the static water level of the well will experience a maximum calculated decline of 5 feet or more during the life of the project.” **SOIL & WATER 6** would require that the well or wells installed for BEP II would be tested to develop parameters necessary for the well interference analysis. We agree with this approach and believe that with acceptance of these two conditions and if Staff conducted an well interference analysis now, such an analysis would be duplicative and based on assumptions rather than the actual pump tests that would be performed on the wells to be tested. While completing the analysis now may show long-term drawdown impacts to wells within the region, the end result would be the imposition of the same **SOIL & WATER 6** and **7** anyway. In order to conserve CB II and Staff resources, CB II agrees to the incorporation of these two conditions into the Staff Assessment at this time rather than conducting additional expensive analysis based on assumed well characteristics. However, in an attempt to be responsive to part of Data Request #199, we offer the following additional information.

The estimated cumulative water use for the proposed evaporative cooling system four the four month period of maximum usage is 40.9 acre-ft. This value is based on the evaporative cooler being in use continuously from June through September.

The evaporation rates are based on the Monthly Extreme Highest Mean temperature (dry bulb) for the Blythe Airport from the years 1948 – 2002 as provided by the Western Regional Climate Center. This provides a conservative estimate of maximum evaporative cooler water use as the extreme highest mean temperatures did not all occur in the same year. Mean coincident wet bulb temperatures or relative humidity were not provided by the WRCC data. An average relative humidity of 20% was assumed for each month. This provides wet bulb temperatures in the range of 63.6°F – 68.4°F.

An evaporative cooler efficiency of 85% was used for the calculations.

The expected maximum monthly evaporative cooler water consumption rates are tabulated below.

<b>Month</b>	<b>Monthly Extreme Highest Mean Temperature (Dry Bulb), °F</b>	<b>Wet Bulb Temperature, °F</b>	<b>Monthly Evaporation, acre - ft</b>
June	95.0	66.0	9.9
July	98.2	68.0	10.7
August	98.8	68.4	10.8
September	91.2	63.6	9.5

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

**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.

**RESPONSE TO DATA REQUESTS 200**

Larger, 17" x 22", prints of the heat balances have been attached to the original prints and six copies will be provided "loose" to Mr. Bill Pfanner, CEC, Project Manager. The original print title blocks have been revised, by hand mark-ups, to correct the temperature / relative humidity definition for the prints. Also, a key with engineering units has been added by hand markup to the original prints.

**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.

**RESPONSE TO DATA REQUESTS 201**

The heat balances show evaporative cooling water requirements for a single combustion turbine (10 gpm). The water balance diagrams provide cooling water requirements for the plant, i.e., both combustion turbines (20 gpm).

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

**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.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 202**

Water use estimates for the project including a mechanical refrigeration inlet chilling system for the maximum four month period were provided in the response to Data Request 146. The maximum one month and one week water use estimates for the project using mechanical chilling were provided in the response to Data Request 144. The annual average water use rates are tabulated below.

Main cooling tower evaporation rates were calculated using a recognized performance program, GateCycle, and turbine performance characteristics provided by the turbine manufacturer. Temperature, dry bulb and mean coincident wet bulb, data were divided into 10°F, dry bulb, bands. Plant performance, including cooling tower evaporation, was calculated for each of the 10°F temperature bands.

Evaporation from the inlet chilling system was calculated in a similar manner to evaporation for the main cooling tower, i.e., 10F dry bulb temperature bands with mean coincident wet bulb temperatures and GateCycle analyses. The inlet chilling system was modeled to provide a 50°F combustion turbine inlet temperature.

Potable water use is estimated at a continuous rate of 1 gpm.

A value of 20 gpm is used for brine to the evaporation ponds. This is a conservative estimate. The calculated maximum rate of discharge of brine is approximately 18 gpm; the annual average rate of brine discharge is approximately 70 – 75% of the maximum rate.

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

<b>Water Consumption at Average Annual Rate, Inlet Chilling</b>	
Main Cooling Tower Evaporation	2,679,840 gallons/day
Inlet Air Chilling System	230,400 gallons/day
Potable Water	1,440 gallons/day
Brine to Evaporation Pond	28,800 gallons/day
Miscellaneous Losses	14,400 gallons/day
Total Daily Consumption	2,954,880 gallons/day
Annual Average Consumption	3310 acre-feet

Water use estimates for the project using an evaporative cooling system are tabulated below.

<b>Water Consumption at Average Annual Rate, Evaporative Cooler</b>	
Main Cooling Tower Evaporation	2,679,840 Gallons/day
Evaporative Cooler System	42 Gallons/day
Potable Water	1,440 Gallons/day
Brine to Evaporation Pond	28,800 Gallons/day
Miscellaneous Losses	14,400 Gallons/day
Total Daily Consumption	2,724,656 Gallons/day
Annual Average Consumption	3052 acre-feet

The evaporative cooler system water consumption assumes that the cooler is not in operation at temperatures below 50°F. Evaporative cooler water consumption is dependent on combustion turbine inlet air flow rate, the difference between wet and dry bulb temperatures, and cooler efficiency. An efficiency of 85% was used for the water consumption calculations. Main cooling tower evaporation rates were not adjusted from the rates calculated for the plant using a mechanical refrigeration system. This slightly overestimates cooling tower evaporation as the evaporation rates calculated for the plant with mechanical refrigeration are based on combustion turbine inlet temperatures of 50°F instead of the 50°F – 75°F inlet temperatures that are attained with an evaporative cooling system. This slightly higher combustion turbine inlet temperature will result in a lower steam turbine output and cooling tower thermal load and evaporation. Potable water use, brine to the evaporation pond, and miscellaneous losses use the same values as the calculation for the plant with mechanical refrigeration.

**DATA REQUEST**

203. Please update the WCOP fallow acreage computations to reflect the use of the proposed mechanical refrigeration system.

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

**RESPONSE TO DATA REQUEST 203**

The WCOP uses a value of 4.2 acres of fallow for each acre-ft of annual groundwater consumption. The fallow acreage is based on an annual consumption of 3500 acre feet with a mechanical refrigeration system; this is slightly larger than the predicted usage to account for exceptional operating conditions. Therefore, 14,700 acres will be included in the WCOP.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 204**

The average annual water consumption for the plant using a mechanical cooling system is provided in the response to DR 202.

See the response to DR #199 for drawdown calculations.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 205**

The maximum projected total water use during the life of the project that would be required for any consecutive four months for the plant with mechanical refrigeration was provided in the response to DR 146 (The line in the table called "*Inlet Air Evaporative Condenser*" refers to the evaporative condenser included in the mechanical refrigeration system).

Please see the response to DR #199 for drawdown calculations and maps.

**DATA REQUEST**

206. Provide a copy of the calculations and the results.

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

**RESPONSE TO DATA REQUEST 206**

We assume this request refers to the drawdown calculations. Please see the response to DR #199.

**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.

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.

**DATA REQUEST**

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.

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

**RESPONSE TO DATA REQUEST 207**

Potential evaporation is used here as the expected evaporation from a shallow lake or pond; it is used as the design evaporation rate for evaporation pond sizing calculations. Actual observed evaporation is defined as the pan evaporation rate. The Western Regional Climate Center Evaporation Table for the Western States notes that evaporation rates for a shallow lake are approximately 70% - 80% of the values measured from pan evaporation.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 208**

Two attached figures show the predicted response of the smaller evaporation pond, Evaporation Pond No. 2, on a monthly basis. One figure shows the predicted pond level for a two year period with an arbitrary starting point of 5 feet above the bottom of the pond. The second figure shows the predicted response of Pond 2 for one year with a starting elevation of 9 feet above the bottom of the pond.

The calculation uses a value of 80% of the pan evaporation rate for the predicted potential evaporation. The evaporation rate is further reduced by 10% to account for the increase in water level that would occur when the evaporation rate is 90% of the mean evaporation rate for two consecutive years.

The rates of solids and brine addition have been revised from previous submittals to account for actual predicted brine and solids generation instead of using the maximum rates for all operating hours. The actual predicted rates are approximately 75% of the maximum rates. Brine and solids generation are dependent on the cooling tower evaporation rate. The average cooling tower evaporation rate for the plant is approximately 70 -75% of the maximum evaporation rate

Also, the evaporation rate of the brine has been reduced by an additional 30% from the rate for water to account for the expected lower evaporation rates for brine solutions.

To summarize, the evaporation rated used in the pond calculations is:

Pan rate \* 0.8 (to account for shallow pond) \* 0.9 (to account for low evaporation year) \* 0.7 (to account for brine evaporation rate compared to water)

= Pan rate \* 0.50 (for low evaporation year)

= Pan rate \* 0.56 (for average evaporation year)

The brine and solids generation rates have also been revised to account for the evaporation from the mechanical refrigeration system's evaporative condenser. As evaporative condenser evaporation is on average approximately 10% of cooling tower evaporation, the brine and solids generation rates have been increased by 10%. This

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

increase is applied to the months of March through May and for October. The brine and solids generation are also increased to account for 4 month's, June – September, contribution at the maximum rate for the mechanical refrigeration system.

For each month's increase in pond level the following process was used:

**Determine amount of evaporation**

Monthly annual average pan evaporation rates are reduced as noted above. For January, the average annual pan evaporation rate is reduced from 3.8 inches to 1.9 inches. The stage level used to calculate the volume evaporated is the stage level at the beginning of the month. Stage levels can be found in the response to DR 149. A starting level of 5 feet above the bottom of Pond No. 2 has an area of 2.21 acres. The evaporation is  $(1.9/12) * 2.21 = 0.35$  acre feet.

**Determine the amount of input**

Input to the pond consists of precipitation, and brine. The brine consists of solids and water.

Average monthly precipitation was converted to acre feet of influent using the area, 3.57 acres, that drains into Pond No. 2.

Monthly water input was calculated by applying the cooling tower evaporation rate for the average temperature for the month to the entire month. The average evaporation rate for the month is based on the average temperature for the month. As noted above, brine and solids generation is proportional to cooling tower evaporation. The response to DR 150 provides values of 28.17 acre-ft of water and 3.37 acre feet of solids to the pond annually; these values are the maximum rate of discharge, not the averages for any month. The discharge for the summer months was increased to that which would occur if temperatures were equal to the highest mean monthly temperature (recorded for Blythe from the years 1971 -2000 and provided by the Western Regional Climate Center) instead of the mean monthly temperature.

A utilization factor was applied to the pond input to account for likely plant operations.

**Determine pond level increase**

The difference between the input and evaporation was determined. This value, in acre-ft, was divided by the pond stage area (at the beginning of the month) to determine the increase in level. The new level becomes the beginning level for the next month.

The increase due to a high magnitude precipitation event has not been included in the pond level determinations. However, the response to Data Request 151 noted a volume increase for Pond No. 2 of 1.19 acre feet due to a high magnitude precipitation event. The response to Data Request 151 notes stage areas of 3.02 acres at an elevation of 13 feet and 2.91 acres at 12 feet. The corresponding increase in pond level due to the high magnitude precipitation events are 4.7 inches,  $12*(1.19/3.02)$ , and 4.9 inches,  $12*(1.19/2.91)$ , for pond elevations of 13 feet and 12 feet respectively. By inspection, it is evident that high magnitude precipitation events only become a concern

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

when pond level is 12.5 feet above the bottom of the pond; therefore, the effect of the high magnitude precipitation event has not been evaluated for all pond levels.

Figure 1 indicates that the maximum pond operating level of 13 feet will be reached in approximately 20 months with a pond starting elevation of 5 feet. Figure 2, which assumes an pond starting level of 9 feet, shows that the maximum operating level of 13 feet will be reached after approximately 11 months of operation. Neither of these include the high magnitude precipitation event. The maximum operating level would be reached approximately one month sooner if a high magnitude precipitation event occurred.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 209**

A more conservative evaporation rate and increased brine discharge rate will result in less evaporation and pond maximum operating levels being reached in a shorter period of time. The impact on the smaller of the evaporation pond, Pond No. 2, is described above. Were either pond to reach its maximum operating level with the other Blythe II pond not available, no further discharges to the operating pond would be allowed. The maximum operating level would take into account the potential for an extreme precipitation event. Plant maintenance, e.g., scheduled outages would be coordinated with pond maintenance to the extent practicable.

**DATA REQUEST**

210. Please discuss maintenance protocols regarding evaporation pond shutdown and brine removal.

**RESPONSE TO DATA REQUEST 210**

If free liquids are required to be removed from they will first be analyzed for hazardous waste characteristics then discharged at an approved facility.

Accumulated solids are to be removed mechanically using a dredge line, excavator, or similar device. For solids removal prior to final pond closure, all of the accumulated solids will not be removed as doing so may compromise the integrity of the pond liner due to abrasion or tearing.

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

**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 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.

**DATA REQUEST**

211. Please provide a legible topographic map with the contributing watersheds delineated so CEC Staff can verify watershed acreage and slopes.

**RESPONSE TO DATA REQUEST 211**

As discuss in the May 14, 2003 Workshop, the CEC will obtain the necessary maps.

A legible topographic map with the contributing watersheds delineated is contained in the Drainage Study completed for the combined BEP Phase 1 & 2 site. A

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

comprehensive drainage analysis incorporating drainage areas for both the Blythe Energy Project Phases 1 & 2 was completed and submitted to the CEC as part of the Blythe Energy Project compliance. During the workshop on May 13, 2003, CEC staff acknowledged they had not reviewed the Blythe Energy stormwater drainage analysis or drainage and grading plan. This plan was referenced by CB II in Data Request Response 161-167 and the original BEP II AFC. Staff agreed to obtain a copy of the analysis for their review.

The Blythe Energy analysis encompasses the BEP II project drainage area and was subject to the same drainage criteria as the BEP II project. The drainage analysis has been recently reviewed and accepted by the CEC for the Blythe Energy Project. CEC Questions 211-213, and previously questions 161-167, suggest that the CEC is submitting this same plan to another comprehensive review. Further review of this plan should not be necessary given the circumstances of the recently approved Drainage Plan for the combined sites.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 212**

There is no emergency spillway for the retention pond. The retention pond and the associated drainage conveyance system are designed to fully convey and retain the design flood. The stormwater drainage conveyance system does not have the hydraulic capacity to convey stormwater runoff events greater than the design flood into the retention Pond.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 213**

Saturation of subsurface clay lenses, were any to be present, would result in a lower percolation rate. However, review of the Geotechnical Engineering Evaluation for the Blythe Energy project provides some insight to the expected subsurface soil conditions. As part of the Geotechnical Engineering Evaluation, 29 exploratory borings were drilled on the Blythe Energy site. The Geotechnical Report stated that "In general, alluvial deposits were encountered from the surface to the total depths of each of our borings (51.5 to 66.5 feet). The alluvial deposits observed consisted of light brown, loose to very dense, silty fine to medium sand. Scattered fine gravel was also locally

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

encountered.” It further states “...the subsurface materials indicate generally homogenous permeability.”

The Applicant believes that the homogenous subsurface materials, reduction of the measured in-situ percolation rate by a factor of 2x (as noted in the response to DR 166), and the lack of any clay lenses or cemented soils encountered in the excavation of the retention basin (also noted in the response to DR 166) indicate that a reasonable estimate for the long term percolation rate is the value used in the approved stormwater drainage calculations for the Blythe Energy retention basin. That value is 3 cfs.

**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.

**RESPONSE TO DATA REQUEST 214**

The Grading and Drainage Plan View, PEC drawing 108-GA-0001, shows the location of both Blythe II wells; the drawing is attached. Also attached is a markup of the drawing submitted in response to Data Request 154, Figure 64-1, Local Well. This drawing has been marked up to include the second Blythe II well.

**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.

**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.

**RESPONSE TO DATA REQUEST 215**

BEP has installed two wells, each well is capable of pumping the water to serve the plant's maximum water requirements. BEP II also plans to install two wells, each well capable of pumping the plant's full requirements.

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

The interconnection of the BEP and BEP II wells is strictly for reliability purposes in the event that either project has a failure of both wells. Since all four of the wells (BEP and BEP II) are located within 2000 feet of each other, and the frequency and duration of use will not be a routine practice, there are not issues related to drawdown impacts which warrants any further evaluation. The period of time is not a finite number which we can state as it depends on problems with equipment failures over the life of the project.

**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.

**RESPONSE TO DATA REQUEST 216**

Please see the response to Data Request #199

**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

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

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.

**RESPONSE TO DATA REQUEST 217**

Please see the response to Data Request #199

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 218**

Please see the response to Data Request #199

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 219**

Please see the response to Data Request #199

**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

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

- 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 REQUEST**

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.

**RESPONSE TO DATA REQUEST 220**

As indicated in the May 14, 2003 Workshop, the CEC has withdrawn the Data Request.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 221**

As indicated in the May 14, 2003 Workshop, the CEC has withdrawn this Data Request.

**DATA REQUEST**

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:

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

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

**RESPONSE TO DATA REQUEST 222**

As indicated in the May 14, 2003 Workshop, the CEC has withdrawn this Data Request.

**DATA REQUEST**

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

**RESPONSE TO DATA REQUEST 223**

As indicated in the May 14, 2003 Workshop, the CEC has withdrawn this Data Request.

**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 REQUEST**

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.

**RESPONSE TO DATA REQUEST 224**

As indicated at the May 14, 2003, workshop, the CEC **consultant** has offered to **provide** these estimates **and discussions**.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 225**

The WCOP has been updated to include land management measures as follows:

1. BEP II will construct at two wells on-site, to develop the required pumping

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

- capacity and redundant systems needed for the project. The wells will pump groundwater from beneath the project site, and will be equipped with continuously recording meters to maintain accurate and complete records of the volume of water pumped.
2. BEP II will acquire, through purchase or lease, lands on the Mesa or the Palo Verde Valley floor that are within the Palo Verde Irrigation District and are actively irrigated (within the past five years). These lands will be rotationally fallowed or retired from all uses that depend upon Colorado River water.
  3. A consumptive water use volume of 4.2 acre-feet per acre will be used as the accounting basis for this intra-basin and intra-district accounting offset.<sup>1</sup>
  4. BEP II will report their groundwater pumping and document the acreage of land retired from irrigation to Reclamation and PVID annually. Reports for a given year must be sent to Reclamation and PVID by January 31<sup>st</sup> of the following year.
  5. The WCOP shall be implemented concurrent with commercial operation of the power plant, and will remain in effect for the life of the power plant.
  6. The following land management measures to control wind erosion as a condition of any lease agreement for fallowing farmlands;
    - a) For crops that leave adequate stubble residue (alfalfa, wheat, barley and similar crops) pre-fallowing harvesting methods will include retention of crop stubble to leave the non-irrigated fields with a root system to help hold soil in place and minimize wind erosion.
    - b) For crops that would not leave an adequate stubble residue (such as many vegetable or melon crops), clod plowing would be implemented. The term 'clod plowing' refers to the practice of tilling a field when it is wet so that large, damp clumps of soil are produced. These wet clumps break down into clods of soil that have a low susceptibility to wind erosion. For soil types classified as Highly Erodible Land (HEL) soils by the NRCS, mulch or similar material would be integrated into the clods to further strengthen their resistance to wind erosion.

**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

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

impacts related to the MWD following project, but did not discuss any cumulative impacts related to the BEP 1 project.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 226**

The response to data request 175 addresses cumulative effects of wind erosion from fallowed lands of the recently approved Palo Verde Irrigation District / Metropolitan Water District (PVID/MWD) conservation fallowing water program, and the acreage that may be rotationally fallowed for the BEP II project. The BEP I project was not included since the lands utilized for water conservation offset do not contribute to any potential cumulative effects.

The original BEP project developed a Water Conservation Offset Program that was required to rotationally fallow lands on the valley floor, or retire lands on the Mesa for the life of the project. Criteria applicable to the BEP I project include:

- 1) lands within PVID's service area;
- 2) lands that had been previously irrigated (no time frame specified as has now been added to the BEP II WCOP);
- 3) lands that would be retired from any use dependent upon Colorado River water.

The selected lands for the BEP I project lie on the Palo Verde Mesa west of the project site that were irrigated for approximately 20+ years, and that have not been used for production due to economic reasons since the early 1990s. These lands are under City of Blythe jurisdiction and meet the criteria for the adopted BEP I program.

Because they have not been in use for a decade or more, and are now permanently retired under the BEP I agreement with the City, their condition and potential contribution to wind erosion is a baseline condition for the BEP II project, and not one that contributes any additional potential for wind blown dust. It should be noted that these lands do not produce any significant wind blown dust, have been naturally colonized with desert plant ground cover, and are as stable as any of the surrounding natural desert lands.

As previously reported, BEP II proposes to include land management measures to control wind erosion as a condition of any lease agreement for fallowing farmlands as part of the voluntary Water Conservation Offset Program. These include:

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

1. For crops that leave adequate stubble residue (alfalfa, wheat, barley and similar crops) pre-fallowing harvesting methods will include retention of crop stubble to leave the non-irrigated fields with a root system to help hold soil in place and minimize wind erosion.
2. For crops that would not leave an adequate stubble residue (such as many vegetable or melon crops), clod plowing would be implemented. The term 'clod plowing' refers to the practice of tilling a field when it is wet so that large, damp clumps of soil are produced. These wet clumps break down into clods of soil that have a low susceptibility to wind erosion. For soil types classified as Highly Erodible Land (HEL) soils by the Natural Resource Conservation Service, mulch or similar material would be integrated into the clods to further strengthen their resistance to wind erosion.
3. Fallowed lands will be rotated on a two to three year cycle.

These measures will also be utilized in the PVID/MWD program. Implementation of these measures will prevent wind erosion from producing significant PM<sub>10</sub> emissions on the fallowed lands, and there should be no significant cumulative effects related to wind borne dust in this desert region. PVID concluded in its analysis, and we concur, that the two farming practices which produce the greatest windblown material – pre-planting plowing, and harvest – will be avoided on fallowed (and retired) lands. PM<sub>10</sub> emissions associated with tilling, planting and harvesting those farmlands, and transporting produce would be eliminated, and the net cumulative effect is likely to a reduction of total PM<sub>10</sub> emissions.

Effects on groundwater supply, including the relationship to local and regional groundwater resources is considered in the aquifer test analysis and projections of regional groundwater drawdown. There are no effects of the project's use of California groundwater attributable to "the Colorado River and other cumulative hydrologic impacts". However, to address concerns of the Bureau of Reclamation, the federal agency with sole jurisdiction over the Colorado River and its tributary surface waters, the BEP II project developed its voluntary Water Conservation Offset Program to offset its California groundwater use with irrigation water that would have relied upon a Colorado River entitlement.

The Bureau has reviewed the BEP II WCOP, and has advised the Commission in writing that the voluntary WCOP does address all of its concerns, and would satisfy the objectives of its Accounting Surface Policy, should it ever be adopted (*Robert Johnson, Bureau of Reclamation, June 14, 2002 letter to Terry O'Brien, California Energy Commission*).

This data request 226 reveals continued confusion regarding this point, so it may be useful to review the key facts pertaining to surface water (which falls under jurisdiction of the federal agency), and local and regional groundwater (which are governed by California water law).

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

The Bureau of Reclamation (Reclamation) is the Supreme Court appointed Water Master for allocation of surface water from the Colorado River. A complex set of laws and regulations, collectively known as the *Law of the River*, govern surface water entitlements to Colorado River waters, and full discussion of the Law of the River has been added to the AFC text and LORS tables, as requested during data adequacy review. The Blythe II project will rely upon groundwater, and does not propose to use any surface water.

We have consulted with Reclamation over the past three years regarding these issues. As was clearly established in the original Blythe Energy case, no LORS apply to the use of groundwater on the Palo Verde Mesa, and neither Reclamation nor the Palo Verde Irrigation District currently exerts jurisdiction over any existing well users in the Palo Verde Valley or Mesa. However, Reclamation has indicated that it believes it can extend its regulatory authority under the Law of the River to all Mesa well users, and that it is likely to do so in future years.

Towards that end, the Bureau, in conjunction with the USGS, has developed a model, referred to as the “Accounting Surface”, in an attempt to determine the relationship of regional groundwater to surface water in the Colorado River. This model is the basis of Reclamation’s contemplated policy, and has been a source of contention with PVID, Mesa groundwater users, and other water users on the River for more than a decade now. Reclamation has no firm timetable for actually developing a policy whereby they would regulate groundwater users relative to the PVID surface water entitlement.

Since groundwater pumping for the Blythe Energy Project will encounter the Accounting Surface as defined by Reclamation, Reclamation has suggested that this use of water, and all other Mesa groundwater users, may be accounted for at some undefined time in the future as a part of PVID’s Priority 3 surface water entitlement. For that reason, and to ensure that the power plant project does not impact PVID, the Blythe Energy Project, and now Blythe II, each voluntarily agreed to implement Water Conservation Offset Programs.

CEC staff directed BEP II to obtain a letter from the Bureau of Reclamation explaining the jurisdictional question, and confirming suitability of the Water Conservation Offset Program (WCOP) voluntarily developed by BEP II for the project. That letter, from Regional Director Robert Johnson, with a full copy of the Final Voluntary WCOP attached, has been docketed and made a formal part of the record. The letter confirms Reclamation’s positions that:

- For over 10 years Reclamation has been developing a database of wells along the Colorado River from Lake Mead to Mexico. In addition, Reclamation and USGS has developed an approach that identifies an accounting surface along the Lower Colorado River. This approach is designed to enable Reclamation to determine whether water is mainstem Colorado River water in order to assert jurisdiction over the use of this water.

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

- The Water Conservation Offset Program voluntarily developed by BEP II addresses Reclamation's objectives for selection and management of lands to account for water use, and prevent increased Colorado River water demands in the Lower Basin.
- With voluntary implementation of the Final WCOP the Bureau concludes that that project will have no impacts under its proposed accounting surface policy on the Colorado River system or junior water rights holders within that system

It is important to reiterate that Reclamation does not currently account for other wells on the Mesa or anywhere in the Palo Verde Valley in this fashion, or any other groundwater activity for any use, but has indicated that it intends to regulate in the future, and is developing policy in coming years to that end. In addition, PVID has no policy to govern groundwater use, and at present does not regulate any groundwater user, or actively account for groundwater use as a part of its surface entitlements.

Adoption of a voluntary Water Conservation Offset Program is not required in response to any finding of environmental impact, or any requirement under existing LORS. Finally, with regards to the voluntary WCOP, we note that no other groundwater user in the region has taken such extraordinary measures to provide long term offset as has been done voluntarily and at considerable expense for this project.

The Bureau's letter to the CEC (June 14, 2002) makes clear and unambiguous findings regarding legal jurisdiction and findings of no impacts on the Colorado River or other surface waters:

*Reclamation considers all wells in the lower Colorado River floodplain and wells within which the static water level is equal to or less than the accounting surface to be utilizing Colorado River water for accounting purposes, and we are in the process of developing a comprehensive regulatory program to account for these wells and their pumping. However, notwithstanding the Secretary's responsibilities under the Decree, we know of no laws, ordinances, regulations or standards currently being exercised to control or regulate groundwater pumping or other well users upon the Palo Verde Mesa.*

*The Water Conservation Offset Program voluntarily developed by BEP II addresses Reclamation's objectives for selection and management of lands to account for water use, and prevents increased Colorado River water demands in the Lower Basin. (underline emphasis added)*

Therefore, we concluded that the BEP II project does not pose any potential cumulative effects on "the Colorado River and other cumulative hydrologic impacts".

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

**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>2</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.

**DATA REQUEST**

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

---

<sup>2</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).

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

- differences (incremental and decremental loading) in percentage side by side. Include all pre-project overload criteria violations.
- 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.

**RESPONSE TO DATA REQUEST 227**

The combination of the BART Study and the BART Executive Summary (both dated March 2003, although the Executive Summary was provided as part of the second Data Request) meets the overall objective of this data request. The pre BEPII conditions, known as the REV3 base case, are included and summarized in both reports, and detailed in Appendix H of the BART Study. Power Flow Maps include line flows and bus voltages for Blythe area as well as the wider area regional flows from Palo Verde to Devers and Miguel (including most of the interconnected IID and Western system). The Option 3 (BEPII with a radial double circuit 230kV line to Devers) and Option 4 (BEPII with a radial single circuit 500kV line to Devers) cases are summarized in the report, and detailed in Appendix O and Appendix P of the BART Study. Numerous sensitivity cases were completed, including the Spring study and interconnecting to Buck were also included in the existing BART Study.

The one-line diagrams that have been provided do not exactly match the model for the power flow analysis. At the time the cases were developed for the BART study, multiple options were envisioned and a model was developed that would accommodate the various options. From a power flow perspective and a preliminary screening analysis, the flow would be very similar in either scenario.

A disk has been prepared with the necessary files, cases, contingencies, etc. for this analysis and should be received by the CEC within the next week.

Connecting through Coachella Valley was not reviewed as part of this study analysis. If IID would like to take a look at this analysis, the BART model is available to determine

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

the benefit for this connection (IID was part of the BART study team).

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 228**

The Transient Stability Analysis will be completed prior to the FSA.

**DATA REQUEST**

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.
  - 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

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

and feasibility of implementing the selected mitigation measure before the on-line date of BEP II.

**RESPONSE TO DATA REQUEST 229**

The Short Circuit Studies will be completed prior to the FSA.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 230**

The Executive Summary (submitted with the previous data request) includes the mitigation discussions for each of the Transmission Options 3 and 4, N-0, N-1, and N-2 comparison tables that include loadings at 100% or higher with and without BEP II. This Summary only includes Power Flow analysis at this time with transient stability and short circuit impacts to be determined over the coming months.

For example, for Transmission Option 4 (500kV radial option), the selected mitigation for the single contingency of the line between BEP II and Devers will require that BEP II generation be tripped under these conditions (since the line is radial to Devers). The most critical contingency for the loading at the Devers substation, is the single contingency outage of the Devers to Valley 500kV line may cause the loading on the existing Devers 500/230kV transformer to be approximately 110% of the emergency rating. Mitigation for this overload can be accomplished by a reduction in BEP II generation or the addition of the second 500/230kV transformer. The analysis also suggested that any flows above 1650MW (precontingency) into the Devers 500kV substation would also cause overloads on the existing Devers 500/230kV transformer. The analysis also suggested that there is an import limit to the Devers 230kV bus of approximately 2200MW and that additional loading above this level (regardless of season) would cause overloads on the Devers-San Bernadino #1 230kV line for loss of the parallel line. The mitigation would be to reduce BEP II generation if attributed to BEP II (defined under simultaneous import nomogram situations, similar to what the CAISO has developed for the Miguel import capability).

The development of these operating mitigations with SCE will also be reviewed as the transient stability and short circuit studies are completed and should be included for the Final Staff Assessment.

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 231**

The DSWTP DEIS does not specify a point of termination for the east end of the line. The DSWTP identifies Hobsonway Substation as a possible location for terminating the east end of the line with references to Blythe and Buck Blvd. Substations as other possibilities. It is our understanding that the DSWTP is waiting for completion of studies by Edison, IID and Western to determine the exact configuration of the termination points for DSWTP. However, termination at Buck Blvd for DSWTP is now the preferred option.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 232**

A copy of the BEP II Application for Interconnection to the Western owned Buck Blvd Substation has been submitted as a confidential filing to the CEC. This is an updated Application replacing a previous Request for Interconnection with Western that was submitted in July, 2001. The Western OATT provides a schedule for processing Interconnection Requests. It is expected that the necessary interconnection studies may be completed by Western within the next 6 months. The Blythe Area Regional Transmission (BART) Study, in which Western participated, does not identify any impacts to the Western system beyond Buck Blvd. All improvements should be contained inside the existing fence line of Buck Blvd Substation.

**BLYTHE ENERGY PROJECT PHASE II  
02-AFC-01  
DATA RESPONSES**

**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).

**RESPONSE TO DATA REQUEST 233**

The requested visual simulations are provided as attachment 233. Base photos of the completed Blythe Energy project were obtained. The simulation of the Blythe II facility uses colors representative of those proposed to be used. Although the switchyard towers are depicted as a tan color at KOP2 and KOP6, they will not be painted. They will be galvanized steel which will oxidize. This is consistent with BEP.

**DATA REQUEST**

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.

**RESPONSE TO DATA REQUEST 234**

The single 500 kV line from the Blythe II integration substation to the Buck Blvd. substation will be approximately 2000 feet long. It is expected there will be 3 to 4 tubular 500 kV structures. The structures will either be H-frame or single poles; selection of tower type will be made following detailed evaluation of the proposed route. Single circuit H-frame towers are expected to be approximately 85-90 feet tall. Single circuit poles are expected to be approximately 110 feet tall. The attached sketches depict the single circuit H-frame and single pole options.

**BLYTHE ENERGY PROJECT PHASE II**  
**02-AFC-01**  
**DATA RESPONSES**

The transmission towers between the Blythe II integration substation and the Buck Blvd. substation may carry two 500 kV circuits. If the towers are double circuited, they will be approximately 35 feet higher than the single circuit towers.

The towers will be constructed of galvanized steel; the galvanized surface of the towers will oxidize to a dull gray color following exposure to the ambient weather conditions.

One 500 kV breaker and switch will be added to the Buck Blvd switchyard. Additionally, a 500 – 161/230 kV transformer will be added to the Buck Blvd substation between the new 500 kV breaker and the existing Buck Blvd buswork. A dead end structure will be included for the 500 kV circuit coming from Blythe II. The attached sketch depicts a plan view of the Buck Blvd. switchyard following addition of the Blythe II components.

**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.

**RESPONSE TO DATA REQUEST 235**

The Hobsonway Substation is one of several alternatives for the Desert Southwest Transmission Project, not Blythe Energy Project, Phase II. We are not able to provide any details on the proposed configuration of this equipment as we do not have any conceptual “physical” arrangement drawings for this facility in our possession.