Revised Staff Assessment / Draft Environmental Assessment

BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATIONS

Amendment Petition (99-AFC-8C)
Riverside County

CALIFORNIA ENERGY COMMISSION

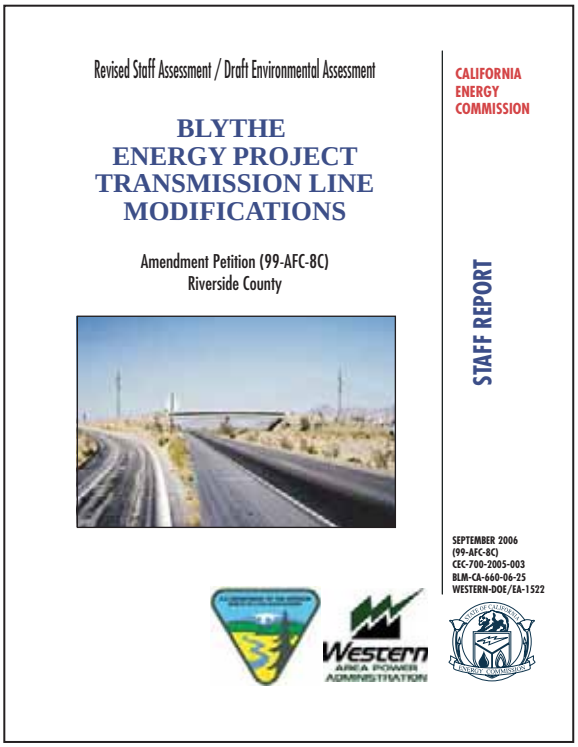
STAFF REPORT

SEPTEMBER 2006
(99-AFC-8C)
CEC-700-2005-003-FSA-REV1
BLM-CA-660-06-25
WESTERN-DOE/EA-1522

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Western
AREA POWER
ADMINISTRATION

STATE OF CALIFORNIA
ENERGY COMMISSION



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INTRODUCTION

This Revised Staff Assessment / Draft Environmental Assessment (RSA/DEA) for the Blythe Energy Project Transmission Line (BEPTL) modification amendment petition contains the California Energy Commission, Western Area Power Administration (Western) and Bureau of Land Management (BLM) staffs evaluation of Blythe Energy, LLC's (Blythe Energy or Applicant) petition to amend the Energy Commission's decision for its original project and modify the existing Blythe Energy Project (BEP) license (99-AFC-8C). Western and BLM as co-lead Federal agencies have participated in the review of this petition and have had significant input in the development of the RSA/DEA.

The Commission is the lead agency for the purpose of California Environmental Quality Act (CEQA) compliance. Western and BLM are the co-lead Federal agencies for the purpose of National Environmental Policy Act (NEPA) compliance. The agency participants will be referred to as "staff" for the purpose of this document. A complete description for the necessity of Federal agency participation may be found in the Introduction section of this RSA/DEA. This RSA/DEA is a joint document, presenting staff's analyses and does not necessarily reflect the views of the Commissioners. This document presents analysis for CEQA compliance, and it contains the information required under NEPA. Western and BLM will use the RSA/DEA as the basis for their environmental determinations under NEPA.

The purpose of the Energy Commission's amendment petition review process in this RSA/DEA is to assess the direct, indirect and cumulative impacts of this proposal on the environment, public health and safety and the existing electric transmission system. The RSA/DEA presents the conclusions, recommendations, and proposed Conditions of Certification (COC) that staff believes are necessary to mitigate or avoid significant adverse environmental impacts from the project if approved by the Commission.

The review process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Decision and if the project, as changed, will remain in compliance with applicable laws, ordinances, regulations, and standards (Title 20, Calif. Code of Regulations, section 1769). Agency staff's conducted two publicly noticed workshops on the Preliminary Staff Assessment (PSA) in February 2005. Based on these workshops, data responses, comments received on the PSA, and additional information that was gathered, staff revised the PSA and has issued a SA/DEA. As a result of new information presented by Intervenor Caithness Blythe II, LLC at the Prehearing Conference held on July 31, 2006, staff has published the RSA/DEA. An explanation of why the co-lead agency authors have published a RSA/DEA is presented under the heading "Desert Southwest Transmission Project Midpoint Substation Option in this Executive Summary.

PROJECT DESCRIPTION

The BEPTL project would be located entirely within Riverside County, between Western's Buck Boulevard Substation near the City of Blythe and Metropolitan Water District's Julian Hinds Substation near Hayfield (Project Description Figures 1 & 2).

Along most of its 67.4-mile length, the Buck to Julian Hinds transmission line component would be located within a 95-foot right-of-way (ROW) adjacent to and north of Southern California Edison's (SCE's) existing Devers-Palo Verde (D-PV1) 500-kV transmission line.

The Buck to Midpoint Substation component is a proposed 230-kV transmission line approximately 6.7 miles long, extending from the existing Buck Substation, adjacent to the BEP, to the Midpoint Substation proposed by Blythe Energy. This proposed line will be located adjacent to Western's Blythe-Knob and Imperial Irrigation District's (IID's) Blythe-Niland 161-kV transmission lines. The transmission structures will be primarily a single-column concrete/steel hybrid pole type and require a ROW width of 95 to 100 feet.

DESERT SOUTHWEST TRANSMISSION PROJECT MIDPOINT SUBSTATION OPTION

At the request of Blythe Energy, LLC, the Commission's Committee has directed staff to analyze the Desert Southwest Transmission Project (DSWTP) Midpoint Substation location and adjusted transmission line route as an option to be added to the BEPTL amendment. Blythe Energy, LLC, has provided a Supplemental Analysis filed on August 7, 2006, for the DSWTP Midpoint Substation Option and alignments for milepost 65.5-67.4 near Julian Hinds substation. The Energy Commission staff conducted a workshop on August 16, 2006 to review and take comments on the new information provided by Blythe Energy. Commission staff in agreement with the Bureau of Land Management and Western Area Power Administration staffs as co-authors of the RSA/DEA have considered the DSWTP option as part of our joint agency review under CEQA and NEPA. Staff has published this RSA/DEA document drawing conclusions and making recommendations to mitigate potential impacts of the proposed DSWTP option to a level of less than significant. For a complete review of the DSWTP Midpoint Substation option analysis, please refer to "Appendix B" in this document.

Both the Midpoint Substation and DSWTP MSO component of this project would be located adjacent to SCE's existing Devers-Palo Verde (D-PV1) 500-kV transmission line and would interconnect to that transmission line. Blythe Energy may choose to build the substation at either its proposed Midpoint location or at the DSWTP Midpoint location, but not at both locations.[1]

[1] While it is possible that Blythe Energy builds a substation at its proposed Midpoint location and the proponents of the DSWTP build a substation to their DSWTP Midpoint location, that scenario is unlikely. Blythe Energy has indicated a desire to coordinate the placement of a single substation that will serve both its project and those of the DSWTP. In addition, the BLM, prior to and during the July 31, 2006, Prehearing Conference, expressed a strong policy preference that a single substation be constructed. Southern California Edison representatives stated a similar preference at the Prehearing Conference.

PROJECT COMPONENT CHANGES TO ORIGINAL AMENDMENT

Several project components of the original amendment filing have changed during the review of the BEPTL:

- Transmission Line Pole Realignment near the Blythe Municipal Airport (see Project Description Figure-5)
- Transmission Line Pole Relocated near Julian Hinds Substation (see Project Description Figure-6)
- Blythe Energy's Midpoint Substation Relocation (see Project Description Figure-8)
- Transmission Line Pole Realignment near Alligator Rock (see Project Description Figure-9)
- Desert Southwest Transmission Project Midpoint Substation option (see Appendix B) added.

In addition to the above BEPTL project changes, the California Independent System Operator (CAISO) and SCE reviews of the project indicated the need for additional downstream upgrades to the existing SCE transmission line system from Julian Hinds to Mirage 230 kV line. These additions which would consist of six new interset poles placed between existing poles in the existing transmission line corridor. The pole interset action would be SCE's responsibility under the jurisdiction of the California Public Utilities Commission. Staff evaluated the proposed upgrades from the CEQA perspective, since they are a reasonably foreseeable connected action resulting from the BEPTL project.

Details of the project component changes and impacts can be reviewed in the Project Description, Technical Analysis, Appendix A and Appendix B sections of this document. The proposed BEPTL modifications are construction of either of the two new electric transmission line components or both components and a new substation. Appendix A analyzes Downstream Impacts to the proposed project, Appendix B analyzes the DSWTP Midpoint Substation Option. For a complete description of this proposed project amendment, see the Project Description section of this document.

NECESSITY FOR THE PROPOSED MODIFICATION

BEP desires the proposed modification due to restricted transmission line capacity in the Blythe area. This transmission system is controlled predominantly by the CAISO and Western. While BEP can deliver full power to the southwest regional transmission system outside of California, the modifications are intended to enhance the ability to deliver the full capacity of its 520-megawatt power plant located in Blythe, Riverside County directly to the California electricity market. The existing transmission paths to Southern California in the CAISO system are not sufficient to continuously deliver electricity and support the long-term power purchase agreements that Blythe Energy prefers.

In March 2001, the Energy Commission approved the BEP Application for Certification (99-AFC-8). As described in the BEP Commission Decision, a number of transmission

system improvements in the western transmission system were anticipated to deliver the project power to the California regions with high demand for electricity. These transmission system improvements did not materialize. BEP has been unsuccessful in securing other system improvements to deliver its full electricity capacity directly to the desired markets.

Interconnection requests have been filed with SCE and Western for the proposed transmission line components. The transmission components involve termination of new transmission lines into existing facilities that are owned by SCE, Western and MWD (see Project Description). The criteria used by staff in evaluating the results of these analyses include CAISO Grid Planning Standards, Western Electricity Coordinating Council Planning Criteria, and National Electric Reliability Council Planning Standards. Conclusions of these studies and mitigation measures required for any potential impacts that could affect other parties using the regional transmission system are included in the appropriate technical sections of this RSA/DEA.

PROJECT FUNDING AND OWNERSHIP

BEP intends to fund the entire transmission project. It will assume the role of "Project Sponsor" as defined in Appendix A of the CAISO, Federal Energy Regulatory Commission Electric Tariff regulations (section 3.2.1.1.2). Following construction of the modifications, the transmission line(s) and substation facility would be operated and maintained by Blythe Energy or another responsible party as appropriate.

BACKGROUND AND OUTREACH

On October 12, 2004, Blythe Energy filed a Petition to Amend the Commission Decision and modify the project. The Energy Commission appointed a Siting Committee on October 20, 2004, to oversee the amendment petition.

The analysis contained in this RSA/SEA is based upon information from: 1) Blythe Energy's Petition to Amend application; 2) Blythe Energy responses to data requests from Commission staff, Western and BLM; 3) staff's PSA, 4) interested Federal, state, and local agencies; 5) various documents and publications listed at the end of each section, 6) public workshops, site visits and meetings with CAISO, BLM, Western and Native American Tribal Representatives; and 7) staff's independent analyses. The Energy Commission, Western, and BLM have made a substantial effort to notify interested parties and encourage public participation (see Introduction).

At a later date not yet determined, the Energy Commission Committee, consisting of two Commissioners assigned to the BEPTL project will hold public hearings in order to ask questions related to this staff document and receive formal testimony and comments from the public, interested agencies and parties in the proceeding.

SUMMARY OF TECHNICAL AREAS

The table below shows the technical subject areas where staff has recommended changes to the existing BEP license and COC. Staff believes that by requiring the

changes to the existing COC, the potential impacts of the proposed transmission lines and substation will be reduced to less than significant levels. The details of the proposed COC changes can be found under their appropriate technical headings in this document. (See Table 1)

Table 1
Summary of Technical Sections Conditions of Certification

Changes to Conditions of Certification	Technical Subject Area	Changes to Conditions of Certification	Technical Subject Area
Yes	Air Quality	Yes	Soils and Water Resources
Yes	Biological Resources	Yes	Traffic & Transportation
Yes	Cultural Resources	Yes	Transmission Line Safety
Yes	Geo/Paleo Resources	Yes	Transmission System Eng.
Yes	Haz/Material	Yes	Visual Resources
Yes	Land Use	Yes	Waste Management
Yes	Noise	Yes	Worker Safety/Fire Protection

STAFF CONCLUSIONS

Commission staff, along with BLM and Western has concluded, based on staff's analysis that the proposed BEPTL amendment petition and DSWTP Midpoint Substation Option would not result in significant impacts to the environment. Additionally, BLM and Western have concluded that an environmental impact statement will not be required to meet Federal NEPA requirements[2]. Through the implementation of the recommended changes to the existing BEP license COC; the BEP amendment petition and DSWTP Midpoint Substation Option impacts will be reduced to less than significant levels. Furthermore, they will be in compliance with all Laws, Ordinances, Regulations, and Standards. Therefore, staff recommends the amendment petition be granted.

[2] For a complete description of co-agency process and participation see Introduction

INTRODUCTION

Jack W. Caswell, Project Manager

PURPOSE OF THIS REPORT

Blythe Energy, LLC (Blythe Energy or Applicant) filed an amendment petition on October 12, 2004, requesting that the California Energy Commission (Energy Commission) amend the Commission Decision and modify the project in order to develop two new transmission lines and a substation for the existing Blythe Energy Project (BEP) facility located in the City of Blythe, Riverside County. The proposed transmission line project is identified in this Staff Assessment/Draft Environmental Assessment (SA/DEA) as the Blythe Energy Project Transmission Line Modification Petition (BEPTL).

On March 21, 2001, the Energy Commission approved the BEP Application for Certification (AFC) (99-AFC-8). As described in the BEP Commission Decision, a number of transmission system improvements in the western transmission system were anticipated to deliver the project power to the California regions with high demand for electricity. These transmission system improvements did not materialize. BEP has been unsuccessful in securing other system improvements to deliver its full electricity capacity directly to the desired markets.

During the Energy Commission's review of original BEP AFC, it was determined that transmission improvements through the Imperial Irrigation District (IID) would solve electrical capacity direct delivery problems in the California market. As described in the original AFC, BEP submitted a service request to the IID for long-term transmission service through the district. In response to the request for services the IID submitted permitting designs for a double-circuit 230-kV transmission line parallel to their existing Blythe-Niland 161-kV transmission line that is routed across the United States Marine Corps (USMC) Chocolate Mountains Aerial Gunnery Range. USMC approval is required to initiate the requested improvements to the IID transmission line. Subsequent to the events of September 11, 2001, the USMC has permanently rejected any additional transmission line routing or improvements to transmission lines across the gunnery range. This decision has been the basis for the BEP amendment petition.

Energy Commission staff along with the Bureau of Land Management (BLM) and Western Area Power Administration (Western) prepared this Staff Assessment Draft Environmental Assessment (SA/DEA) in accordance with California Environmental Quality Act and National Environmental Policy Act (CEQA/NEPA) requirements. BLM and Western are co-lead Federal agency participants in this process and have control over portions of the existing BEP transmission system and a portion of the proposed right-of-way for the proposed additional transmission lines. Staff's environmental and engineering analysis in this document is the factual basis for staff's recommended finding regarding the project's potential to result in significant impacts on the environment or energy resources.

NATIONAL ENVIRONMENTAL POLICY ACT CRITERIA

NEPA requires that the decision-makers and the public be fully informed of the impacts associated with the proposed project. The intent is to make good decisions based on understanding environmental consequences, and to take actions to protect, restore, and enhance the environment. BLM's and Western's Draft Environmental Assessment (DEA) is intended to provide sufficient evidence and analysis for determining whether the agencies should prepare separate Findings of No Significant Impact (FONSI) or, if potentially significant impacts remain after mitigation, initiate an Environmental Impact Statement (EIS) process.

Alternatives to the proposed project that are identified and examined must be consistent with the Federal agencies' purpose and need for the action under consideration. The Applicant's objectives are described below in the Project Objectives section. BLM and Western's purpose and need statements are described in the NEPA Purpose and Need section. This SA/DEA has identified and assessed several alternatives to the Applicant's proposed project, although not to the same level of analysis as the proposed project. Western's need is to grant or deny the BEP's application for interconnection at Buck Boulevard Substation, and its purposes are to provide transmission service and protect system reliability while complying with the Open Access Transmission Policy and General Guidelines for Interconnection. Given this limited BLM and Western purpose and need, the alternatives analysis in this document is considered adequate for the Draft EA, and full analysis of the alternatives to the Applicant's proposed project is not necessary.

NEED AND PURPOSE FOR FEDERAL AGENCY NEPA REVIEW

NEED AND PURPOSE FOR WESTERN ACTION

Blythe Energy has applied to interconnect with Western's transmission system at the Buck Boulevard Substation. Western must respond to Blythe Energy's request for an interconnection with the Federal transmission system.

In responding to the Need for Agency Action, Western must achieve the following purposes.

1. Providing transmission service per Open Access Transmission Policy:

   Federal Energy Regulatory Commission (FERC) Order Numbers 888, 888-A, 888-B, and 888-C require all public utilities owning or controlling interstate transmission facilities to offer non-discriminatory open access transmission services. That is, a utility must offer to provide third parties, to the maximum extent possible, with transmission service that the utility could provide itself on its system. FERC was addressing the need to encourage lower electricity rates by facilitating the development of competitive wholesale electric power markets through the prevention of unduly discriminatory practices in the provision of transmission services (FERC 1996).

To comply with FERC Orders 888, 888-A, 888-B and 888-C, Western published its Notice of Final Open Access Transmission Service Tariff (Tariff) in the Federal Register on January 6, 1998, and filed an amendment to the Tariff with FERC on January 25, 2005, (http://www.wapa.gov/transmission/oatt.htm). With this amendment Western adopted FERC's Large Generator Interconnection rules promulgated in orders 2003, 2003-A and 2003-B. Under this tariff, Western offers transmission service for the use of available transmission capacity in excess of the capacity Western requires for the delivery of long-term firm capacity and energy to current contractual electric service customers of the Federal government. Under the Tariff, Western will provide firm and non-firm point-to-point transmission service and network integration transmission service to the extent that Western has available transmission capability.

2. Addressing an Interconnection Application per Western's General Guidelines for Interconnection:

   In addition to the tariff, Western's General Guidelines for Interconnection provide a process for addressing applications for interconnection. The process dictates that Western respond to an application as presented by an Applicant. Section 211 of the Federal Power Act requires transmission services be provided.

3. Protecting Transmission System Reliability and Service to Existing Customers:

   Western must ensure that existing reliability and service is not degraded. Western's General Guidelines for Interconnection involve transmission and system studies to ensure that system reliability and service to existing customers would not be adversely affected if the interconnection was granted.

4. Consideration of the Applicant's Objectives:

   Since the statement of purpose and need affects the extent to which alternatives are considered reasonable, it is important to understand both Western's purpose and need and that of the Applicant.

WESTERN'S DECISION PROCESS

Western's decision is limited to determining if the transmission line modifications proposed by the Applicant can be interconnected with Western's transmission system. Western's decision will take into account:

- Potential environmental effects of the proposed transmission line or substation modifications;
- Potential mitigation measures for the transmission line or substation modifications; and
- Interconnection proposal consistent with Western's purposes, including the Applicant's objectives.

However, by voluntarily agreeing to coordinate with the Commission Staff on a joint analysis process and by agreeing to any Conditions of Certification imposed by the Commission in the final Commission's Presiding Members Decision for the possible

approval of the Blythe Energy Project Transmission Line Amendment, Western is not conceding any jurisdictional authority over Federal facilities to the State of California.

NEED AND PURPOSE FOR BLM INVOLVEMENT

Blythe Energy has proposed to construct a transmission line and electrical substation. Portions of these proposed transmission lines and substation would be constructed on BLM administered public lands.

The project proponent would have to secure a right-of-way grant from the BLM prior to constructing these facilities on BLM lands. This grant would allow the grant holder to construct, use, and maintain an electrical transmission facility on BLM lands under terms and conditions specified in the grant. The BLM decision in this process would be to either approve issuance of the grant on the proposed or other alternative alignment considered in the SA/DEA or deny issuance of any right-of-way grant for the entire project.

BLM DECISION PROCESS

BLM's decision is based on a detailed analysis that includes consultation and coordination with other governmental entities and interested parties and a determination on whether the proposed project is in the public interest, is consistent with BLM's land use plan, and would not result in unnecessary or undue degradation of public lands. BLM's decision will take into account:

- Potential environmental effects of the proposed transmission line modifications;
- Potential mitigation measures for the transmission line modifications; and
- Interconnection proposal consistent with Western's, SCE's and CAISO's purposes, including the Applicant's objectives.

BLM AND WESTERN'S FINAL DETERMINATIONS

For purposes of the NEPA process, BLM and Western will each determine the significance of environmental impacts in separate determinations. Western will file the Staff Assessment/Draft Environmental Assessment (SA/DEA) as their Draft Environment Assessment (DEA). When the Presiding Member's Decision (PMD) is published, Western will review the PMD and incorporate any changes made as part of that decision in the DEA. Western anticipates that this incorporation will be in the form of an errata sheet added to the SA/DEA, which would then constitute the completed Final Environmental Assessment. Western expects any changes stemming from the PMD will be additions or deletions to Conditions of Certification, easily dealt with in an errata format.

BLM will use the SA/DEA as the DEA. After the Commission issues a PMD, this PMD document will then become the Final Environmental Assessment for BLM. The co-Federal agencies are issuing independent determinations due to the fact that each agency has authority over different specific portions of the BEPTL project. The areas of greatest concern and responsibility for the co-Federal agencies are very different as identified in the above sections. If the agencies determine there are no significant impacts after mitigation, they will issue separate Findings of No Significant Impacts

(FONSI). Publishing a FONSI would complete the assessment portion of the Federal environmental process. If either of the agencies determines that there are remaining potentially significant impacts, a Notice of Intent to Prepare an Environmental Impact Statement will be published in the Federal Register and copies distributed to the project mailing list.

Federal agency conclusions about significance may vary from the conclusions reached by Energy Commission staff and the Presiding Members Decision. The Federal agencies will consider the SA/DEA and PMD findings but may apply different weightings to the Commission's significance criteria or may consider different criteria. Any differences will be presented in Western's and BLM's Final Environmental Assessment.

CALIFORNIA ENERGY COMMISSION PROCESS

California's Warren-Alquist Act (Pub. Resources Code (PRC) § 25000 et seq.), provides the Energy Commission the exclusive power to certify all sites and related facilities for thermal electrical power plants of 50 MW or more within the state (Pub. Resources Code § 25120 and 25500 et seq.). Additionally, Title 20, California Code of Regulations (CCR) § 1769 authorizes the Energy Commission to approve amendments and modifications to those facilities it has certified. The amendment process includes an evaluation of the engineering and environmental impacts of the modified project and whether it will remain in compliance with applicable laws, ordinances, regulations, and standards (LORS).

The Energy Commission has appointed a Committee composed of two Commissioners who conduct hearings at which parties will present expert testimony and the public will have an opportunity to comment on the SA/DEA and make recommendations on the amendment petition. The Committee will consider the amendment petition, SA/DEA, and any other evidence presented in the proceedings to determine whether to recommend approval of the amendment to the full Commission. Following hearings, the Committee will prepare and publish a proposed decision. The full Commission will then hold a hearing for final discussions on the project and render a decision in the form of the Presiding Members Decision (PMD).

At this point in the process, the SA/DEA and any changes made by the Commission in the PMD from staff's SA/DEA will become the basis for Western to issue an errata to the SA/DEA making it Western's Final EA for this process. BLM will use the PMD as their Final EA to complete their process (see pg. 2-4). This will be the basis for their coordinated but independent FONSI's, provided there are no residual significant impact determinations.

Section 1769(a)(3) authorizes the Commission's approval of the amendment petition if it can make the following findings:

"(A) The findings specified in section 1755 (c) [whether all significant environmental impacts can be mitigated or avoided], and (d) [if all significant impacts cannot be avoided, overriding considerations justify approving the amendment], if applicable;

(B) That the project would remain in compliance with all applicable laws, ordinances, regulations, and standards [LORS], subject to the provisions of Public Resources Code section 25525 [allowing override of local standards under specified circumstances];

(C) The change will be beneficial to the public, Applicant, or intervenors; and

(D) There has been a substantial change in circumstances since the Commission certification justifying the change or that the change is based on information that was not available to the parties prior to Commission certification."

SA/DEA ORGANIZATION

This report will focus on the proposed changes to the certified project, discussing the approved features only when they are relevant to that analysis. Some topic areas that would normally be found in a Commission Staff Assessment (e.g., Reliability, Efficiency, Facilities Design and Public Health) are unaffected by the proposed amendment and are therefore not present but are addressed in the form of a brief explanation about why further discussion of those topics is unnecessary. For those topic areas in which discussion is warranted, the report will provide:

- a description of the project including the location of the project;
- an identification of the environmental setting;
- an identification of environmental effects,
- a discussion of the ways to mitigate the significant effects identified, if any;
- an examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls and other applicable LORS; and
- the name of the person or persons who prepared or participated in the Staff Assessment / Draft Environmental Assessment.

Staff has modified some of the existing Conditions of Certification (COC's) to the BEP license in various technical areas and in some cases added additional COC's which, if implemented along with the BEPTL petition's proposed mitigation measures and existing COC's, will ensure that the project would result in no significant environmental impacts. Where COC's have changed from the original Commission Decision staff displays the revised information in underline (new text) and ~~strikethrough~~ (removed text). In addition, staff will adopt a reporting or monitoring program designed to ensure compliance with the Conditions of Certification during project development.

The Energy Commission, BLM and Western staffs have made a substantial effort to notify interested parties, encourage public participation and notify property owners within 1000 feet of the BEP project and 500 feet of the transmission line. The state and Federal co-lead agencies have:

- Mailed Notices of Receipt to interested parties, local libraries, responsible and trustee agencies, and persons with contiguous property and linear facilities on October 15, 2004, for the Petition to Amend the Blythe Energy Project;

- Mailed a Notice of Public Hearing and Site Visit conducted on November 1, 2004, to responsible and trustee agencies, persons with contiguous property and linear facilities to the proposed project, sensitive receptors, and individuals that have expressed interest in the project,
- Placed an advertisement notice in the Desert Post Weekly and Palo Verde Valley Times to include radio and television stations on November 9, 2004, to announce a Informational Public Hearing and Site Visit,
- Conducted an Informational/Scoping Hearing and Site Visit on November 10, 2004;
- Placed an advertisement notice in the Desert Post Weekly and Palo Verde Valley Times on November 9, 2004, to announce a Public Workshop,
- Sent notices to responsible and trustee agencies, persons with contiguous property and linear facilities for a Public Workshop conducted on November 15, 2004,
- Sent contact letters starting in December of 2004 through April 2005 and made follow-up phone calls to Native American Tribes to inform them of the BEPTL amendment and possible impacts to cultural resources and invited them to a consultation meeting and field trip,
- Published a Preliminary Staff Assessment on January 24, 2005, and sent notices of such to responsible and trustee agencies, libraries, persons with property contiguous to the proposed project and linear facilities, and individuals that have expressed interest in the project,
- Mailed a Public Notice on February 1, 2005 for a Preliminary Staff Assessment Workshop conducted on February 17th, and 18th, 2005, to responsible and trustee agencies, persons with property and linear facilities contiguous to the proposed project and individuals that have expressed interest in the project,
- Held project consultation and field trip on cultural resources with Native American Tribes in Blythe on April 26, 2005 and Banning November 15, 2005;
- Published a Staff Assessment / Draft Environmental Assessment in May, 2006, and sent notices of such to responsible and trustee agencies, libraries, persons with property and linear facilities contiguous to the proposed project, and individuals that have expressed interest in the project;
- Posted notices and project documents and information including this Staff Assessment/Draft Environmental Assessment on the internet.

TECHNICAL SECTIONS DETERMINED NOT APPLICABLE

The following technical sections are typically sections published as part of the Commission's Staff Assessment review for a power plant facility but were removed from the amendment review document process; staff's review of the BEPTL does not require these technical sections. There is a brief explanation of why these sections were removed and where pertinent information relating to each section may be found in this document.

PUBLIC HEALTH: The technical area of Public Health discusses and analyzes the potential health impacts of releases of toxic emissions from construction and routine operation of proposed projects. The construction and routine operation of a transmission line would not release toxic contaminants into the environment. Therefore, this document does not include a Public Health analysis. Impacts on public and worker health from accidental releases of hazardous materials are examined in the **Hazardous Materials Management** section. Health effects from electromagnetic fields are discussed in the **Transmission Line Safety and Nuisance** section. Pollutants released from the project in wastewater streams to the public sewer system are discussed in the **Soils and Water Resources** section. Construction releases in the form of hazardous and non-hazardous wastes are described in the **Waste Management** section.

EFFICIENCY: Power Plant Efficiency is not affected by this project. The power plant is presently capable of operating at full load (and thus at its maximum efficiency). This project would simply enable the owner to direct the plant's output where additional markets may be available. Therefore, this document does not include an Efficiency analysis.

FACILITY DESIGN: Facility Design provides assurance that the power plant itself will be designed and constructed in compliance with applicable codes and standards. Such assurance regarding the design and construction of the transmission line is examined under the topic, **Transmission System Engineering**. Therefore, this document does not include a Facility Design analysis.

RELIABILITY: Power Plant Reliability is not affected by this project. Reliability is determined by the design, construction and operation of the power plant, and by adequate supplies of fuel and cooling water. Any reliability issues related to electric transmission are examined under the topic, **Transmission System Engineering**. Therefore, this document does not include a Reliability analysis.

PROJECT DESCRIPTION

Testimony of Jack W. Caswell, Project Manager

PROJECT TITLE

Blythe Energy Project Transmission Line Modifications (BEPTL) Post-Certification Amendment Petition (99-AFC-8C).

LEAD GOVERNMENT AGENCIES AND ADDRESSES

STATE

California Energy Commission
Energy Facilities Siting Division
1516 Ninth Street M.S.15
Sacramento, CA 95814

FEDERAL

Bureau of Land Management
Palm Springs and South Coast
Field Office
690 W. Garnet Ave.
North Palm Springs, CA 92258

Western Area Power
Administration
Corporate Services Office
12155 W. Alameda Pkwy
P.O. Box 281213
Lakewood, CO 80228-8213

PROJECT COMPONENT LOCATIONS

The proposed modifications would be located entirely within Riverside County, between the Western Area Power Administration's (Western) Buck Boulevard Substation near the City of Blythe and the Metropolitan Water District's (MWD) Julian Hinds Substation near Hayfield. For most of its 67.4 mile length, the Buck Boulevard to Julian Hinds transmission line component would be located adjacent to Southern California Edison's (SCE) existing Devers-Palo Verde (D-PV1) 500-kilovolt (kV) line. Additionally, this transmission line would require a 95-foot right-of-way (ROW) adjacent to and north of the D-PV1 260-foot ROW and the proposed Devers-Palo Verde D-PV2 line.

The existing transmission line ROW and the proposed Buck Boulevard to Julian Hinds right-of-way are within Bureau of Land Management (BLM) Utility Corridor K designated in the California Desert Conservation Area (CDCA). The project request for a 95 to 100-foot ROW would result in a combined total of 360 feet of transmission line right-of way on BLM lands. (Project Description Figures-1 & 2)

A 6.7 mile portion of the transmission line would be constructed from Western's Buck Boulevard Substation to Blythe Energy's proposed Midpoint Substation that would be located adjacent to SCE's D-PV1 lines. In addition, Blythe Energy is proposing a double circuit, single pole, to carry both the Buck Boulevard to Julian Hinds and Buck Boulevard to D-PV1 Midpoint Substation transmission lines. The Buck Boulevard to D-

PV1 Midpoint Substation interconnection would parallel the existing Western Blythe-Knob and the Imperial Irrigation District (IID) Blythe–Niland 161-kV transmission line. The proposed Midpoint Substation would provide an interconnection to SCE's existing D-PV1 500-kV transmission line. (Project Description Figures-3 & 4)

PROJECT SPONSOR'S NAME AND ADDRESS

Blythe Energy, LLC
700 Universe Blvd
Juno Beach, FL 33408

PROJECT GENERAL PLAN DESIGNATIONS

- Bureau of Land Management Plans, Class L & M (Multiple Use Class)
- Riverside County General Plan, (Public Facilities and Services)
- Desert Center Specific Area Plan
- Palo Verde Valley Specific Plan
- Airport Desert Center General Plan, (FAA Regulations)
- Riverside County Scenic Highways Element Plan
- City of Blythe General Plan (I-H Zone)

PROJECT HISTORY AND DESCRIPTION

On December 9, 1999, Blythe Energy, LLC, (Blythe Energy or Applicant) owned by FPL Energy, LLC filed an Application for Certification (AFC) seeking approval from the Energy Commission to build the Blythe Energy Project (BEP). BEP is a 520-megawatt (MW) natural gas-fired electric-generating facility situated within the City of Blythe, Riverside County, California. In March 2001, the California Energy Commission (CEC) approved the BEP AFC (99-AFC-8). BEP started commercial operation in December of 2003.

The proposed BEPTL modifications are for the purpose of improving the availability of long-term transmission paths for the delivery of the BEP facility electrical output to the Southern California electrical transmission system. The proposed transmission line modifications would connect additional energy supplies directly into the southern California electrical grid for the future.

BUCK BOULEVARD TO MIDPOINT SUBSTATION TRANSMISSION LINE

This proposed 230-kV transmission line is approximately 6.7 miles long, extending from the existing Buck Boulevard Substation, adjacent to the BEP, traveling to Blythe Energy's proposed Midpoint Substation. This proposed line will be located adjacent to Western's Blythe–Knob and IID's Blythe-Niland existing 161-kV transmission lines (Project Description Figures-3 & 4). The transmission structures will be primarily a single-column concrete/steel hybrid pole type and require a ROW width of 95 to 100 feet. The height of the pole structures will range from 75 to 125 feet above ground

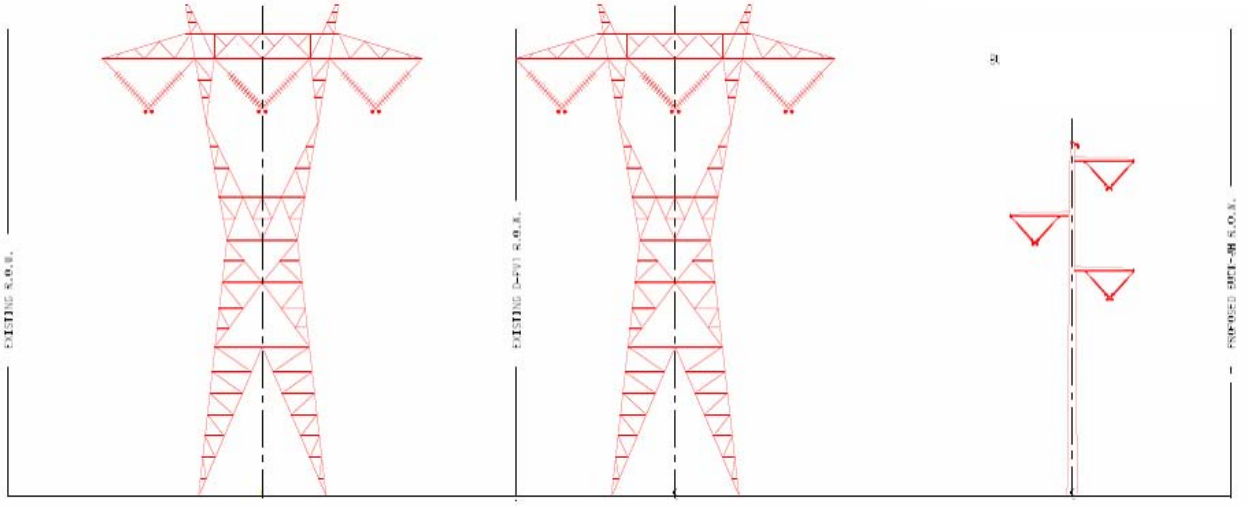
surface depending on terrain and span lengths. The span lengths will range from 400 to 900 feet, averaging about 820 feet. Each pole structure base will be buried to a depth of 20 feet and backfilled with gravel or concrete to form the pole foundation. (Diagrams below)

Diagrams are representative of the existing and planed transmission towers

Existing
SCE Devers-Palo Verde 1
T-line

Planned
SCE Devers-Palo Verde 2
T-line

Proposed
Blythe Buck – Midpoint
T-line and/or Buck to
Julian Hinds



Combined D-PV 1 & 2 ROW 260'
Tower Height 125'

Proposed ROW 95' to 100'
Pole Height 75' to 125'

MIDPOINT SUBSTATION

Blythe Energy's proposed 41.3-acre Midpoint Substation would be located at the intersection of its new transmission line with the existing SCE D-PV1 500-kV transmission line. Equipment within the proposed substation would include transformer bus structures, circuit breakers and associated communication equipment. An existing access road would lead to the site with the road surfaced with gravel or would be otherwise maintained to allow for all weather access. The equipment would be located in the center of the site and have a gravel surface around the concrete equipment pads and foundations. A perimeter road would encircle the equipment inset from the property boundary, and a buffer of land with native vegetation would separate the perimeter road from the fenced property boundary. Blythe Energy's proposed Midpoint Substation would also serve as one of four construction staging/laydown areas for the BEPTL. (Project Description Figure-3)

BUCK BOULEVARD TO JULIAN HINDS TRANSMISSION LINE

The proposed 230-kV transmission line is approximately 67.4 miles long, extending from the existing Buck Boulevard Substation adjacent to the Blythe Energy Project to Metropolitan Water District's (MWD) Julian Hinds Substation west of Desert Center. The first 6.7 miles of structures will be double circuit, if the Midpoint Substation line is built. If only the Buck Boulevard Substation to Julian Hinds component is built, the 6.7 mile

section will be a single circuit structure. The remaining 60.7 miles of the proposed line would be located for most of its length adjacent to SCE's 500-kV D-PV1 transmission line on new poles. Similar to the proposed Buck Boulevard to Midpoint Substation Transmission line the transmission structures will be primarily a single-column concrete/steel hybrid type and require a ROW width of 95 to 100 feet. The height of the structures will range from 75 to 125 feet above ground surface depending on terrain and span lengths. The span length will range from 400 to 900 feet, averaging about 820 feet. Each pole structure base will be buried to a depth of 20 feet and backfilled with gravel or concrete to form the pole foundation.

EXISTING SUBSTATIONS MODIFICATIONS AND LAYDOWN AREAS

Buck Boulevard Substation

The Buck Boulevard Substation upgrade will involve the modification of existing equipment and the addition of new transformer switchgear and related equipment within the current substation boundaries. A construction staging/laydown site within the existing BEP fence line will be used as one of four staging areas for the BEPTL. No new areas will be disturbed as a result of the Buck Boulevard Substation upgrades. (Project Description Figures-2 & 3)

Julian Hinds Substation

The Julian Hinds Substation upgrade will also require the modification of existing equipment and the addition of new switchgear and related equipment. However, the existing substation site will need to be expanded by approximately 0.4 acres. A construction staging/laydown site of an additional 0.5 acres adjacent to the substation would be used as one of four staging areas for the BEPTL. (Project Description Figures-2 & 6)

Desert Center

Desert Center will serve as the fourth staging/laydown area for the BEPTL. This area has been highly disturbed and used for previous construction staging/laydown purposes. The selection of this area will minimize project impacts. (Project Description Figure-2)

DOWNSTREAM UPGRADES TO THE SCE TRANSMISSION SYSTEM

The BEPTL petition has identified an SCE System Impact Study for the proposed Buck Boulevard to Julian Hinds transmission line component that examined possible downstream impacts. This study concluded that the additional electrical power increases exiting the MWD Julian Hinds Substation via SCE's Mirage transmission line would cause excessive sag to the transmission line at six locations on the Julian Hinds to Mirage portion of SCE's transmission line system (99-AFC-8c, sections 3.2.10, 5.17). Therefore, SCE concluded that addition of six interset poles would be appropriate to eliminate the expected transmission line sag.

Although BEP does not consider the interset of poles to SCE's Mirage transmission line as part of the BEPTL project, they are a reasonable foreseeable connected future action

triggered by the project and it is required that this downstream impact be considered as part of the joint agency review under the NEPA and CEQA review process. Review of these impacts have been analyzed and addressed in **Appendix A** of this RSA/DEA document. (Project Description Figure-10)

An additional SCE System Impact Study was completed in November 2005 and concurrence on the mitigation measures required for the project impacts was provided by the California Independent System Operator (CAISO) on December 9, 2005. Blythe Energy provided an additional filing to the Energy Commission dated January 23, 2006 identifying the proposed SCE system upgrades that it would be implementing prior to final approval of the project's interconnection to the CAISO controlled grid system. The proposed system upgrades identified in the January 23rd letter would function as transmission mitigation measures. They would not require additional environmental mitigation at this time. However, SCE will be required to contact the Public Utilities Commission prior to implementing the proposed system upgrades.

REVISIONS TO ORIGINAL PROJECT AMENDMENT PETITION

TRANSMISSION LINE POLE REALIGNMENT NEAR THE BLYTHE MUNICIPAL AIRPORT

At the November 10, 2004, Informational Hearing and Site Visit, the Airport Manager/ Assistant City Manager for the City of Blythe stated that the height and proposed location of the transmission line structures in the vicinity of the Blythe Municipal Airport could potentially create a flight path problem. Furthermore, he stated that future airport development as described within the Airport Master Plan could be affected if the proposed transmission line alignment is not revised. The City of Blythe has suggested an alternative route for the transmission line for poles 8 through 28 to mitigate the potential issues. Blythe Energy adopted the proposed realignment of transmission line poles 8 through 28 to mitigate the City's concerns and for consistency in the ROW (Project Description Figure-5). The new route would be adjacent to the existing Western Blythe-Knob and IID Blythe-Niland 161-kV transmission lines ROW, thus being more distant from the Blythe Municipal Airport runway.

As a result of the realignment, the pole nearest to the airport is approximately 5300 feet from the end of the runway, as compared to 2930 feet for the original alignment. By remaining on the east side of the IID and Western transmission lines, the height of poles near the airport is also reduced because taller poles for a crossing of these transmission lines are not required.

The Federal Aviation Administration (FAA) has reviewed the proposed transmission line route and pole structure type and determined that the structures does not exceed obstruction standards and would not be a hazard to navigation as proposed. Additional information on this FAA determination may be reviewed in the **Traffic and Transportation** section of this document.

TRANSMISSION LINE POLE REALIGNMENT NEAR JULIAN HINDS SUBSTATION

Blythe Energy, together with SCE, has continued to review the engineering plans for the proposed transmission line. SCE has advised Blythe Energy that the proposed approach to the Julian Hinds Substation required the relatively difficult crossing of existing transmission lines within a congested area. The proposed approach to the Julian Hinds substation was further complicated by relatively steep terrain adjacent to and west of the facility. The engineering difficulties posed by the steep terrain were recognized by Western staff and noted in their comments on the Blythe Energy petition. The realignment of the transmission line poles numbers 418 through 433 in the vicinity of the Julian Hinds substation would provide an improved design, fewer construction challenges, and avoidance of complex terrain within this congested area.

The proposed realignment of the transmission line poles encompasses a distance of approximately 2.6 miles. Because of the realignments at both ends of the transmission line, the total number of poles required has been reduced from 438 to 433. As illustrated in Project Description Figure 6, the alignment would closely follow the east side of Hayfield Road and enter the Julian Hinds substation from the southwest, thus avoiding the congested area northwest of the facility. The spacing of poles along the realigned section would be similar to other sections of the line which would be approximately 400-900 feet. Height of poles on this realigned section would range from 80 to 110 feet. (Project Description Figure-6.) During the July 31, 2006, Prehearing Conference, the Metropolitan Water District described a possible concern that the realigned poles would affect the operation of MWD's airstrip at Julian Hinds. Further review has convinced MWD that the realigned route does not affect the airstrip and that, for other technical reasons, is preferred to the alignment originally proposed by Blythe Energy. The realigned route remains part of the project proposed for approval.

MIDPOINT SUBSTATION RELOCATION

The relocation of Blythe Energy's Midpoint Substation has been required to avoid sensitive cultural resources discussed in the **Cultural Resources** technical section of this document. Cultural resource surveys conducted in 2004 and 2005 at the originally proposed Midpoint Substation site identified archaeological resources of potential importance within the footprint or buffer area of the proposed substation site. To avoid potential impact to these resources, a second location approximately 800 feet to the northwest was examined for cultural, biological, and other resources. Based on the site surveys and consultation between agency representatives (Energy Commission, BLM, Western), the new site appears to reduce the potential for significant impacts to cultural resources and is the location preferred by Blythe Energy for the substation. The original substation location has been retained as an alternate location for the substation. (Project Description Figure-8)

TRANSMISSION LINE POLE REALIGNMENT NEAR ALLIGATOR ROCK

The realignment of transmission line poles 289 through 305 would be required to avoid sensitive cultural resources in the vicinity of Alligator Rock. A discussion of this location is in the **Cultural Resources** section of this document. BEPTL Petition Section 5.16 Cultural Resources (Tables 5.16-5 and 5.16-6) identified several archaeological sites

where realignment of proposed project facilities would provide mitigation for potential impacts to cultural resources. Subsequent surveys conducted during 2005 identified one location near the North Chuckwalla Mountains Petroglyph ("rock art") National Register of Historic Places (NRHP) District (see Figure VI-1 in Petition Appendix D for general location) where realignment to avoid the resource would provide more substantial avoidance than "micro-siting" of poles prior to construction. In addition to the cultural resources surveys conducted in the rock art area, site visits to this area included representatives of Native American groups who provided input for development of the proposed realignment. The proposed route realignment will avoid the important cultural resources in the area and provide the required mitigation. (Project Description Figure-9)

DESERT SOUTHWEST TRANSMISSION PROJECT MIDPOINT SUBSTATION OPTION

This project description request is a Blythe Energy revision to the originally filed BEPTL amendment petition on October 12, 2004. A detailed description of why the revision has been requested is in the Executive Summary and Appendix B of this document. Two options are being proposed by Blythe Energy for the Midpoint Substation location in the Supplemental Analysis filed on August 7, 2006. The Desert Southwest Transmission Project (DSWTP) Midpoint Substation Option (MSO) has been identified as the location for its proposed Midpoint Substation in the DSWTP Final EIS/EIR published on December 23, 2005 by the Imperial Irrigation District and the Bureau of Land Management. The DSWTP MSO proposed facility is a separate location from the Midpoint substation proposed by Blythe Energy in the original filing and has been fully analyzed in Appendix B of this RSA/DEA. **Figure-1** of Appendix B shows a general area map of both Blythe Energy's preferred Midpoint Substation location and transmission line route, and the DSWTP Midpoint Substation location option. In **Figure-2** the BEPTL option begins at Western's existing Buck Boulevard. Substation located adjacent to the Blythe Energy Project, 520-MW electrical generating plant. The interconnecting transmission line would travel southwest 6.7-miles to Blythe Energy's proposed Midpoint Substation adjacent to Southern California Edison's (SCE) existing DPV-1 500-KV transmission line. As shown in **Figure-3** of Appendix B the DSWTP Midpoint Substation and transmission line option would begin at the same Western Buck Boulevard. Substation and travel southwest approximately 1.8-miles along the same route as the BEPTL amendment proposal then turn west 8.0-miles for a total of approximately 9.8-miles to the proposed DSWTP Midpoint Substation located adjacent to the existing SCE DPV-1 500-kV transmission line.

If approved, then, Blythe Energy may choose to build a substation at either its originally proposed Midpoint location (relocated as describe above) or at the DSWTP Midpoint location, but not at both locations.

BLYTHE ENERGY PROJECT TRANSMISSION LINE PATH RATINGS

Because the path ratings for each of the proposed transmission line components will not be established by the time this RSA/DEA review is published, Blythe Energy is requesting approval of each transmission component path described as part of the project modifications. It is Blythe Energy's expectation that it may be necessary to

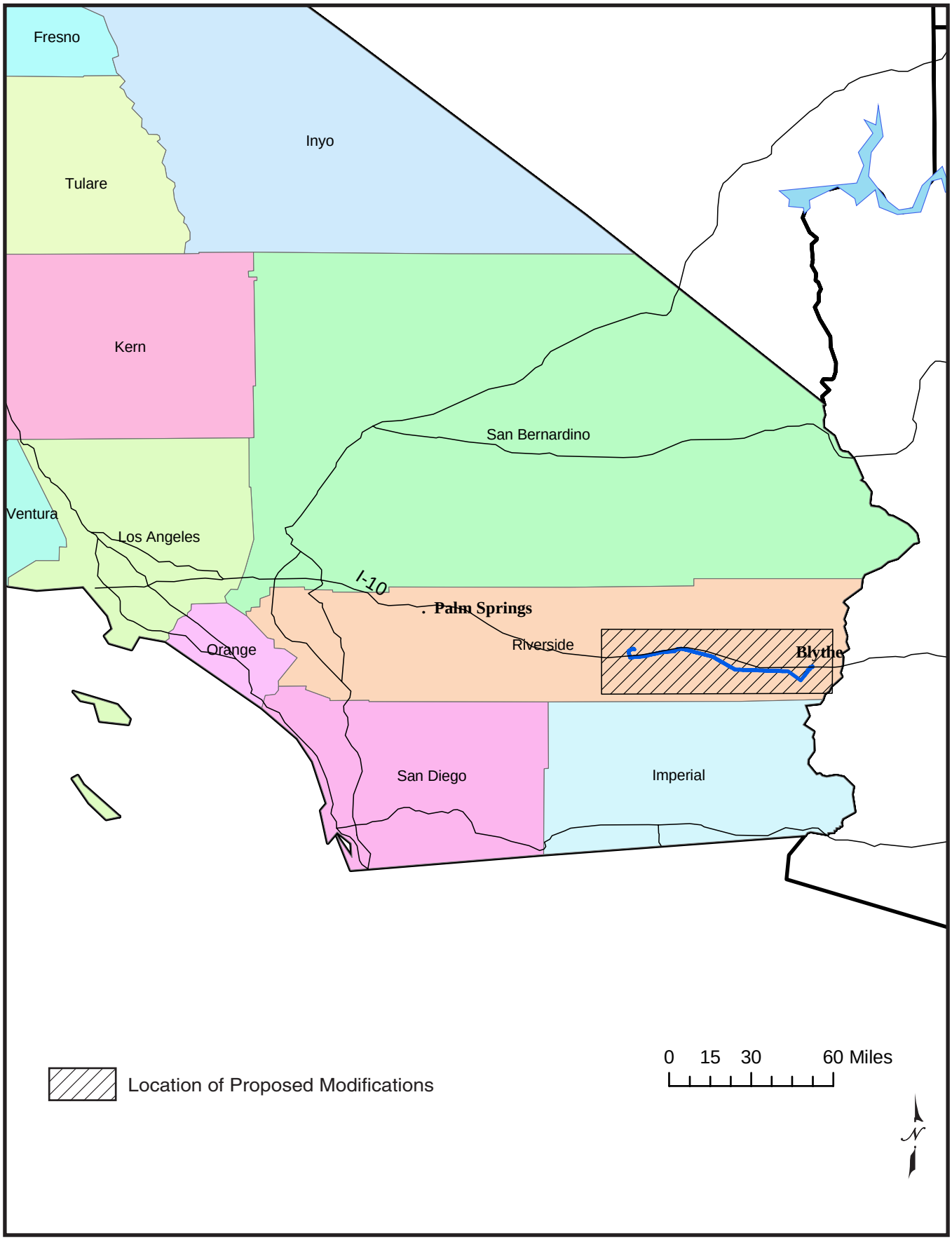
ultimately build both components to deliver the full output of the Blythe Energy Project power plant facility to the California market.

CONSTRUCTION SCHEDULE AND WORKFORCE

If approved by the Energy Commission, Blythe Energy expects to begin construction of the project no sooner than 2007 with the possibility of energizing the system in 2008. Blythe Energy estimates that the capital costs of the transmission line project could exceed 50 million dollars of which several million will go directly to local purchases. Blythe Energy expects to employ up to approximately 162 construction workers over the 12-month construction schedule. Construction payroll costs are estimated to be 15 to 20 million dollars.

PROJECT DESCRIPTION - FIGURE 1

Blythe Energy Transmission Line Project - Regional Location Map

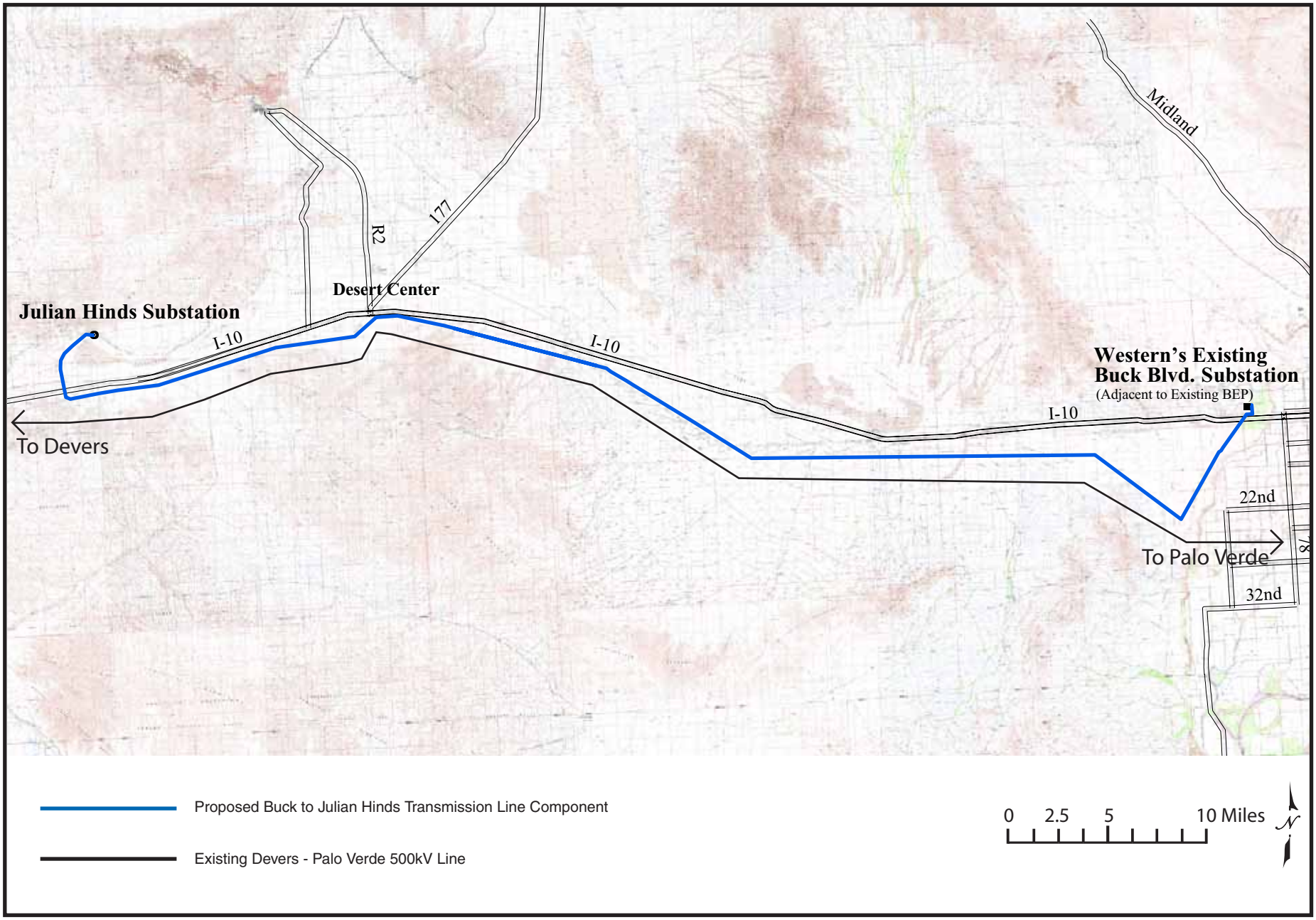


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Petition to Amend the Blythe Power Plant, October 2004

PROJECT DESCRIPTION - FIGURE 2

Blythe Energy Transmission Line Project - Buck to Julian Hinds Transmission Line Route



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Petition to Amend the Blythe Power Plant, October 2004

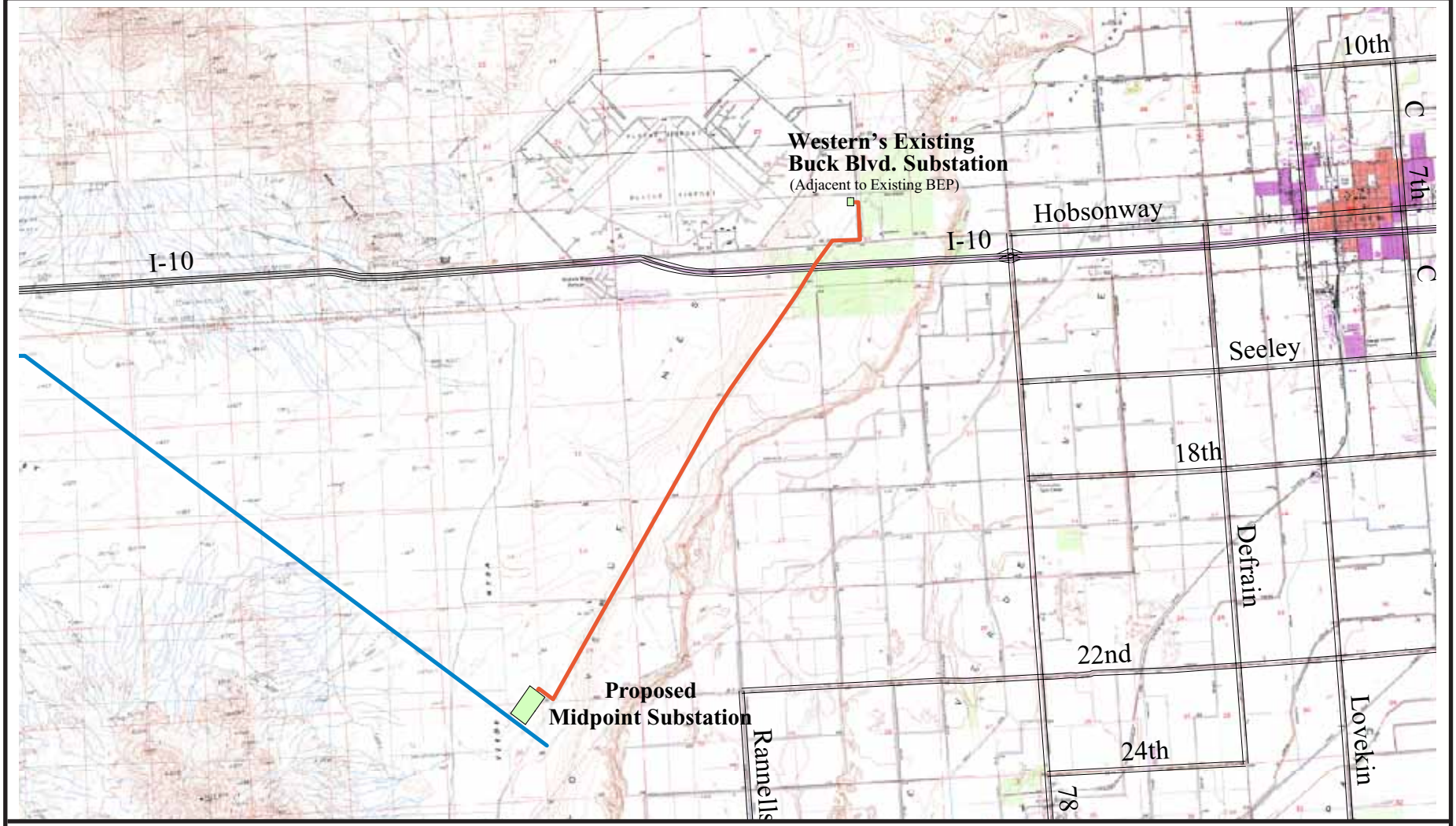
SEPTEMBER 2006

PROJECT DESCRIPTION

PROJECT DESCRIPTION - FIGURE 3

Blythe Energy Transmission Line Project - Buck to Devers - Palo Verde Transmission Line Route

SEPTEMBER 2006



PROJECT DESCRIPTION

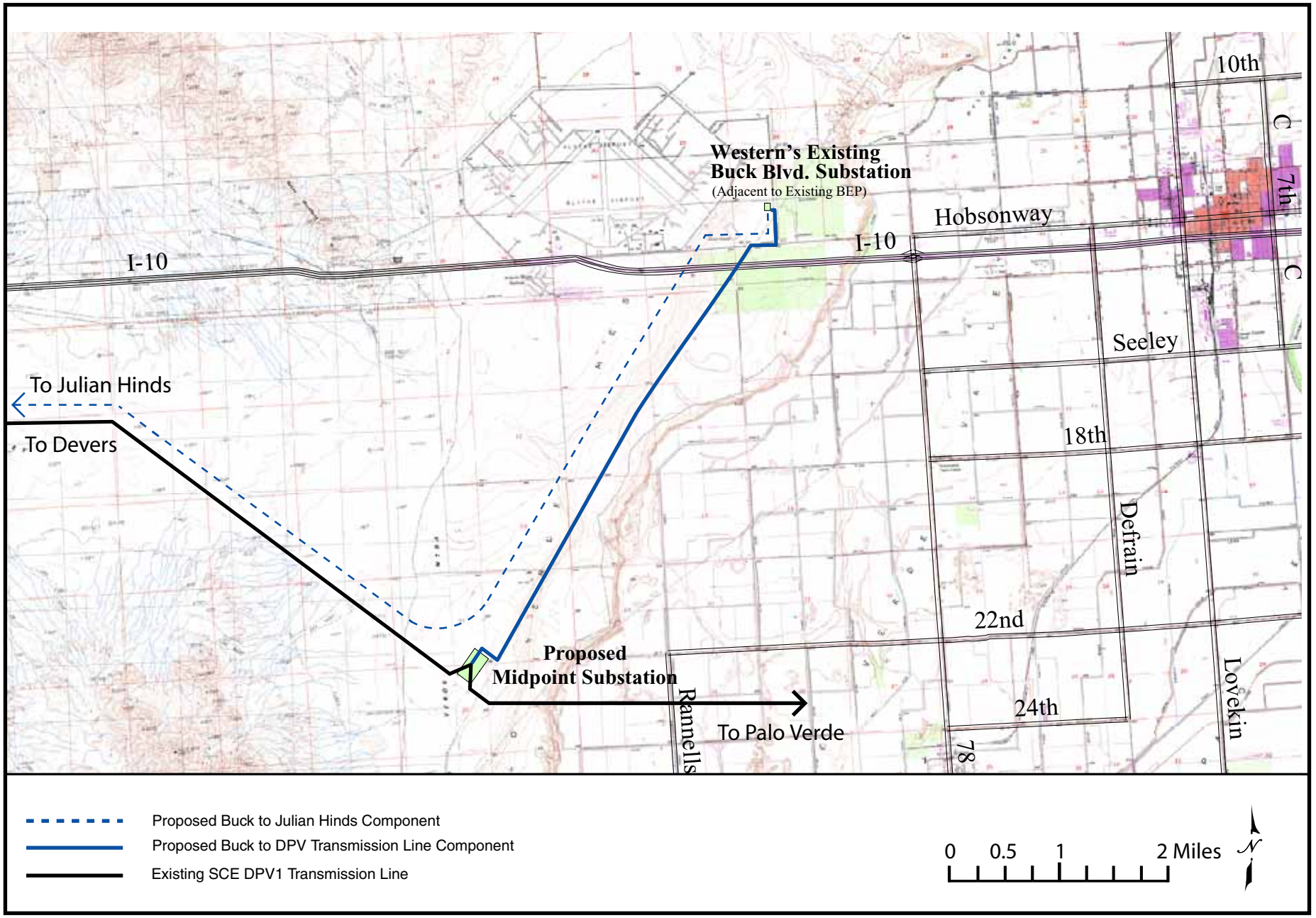
CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Petition to Amend the Blythe Power Plant, October 2004

PROJECT DESCRIPTION - FIGURE 4

Blythe Energy Transmission Line Project - Buck to Devers - Palo Verde Transmission Line Route and Buck to Julian Hinds

SEPTEMBER 2006



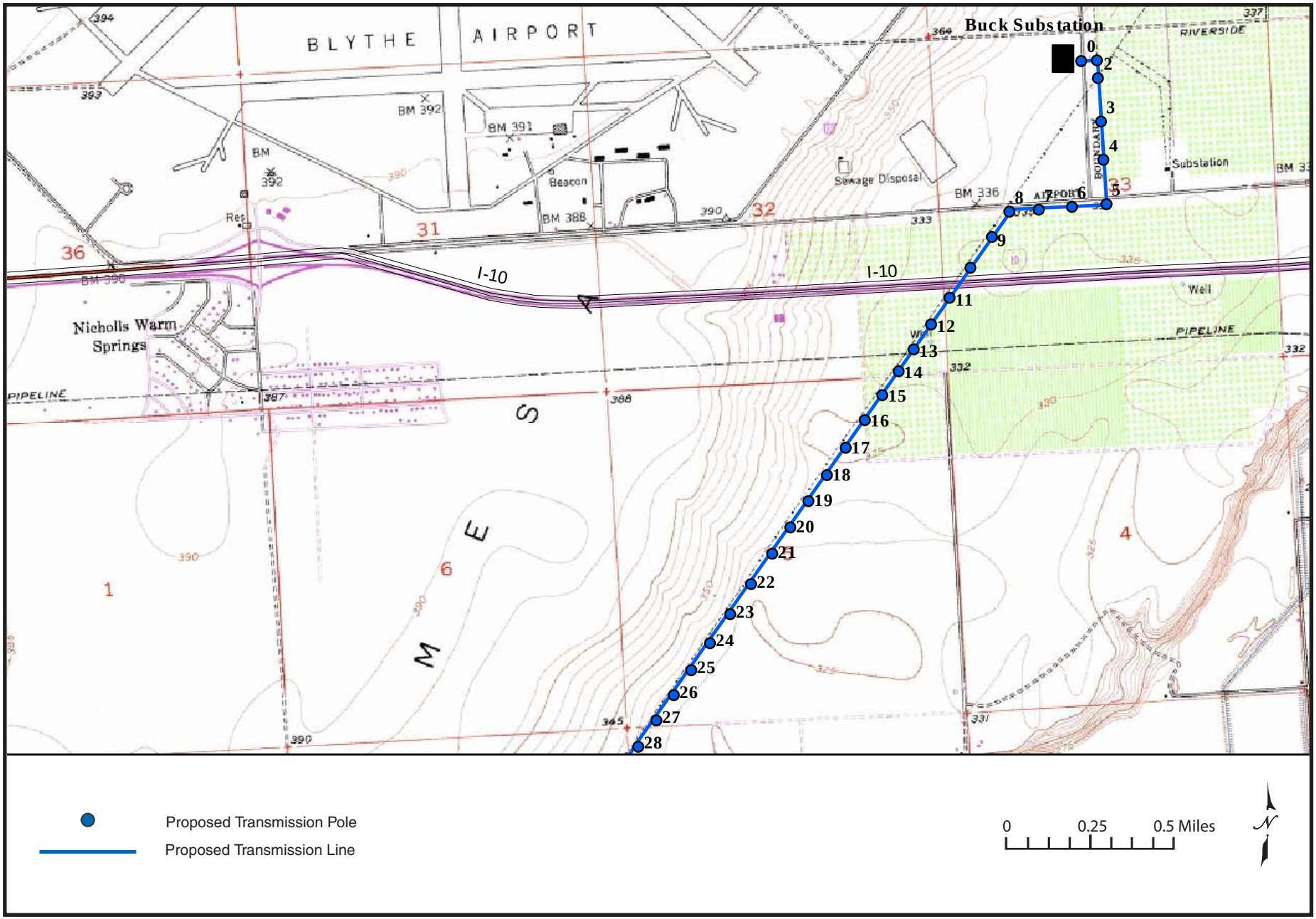
PROJECT DESCRIPTION

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Petition to Amend the Blythe Power Plant, October 2004

PROJECT DESCRIPTION - FIGURE 5

Blythe Energy Transmission Line Project - Location of Transmission Line Poles

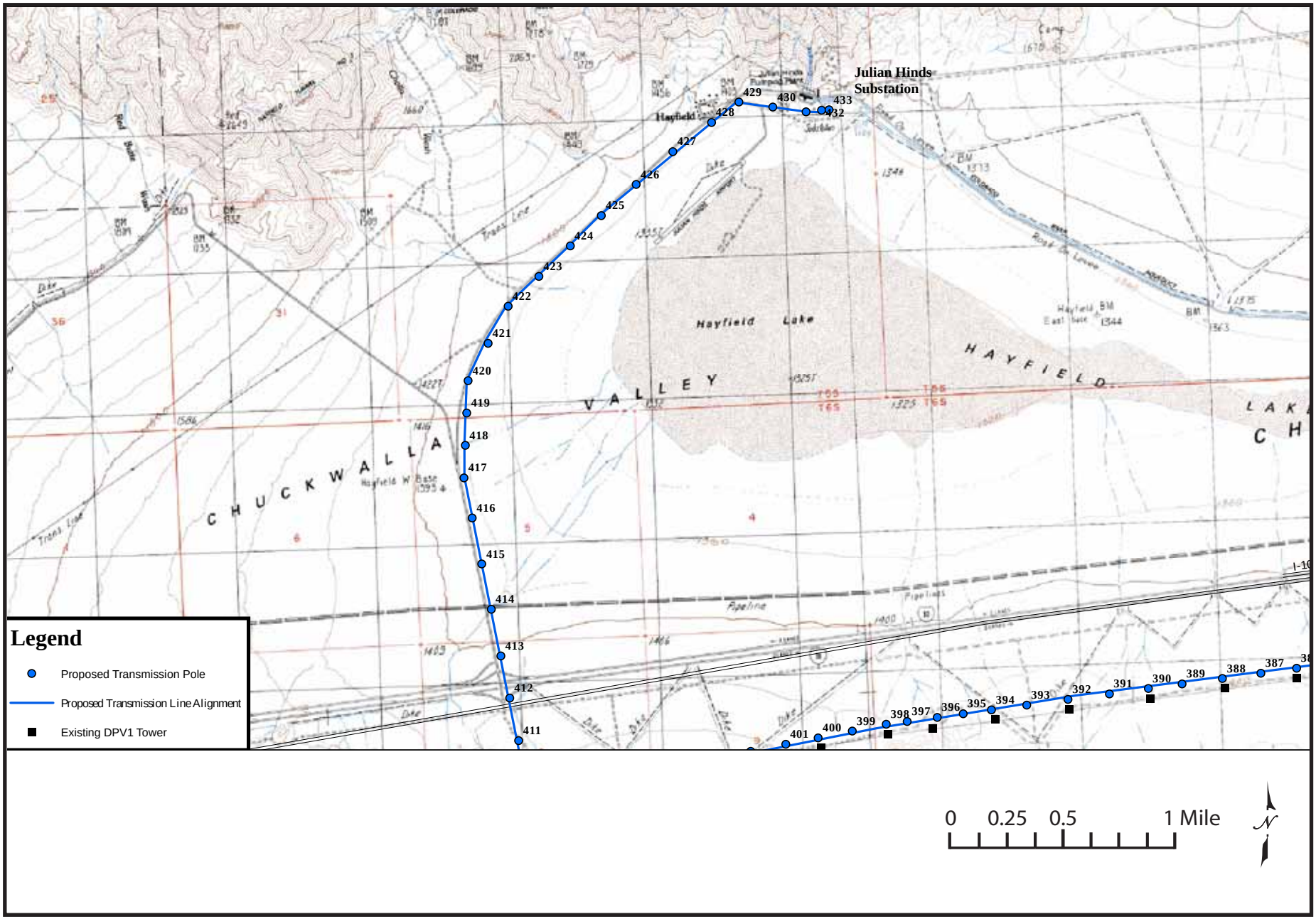


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Petition to Amend the Blythe Power Plant, October 2004

PROJECT DESCRIPTION - FIGURE 6

Blythe Energy Transmission Line Project - Location of Transmission Poles



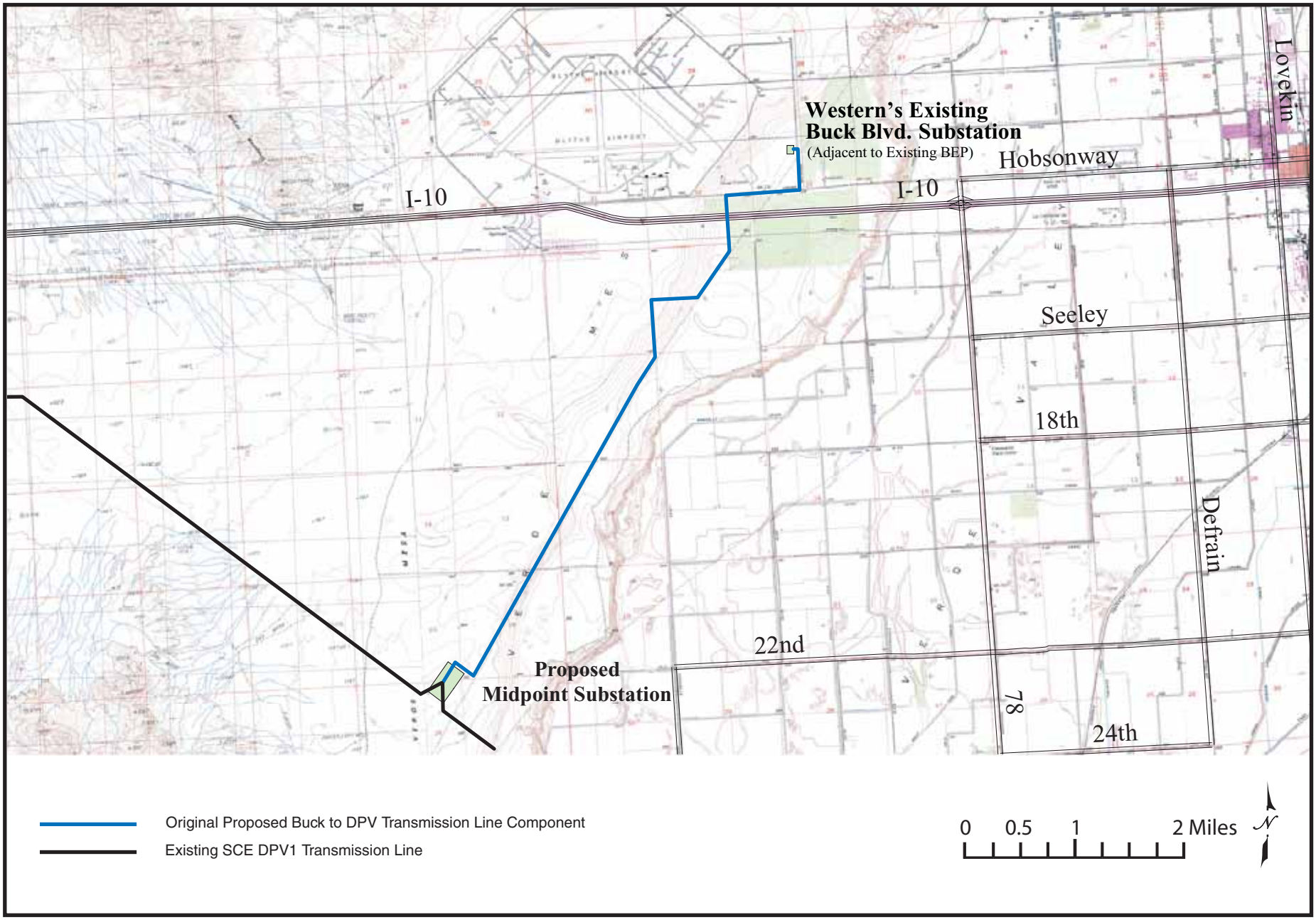
CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Petition to Amend the Blythe Power Plant, October 2004

ORGINAL PROJECT DESCRIPTION ROUTE - FIGURE 7

Blythe Energy Transmission Line Project - Original Buck to Devers - Palo Verde Transmission Line Route

SEPTEMBER 2006



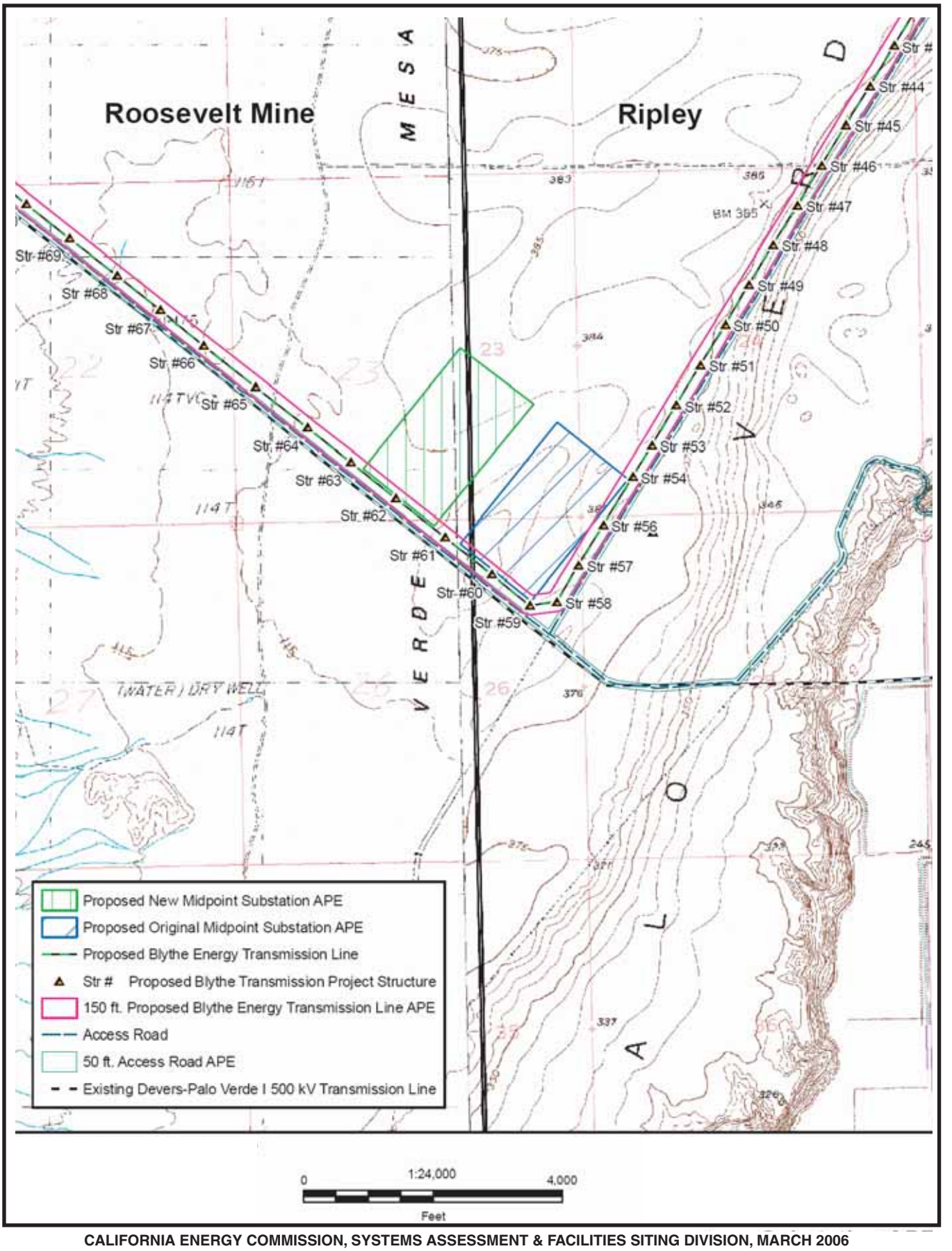
PROJECT DESCRIPTION

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Petition to Amend the Blythe Power Plant, October 2004

PROJECT DESCRIPTION - FIGURE 8

Blythe Energy Transmission Line Project - Midpoint Substation Relocation Map

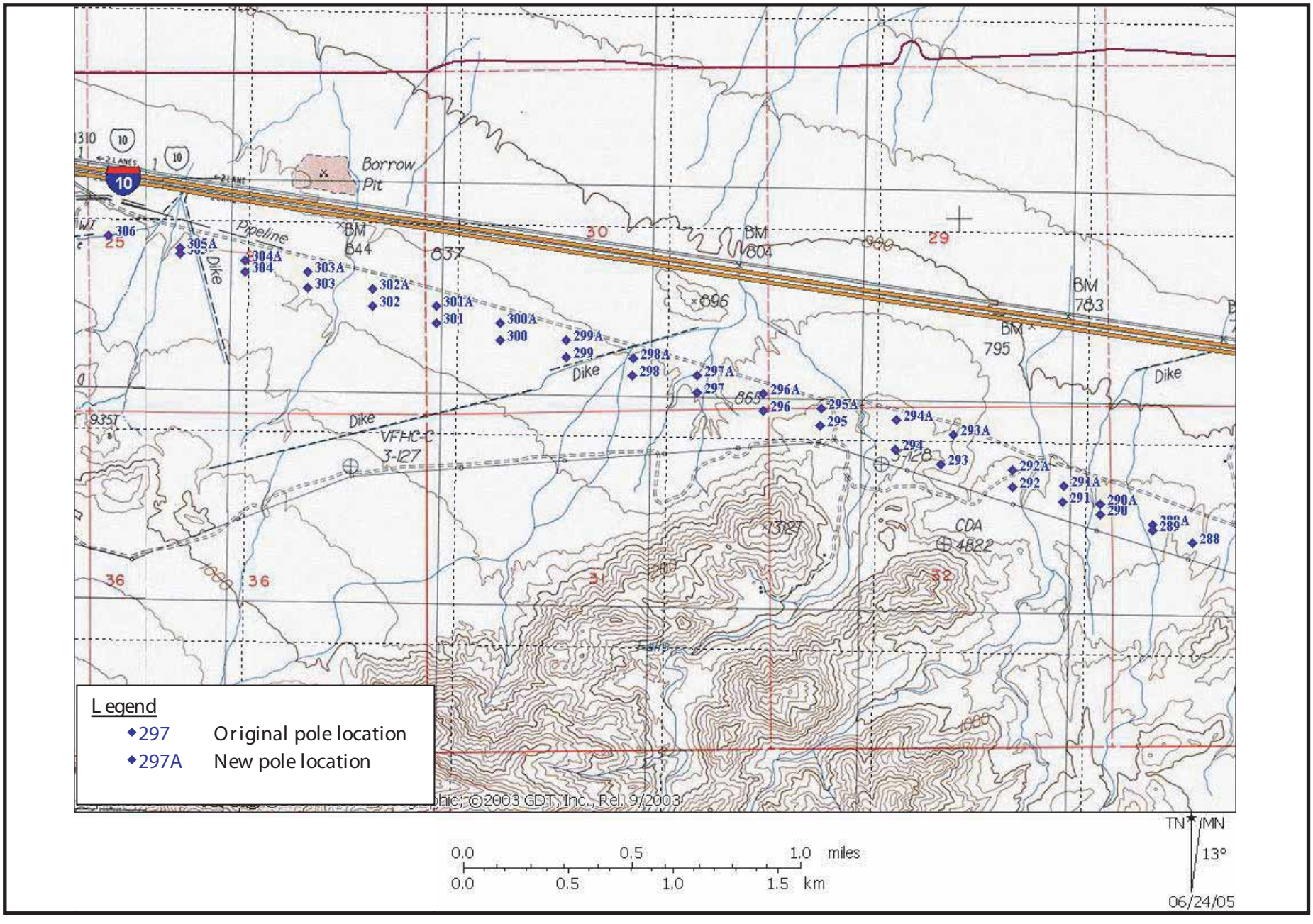


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Blythe Energy, LLC -Supplemental Analysis

PROJECT DESCRIPTION - FIGURE 9

Blythe Energy Transmission Line Project - Pole Realignment near Alligator Rock

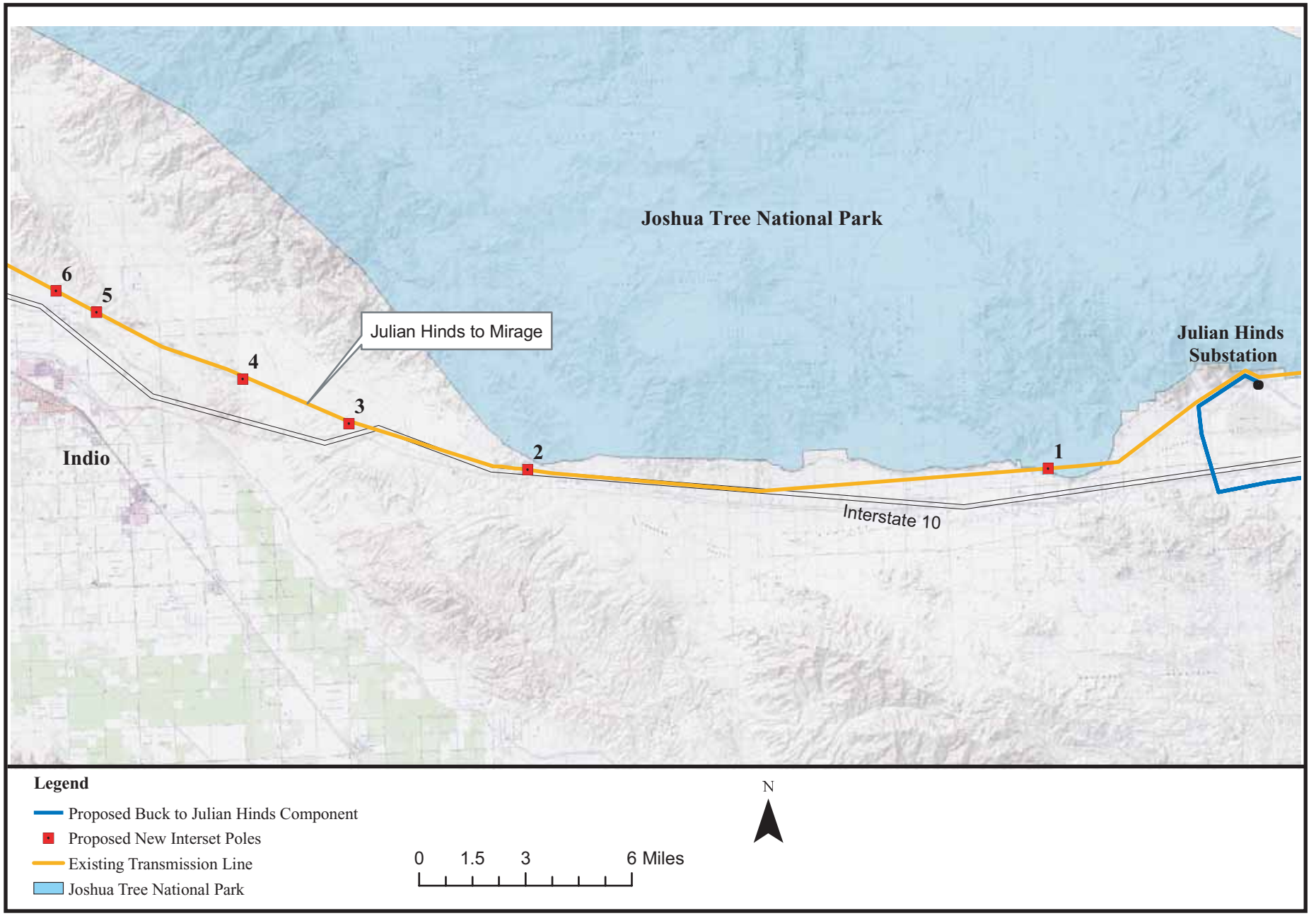


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Blythe Energy, LLC - Supplemental Analysis

PROJECT DESCRIPTION - FIGURE 10

Blythe Energy Transmission Line Project - Downstream Impacts Julian Hinds to Mirage



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Blythe Energy Amendment Petition

SEPTEMBER 2006

PROJECT DESCRIPTION

ENVIRONMENTAL ASSESSMENT

AIR QUALITY

Testimony of Gabriel D. Taylor

SUMMARY OF CONCLUSIONS

If the construction conditions of certification proposed below are implemented, staff is confident that the short-term air quality impacts from the construction of the proposed Blythe Energy Project Transmission Line Modification (BEPTL) would not be significant. Staff is further convinced that the long-term operation of the BEPTL would not generate any significant criteria pollutant emissions or air quality impacts.

INTRODUCTION

This section considers the potential air quality impacts of the Blythe Energy, LLC (Blythe Energy or Applicant) Petition for Post-Certification Amendment (Petition) for construction and operation of the proposed BEPTL.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

All applicable Laws, Ordinances, Regulations and Standards (LORS) are listed below in AIR QUALITY Table 1. However, construction and operation of the proposed BEPTL would not require any new permits from either the South Coast Air Quality Management District (SCAQMD), or the Mojave Desert Air Quality Management District (MDAQMD) (BLYTHE 2004a, 5.2-8).

AIR QUALITY Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal LORS	
42 U.S.C. §7401 et seq.	Federal Clean Air Act

State LORS	
Health and Safety Code §41700	"... no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or **safety** of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."
CCR Title 13 §2423	Exhaust Emissions Standards and Test Procedures, Off-Road Compression-Ignition Engines

Local LORS - Mojave Desert Air Quality Management District	
Rule 201	Permits to Construct
Rule 221	Federal Operating Permit Requirement
Rule 401	Visible Emissions
Rule 402	Nuisance
Rule 403	Fugitive Dust
Rule 404	Particulate Matter Concentration
Rule 409	Combustion Contaminates
Rule 431	Sulfur Content of Fuels

Local LORS - South Coast Air Quality Management District	
Rule 201	Permit to Construct
Rule 401	Visible Emissions
Rule 402	Nuisance
Rule 403	Fugitive Dust
Rule 404	Particulate Matter - Concentration
Rule 409	Combustion Contaminates
Rule 431-2	Sulfur Content of Liquid Fuels
Rule 444	Open Burning

SETTING

The Blythe Energy Project (BEP) is a net 500 MW combined cycle facility consisting of two F-Class Siemens V84.3A combustion turbine generators, two duct-fired heat recovery steam generators (HRSGs) and a single steam turbine generator. The facility is located about 2 miles west of the city of Blythe, California. The project received final approval from the Energy Commission on March 21, 2001, and began commercial operation on July 1, 2003.

Construction of the proposed BEPTL would take approximately 12 months and consist of approximately 67.4 miles of new transmission lines extending to the west of the BEP through a portion of two air quality management districts, the MDAQMD, and the SCAQMD. In addition, Blythe Energy proposes to build one new interconnection substation.

Blythe Energy estimates constructing approximately 420 new transmission structures (BLYTHE 2004a, Table 3.4-1) on a total of 163.9 acres of disturbed land (BLYTHE 2004a, Table 3.4-1) and using a maximum workforce of approximately 162 personnel (BLYTHE 2004a, p. 3-22 & 3-34). The types of construction equipment that would be used include: pick-up and haul trucks, semi-tractor trailer vehicles, up to four bulldozers, drilling rigs, diggers and backhoes for foundation work, up to four cranes for unloading materials and erecting towers, and puller/tensioner equipment for erecting the transmission lines (BLYTHE 2004a, 3.2.7 & 3.3.7). Existing transmission line access roads would provide principal access to construction areas, and most construction staging/laydown areas would be located on previously disturbed land (BLYTHE 2004a, Table 3.2-2 & 3.3-2), thus minimizing the need for new road construction and the associated dust generation (BLYTHE 2004a, p. 5.2-4).

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

The U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have both established allowable maximum ambient concentrations of air pollutants based on public health impacts, called ambient air quality standards (AAQS). The state AAQS, established by CARB, are typically lower (more stringent) than the Federal AAQS, established by the U.S. EPA. In general, a region is designated as attainment for a specific pollutant if the concentrations of that air contaminant do not exceed the standard. Likewise, an area is designated as nonattainment for an air contaminant if that standard is violated. Both the MDAQMD and the SCAQMD (the two air quality management regions within which the proposed construction and operation would occur) are designated as state nonattainment for PM10 and ozone. Because the proposed construction would occur in a region that is classified as nonattainment for both the state PM10 and ozone AAQS; any PM10, ozone or ozone precursor emissions could contribute to an existing violation and would thus be significant.

DIRECT/INDIRECT IMPACTS AND MITIGATION

Presented below are separate analyses for the construction and operations emissions and impacts of the proposed BEPTL project.

Construction Impacts and Mitigation

Though construction emissions from the BEPTL project would be both short-term and concentrated in the vicinity of the construction, they have the potential to be significant since the region is classified as nonattainment for both PM10 and ozone. The criteria pollutant emissions during construction would primarily consist of fugitive dust from earth moving activities and combustion emissions from construction equipment and

vehicles. Combustion emissions contain a mix of criteria pollutants, including both PM10 and various ozone precursors.

In prefiling discussions, Blythe Energy was concerned with this potential for a significant contribution to existing violations of AAQS during construction and requested guidance from staff concerning the necessary mitigation efforts to avoid a significant contribution. Staff provided Blythe Energy with its most current construction mitigation requirements that would normally be imposed on construction projects significantly larger then the proposed BEPTL. Blythe Energy used this guidance to develop the proposed conditions of certification presented in the Petition (BLYTHE 2004a, 5.2.3). The following is a detailed description of the various aspects of these construction mitigation measures.

The effectiveness of construction dust mitigation strategies is measured as a percentage of the uncontrolled particulate emissions that are avoided. Thus, one hundred percent efficiency would mean that no dust has been emitted. This effectiveness can vary widely due to a number of influencing factors. Some of these factors include ambient conditions (temperature, wind and humidity), size and weight of vehicles, vehicle speed, number of vehicles and soil parameters (chemical composition, particle size distribution, organic components, etc.) The frequency of construction activities (disturbance of stabilized surfaces) and day-to-day aggressiveness of mitigation efforts (application of water or dust suppressants, street sweeping to remove carryout from paved roads, etc.) are further sources of uncertainty. Nevertheless, average control efficiency estimates have been developed. AIR QUALITY Table 2 below lists the estimated control efficiency for various construction mitigation measures based on an analysis of Best Available Control Measures (BACM) prepared by San Joaquin Valley Air Pollution Control District (SJVAPCD) staff in October 2001.

AIR QUALITY Table 2
Estimated Average Construction Mitigation Control Efficiency

Source	Control Method	Percent Efficiency
Construction, Demolition and Earthmoving	Truck Load Covers	95
	Pave Roads	90
	Chemical Dust Suppressant	60
	Periodic Watering	50
Windblown Dust	Plant vegetation completely covering disturbed surface	99
	Chemical Dust Suppressant	75-80
Bulk Materials	Wind Fences	60-80
	Wet Suppression	56-81
Unpaved Roads & Parking Lots	Paving	99
	Chemical Dust Suppressant	75
	Gravel	60
	Reduce Traffic by 50%	50
	Set Speed Limits	37
Carryout to Paved Roads	Truck Load Covers	95
	Wheel Washers	75
	Paved Access Aprons	60
	Street Sweeping & Other Road Cleanup	45
Disturbed Open Areas & Vacant Lands	Re-vegetation, Chemical Dust Suppressants & Wind Fences	70
	Plant Trees as Windbreak	8

H.R. Guerra, J.R. Nazareno, T. Le & J. Barba; San Joaquin Valley Unified Air Pollution Control District; Final Staff Report: BACM Amendments to Regulation VIII (Fugitive PM10 Prohibitions), Table 1; October 31, 2001

Experience has shown that there is a large degree of uncertainty in these average values due to varying levels of vigilance on the part of construction personnel. This is particularly true for efforts to control dust from earth moving activities and unpaved roads: if the mitigation measures are applied correctly and with sufficient frequency, the control efficiency can approach 100%, but if applied incorrectly or infrequently, the control efficiency can be significantly below the average.

Air Quality Construction Mitigation Manager (AQCMM)

The only way to guarantee a maximum day to day mitigation effort is to set up a system for real-time supervision of the mitigation. Staff has worked with a number of facility construction projects and refined this requirement into condition of certification **AQ-SC1**. This condition requires designation of an Air Quality Construction Mitigation Manager (AQCMM), as well as any number of AQCMM Delegates, who are responsible for monitoring the dust suppression efforts and directing more rigorous application of mitigation methods in situations where visible dust is observed. These individuals generally should have special experience with the type of construction and construction air quality monitoring, but they can also have other responsibilities on the project as long as they do not conflict with their AQCMM responsibilities.

Condition of Certification **AQ-SC2** requires submittal of an Air Quality Construction Mitigation Plan (AQCMP) that details both any unique considerations of the specific project site and the procedures the AQCMM or Delegates would use to enforce compliance with the construction mitigation requirements. The AQCMP would also provide a schedule and procedure for documenting the mitigation efforts.

Air Quality Construction Mitigation

The construction mitigation requirements themselves are separated into two sections: construction fugitive dust control and diesel-fueled engine controls.

The fugitive dust controls specified in condition of certification **AQ-SC3** range from required speed limits and site access control to active dust suppression activities. Further, condition of certification **AQ-SC4** requires supervision by either the AQCMM or Delegate of all construction activities, and gives the AQCMM and Delegates the authority to both actively implement additional dust mitigation strategies and temporarily stop construction if necessary. Many of these limitations would be particularly applicable to the new substation construction site and to the necessary construction staging/laydown areas along the transmission line path.

The diesel-fueled engine control requirements in condition of certification **AQ-SC5** are intended to minimize the criteria pollutant emissions from construction equipment. The primary function of the condition is to require all large equipment engines to meet or exceed Tier 1 California Emission Standards for Off-Road Compression-Ignition Engines (CCR, Title 13, section 2423(b)(1)). Further requirements concerning fuel sulfur content, equipment maintenance, equipment idle time and after market emissions controls are also imposed based on experience on other large construction projects in recent years.

Staff agrees in concept with the conditions of certification based on staff's prefiling guidance and proposed by Blythe Energy in the Petition, however, staff presents a slightly updated version below. Staff believes these proposed conditions of certification are substantially similar to the conditions proposed in the Petition, but provide a more clear presentation. Staff has refined these conditions of certification over the years as the result of extensive experience with large construction projects and recommends the latest version of air quality construction mitigation conditions. Staff is confident that with the full implementation of the construction conditions of certification proposed below (**AQ-SC1** through **AQ-SC5**), the criteria pollutant impacts from construction of the BEPTL project would not be significant. In addition, to avoid possible future confusion, staff proposes deleting the two existing construction conditions (**AQ-C1** and **AQ-C2**) which address similar construction mitigation issues.

Operation Impacts and Mitigation

There are two sources of potential criteria pollutant emissions during normal operations of electrical transmission lines: maintenance activities and corona discharge emissions.

Maintenance Activities

Normal maintenance activities would require a minimal work force and quantity of heavy equipment. Maintenance of the substations would follow a routine schedule of

inspections, preventative maintenance and necessary repairs. The transmission lines themselves would be regularly inspected by both ground and aerial patrols, with maintenance work and repairs scheduled as necessary (BLYTHE 2004a, 3.2.9.2).

Based on the limited number of personnel, pieces of heavy equipment, and time required for long term maintenance of transmission lines, staff does not expect these activities to be a significant source of criteria pollutant emissions.

Corona Discharge Emissions

Corona discharge occurs on high voltage transmission lines when the localized electric field at the surface of the conductor is strong enough to overcome the dielectric strength of air. Though air is an excellent insulator at potentials up to approximately 1.5 MV/m (megavolt per meter), defects and water droplets on the surface of the conductor can enhance the electric field to cause localized ionization of the ambient air (Carstensen 1987, p. 78). This ionization causes the production of small quantities of ozone and oxides of nitrogen. Approximately ninety percent of the reactions produce ozone (DOE 2004, p. 3-89).

Corona effects are well understood and have been studied extensively for nearly a century. Corona discharge is a source of transmission energy loss and as such, the project owner would actively attempt to prevent it both in the design and maintenance phases of the project. The transmission lines would be specifically designed to minimize corona effects, and specialized tools are readily available to quickly detect corona discharge sites (e.g. EPRI's DayCor®) which can then be repaired. Research has shown that even under worst case conditions (damp or rainy weather with wind directed perpendicular to the line) the maximum ozone concentrations near the conductor are orders of magnitude less than one part per billion (DOE 2001 and CPUC 1999). Further, the general consensus among all sources found is that the quantity of ozone and other oxides generated due to corona effects is insignificant (DOE 2001, Carstensen 1987 and CPUC 1999).

Based on the information provided in the Petition and the analysis above, staff concludes that there would be no significant air quality impacts associated with the operations of the proposed BEPTL project. Both the operations and general maintenance of electrical transmission lines produce negligible air emissions and no significant impact on ambient air quality.

CUMULATIVE IMPACTS AND MITIGATION

Air Quality staff performs a cumulative impact analysis to ensure that no significant air quality impact is caused by the combination of multiple projects permitted at approximately the same time. To evaluate reasonably foreseeable future projects as part of a cumulative impact analysis, staff needs project-specific information about probable future projects in the vicinity of the BEPTL project. The time at which a probable future project is well enough defined to have the information necessary to perform a modeling analysis is usually when that project has submitted an application to the District for a permit. Air dispersion modeling required by the District would necessitate that each project develop the modeling input parameters to perform a modeling analysis. Therefore, our local cumulative impacts analysis evaluates only

those future projects that are currently under construction, or are currently under District review in our cumulative impact analysis.

No such projects were identified in the vicinity of the BEPTL project. Staff therefor concludes that there is no potential for a cumulative impact from either the operation or construction of the BEPTL project.

PROJECT CHANGES TO THE BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATION PETITION

Blythe Energy has provided project changes for the BEPTL for the following project components:

1. Transmission line pole realignment near the Blythe City Airport, poles 8 through 28.

2. Transmission line pole realignment near the Julian Hinds Substation, poles 418 through 433.

3. Relocation of the Midpoint Substation

4. Transmission line pole realignment near Alligator Rock, poles 289 through 305.

The mitigation measures discussed above, and presented below, will be fully enforced on all sections of the project, including these new realigned sections. The requested changes to the proposed original BEPTL petition would not change any of the air quality conclusions presented here, nor require any additional mitigation efforts. The Project Description section of the SA/DEA has complete descriptions and maps of the BEPTL petition changes.

RESPONSE TO PUBLIC AND AGENCY COMMENTS

Staff provided revisions to the SA/DEA per the discussions between staff and Blythe Energy at the PSA Workshop on February 17, 2005, and comments received from the South Coast Air Quality Management District (SCAQMD) on March 9, 2005. Please see Appendix C of this document for the SCAQMD comment and our response to the comment.

CONCLUSIONS

If the construction conditions of certification proposed below are implemented, staff is confident that the short-term air quality impacts from the construction of the proposed BEPTL would not be significant. Staff is further convinced that the long-term operation of the proposed BEPTL would not generate any significant criteria pollutant emissions or air quality impacts.

PROPOSED CONDITIONS OF CERTIFICATION

Staff proposes to delete the two existing construction conditions of certification (**AQ-C1** and **AQ-C2**) and replace them with the following five conditions (**AQ-SC1** through **AQ-SC5**). This will avoid possible future confusion regarding which construction conditions apply. The old conditions are presented below in ~~strikeout~~ format, followed by the new conditions in <u>underline</u> format.

~~**AQ-C1** Prior to breaking ground at the project site, the project owner shall prepare a Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for the construction of the Blythe Energy Project and related facilities. The Fugitive Dust Mitigation Plan shall specifically identify measures to limit fugitive dust emissions from construction of the project site and linear facilities. Measures that should be addressed include the following:~~

~~1. The identification of the employee parking area(s) and the surface composition of those parking area(s);~~

~~2. The frequency of watering of unpaved roads and disturbed areas;~~

~~3. The application of chemical dust suppressants;~~

~~4. The use of gravel in high traffic areas;~~

~~5. The use of paved access aprons;~~

~~6. The use of posted speed limit signs;~~

~~7. The use of wheel washing areas prior to large trucks leaving the project site; and,~~

~~8. The methods that will be used to clean up mud and dirt that has been tracked-out from the project site onto public roads.~~

~~**Verification:** At least thirty (30) days prior to breaking ground at the project site, the project owner shall provide the CEC Compliance Project Manager (CPM) with a copy of the Fugitive Dust Mitigation Plan (FDMP) for approval. Ground breaking shall not commence until the project owner receives written approval of the FDMP from the CPM.~~

~~**AQ-C2** The project owner shall require as a condition of its construction contracts that all contractors/subcontractors ensure that all heavy earthmoving equipment, including but not limited to bulldozers, backhoes, compactors, loaders, motor graders, trenchers, cranes, dump trucks and other heavy duty construction related trucks, have been properly maintained and the engines tuned to the engine manufacturer's specifications. The project owner shall further require as a condition of its construction contracts, that all heavy construction equipment shall not remain running at idle for more than 5 minutes, to the extent practical.~~

~~**Verification:** The project owner shall submit to the CPM, via the Monthly Compliance Report, a list of all heavy equipment used on site during that month~~

~~including the owner of that equipment responsible for its maintenance and a letter from each owner indicating that the heavy equipment in question is properly maintained and tuned to manufacturer's specifications. The project owner shall maintain construction contracts on-site for six months following the start of commercial operation.~~

AQ-SC1 *Air Quality Construction Mitigation Manager (AQCMM)*: The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with conditions **AQ-SC3**, **AQ-SC4** and **AQ-SC5** for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities to one or more AQCMM Delegates. The AQCMM and AQCMM Delegates shall have full access to all areas of construction on the project site and linear facilities, and shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM and AQCMM Delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent from the CPM.

Verification: At least 60 days prior to the start of any ground disturbance, the project owner shall submit to the CPM for approval, the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM Delegates. The AQCMM and all Delegates must be approved by the CPM before the start of ground disturbance.

AQ-SC2 *Air Quality Construction Mitigation Plan (AQCMP)*: The project owner shall provide an AQCMP, for approval, which details the steps that will be taken and the reporting requirements necessary to ensure compliance with conditions **AQ-SC3**, **AQ-SC4** and **AQ-SC5**.

Verification: At least 60 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The CPM will notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt.

AQ-SC3 *Construction Fugitive Dust Control*: The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report (MCR) that demonstrates compliance with the following mitigation measures for the purposes of preventing all fugitive dust plumes from leaving the Project. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

a) All unpaved roads and disturbed areas in the project and linear construction sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of **AQ-SC4** (Dust Plume Response Requirement). The frequency of watering can be reduced or eliminated during periods of precipitation. Watering will be applied only as needed to control dust and will not result in pools or puddles, which can attract desert tortoises.

b) No vehicle shall exceed 15 miles per hour within the construction site.

c) The linear laydown area and substation construction site entrances shall be posted with visible speed limit signs.

d) All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved roadways.

e) Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.

f) All unpaved exits from the linear laydown areas and substation construction sites shall be graveled or treated to prevent track-out to paved public roadways.

g) All construction vehicles shall enter the linear laydown areas and substation construction sites through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM.

h) Construction areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent run-off to roadways.

i) All paved roads within the construction site shall be swept as needed to prevent the accumulation of dirt and debris.

j) At least the first 500 feet of any paved public roadway exiting from the linear laydown areas and substation construction sites shall be swept when dirt or runoff from the construction site is visible on the paved public roadways.

k) All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.

l) All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.

m) Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.

Verification: The project owner shall include in the MCR (1) a summary of all actions taken to maintain compliance with this condition, (2) copies of any complaints filed with the air district in relation to project construction, and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC4 *Dust Plume Response Requirement*: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported (A) off the project

site or (B) 200 feet beyond the centerline of the construction of linear facilities* or (C) within 100 feet upwind of any regularly occupied structures not owned by the project owner indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed:

Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination.

Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if step 1 specified above fails to result in adequate mitigation within 30 minutes of the original determination.

Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if step 2 specified above fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The owner/operator may appeal to the CPM any directive from the AQCMM or Delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.

* Visible dust plumes that extend more than 200 feet beyond the centerline of the construction of linear facilities are exempt from the requirements of Steps 2 and 3 above if the plume is generated by a construction vehicle moving along a linear access road at a speed of 15 mph or less unless the visible dust plume has the potential to be transported within 100 feet upwind of any regularly occupied structure not owned by the project owner.

Verification: The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified.

AQ-SC5 *Diesel-Fueled Engines Control*: The AQCMM shall submit to the CPM, in the Monthly Compliance Report (MCR), a construction mitigation report that demonstrates compliance with the following mitigation measures for the purposes of controlling diesel construction-related emissions. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

a) All diesel-fueled engines used in the construction of the facility shall be fueled only with ultra-low sulfur diesel, which contains no more than 15 ppm sulfur.

b) All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein.

c) All construction diesel engines, which have a rating of 100 hp or more, shall meet, at a minimum, the Tier 1 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless certified by the on-site AQCMM that such engine is not available for a particular item of equipment. In the event a Tier 1 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for that specific engine type. For purposes of this condition, the use of such devices is "not practical" if, among other reasons:

(1) There is no available soot filter that has been certified by either the California Air Resources Board or U.S. Environmental Protection Agency for the engine in question; or

(2) The construction equipment is intended to be on-site for ten (10) days or less.

The CPM may grant relief from this requirement if the AQCMM can demonstrate that they have made a good faith effort to comply with this requirement and that compliance is not possible.

d) The use of a soot filter may be terminated immediately if one of the following conditions exists, provided that the CPM is informed within ten (10) working days of the termination:

(1) The use of the soot filter is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in backpressure.

(2) The soot filter is causing or is reasonably expected to cause significant engine damage.

(3) The soot filter is causing or is reasonably expected to cause a significant risk to workers or the public.

(4) Any other seriously detrimental cause which has the approval of the CPM prior to the termination being implemented.

e) All heavy earthmoving equipment and heavy duty construction related trucks with engines meeting the requirements of subparagraph (c), above, shall be properly maintained and the engines tuned to the engine manufacturer's specifications.

f) All diesel heavy construction equipment shall not remain running at idle for more than five minutes, to the extent practical.

Verification: The project owner shall include in the MCR a summary of all actions taken to maintain compliance with this condition, copies of all diesel fuel purchase records, a list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained, and any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

REFERENCES

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BIOLOGICAL RESOURCES

Testimony of John Mathias and Rick York

SUMMARY OF CONCLUSIONS

The Bureau of Land Management (BLM) and Western Area Power Administration (Western) are Federal co-lead agencies for the Blythe Energy Project Transmission Line Modification (BEPTL) Review process. The project would affect species listed by the U.S. Fish and Wildlife Service (USFWS), desert tortoise critical habitat, the BLM Chuckwalla Desert Wildlife Management Area (designated for recovery of desert tortoise), and the BLM Chuckwalla Valley Dune Thicket Area of Critical Environmental Concern.

Energy Commission, BLM, Western, USFWS, and California Department of Fish and Game (CDFG) staff concluded that many of the project's components occur on habitat suitable to support desert tortoise, a federally and state threatened species. Mitigation for desert tortoise impacts due to construction of the proposed Project is separated into three scenarios: construction of the Buck to Devers-Palo Verde component only, construction of the Buck to Julian Hinds component only, or construction of both components.

During construction of the Buck to Devers-Palo Verde and Buck to Julian Hinds components, desert tortoise habitat would be disturbed. Construction of the Midpoint Substation site is expected to impact 41.3 acres of desert tortoise habitat. Construction of the transmission lines is expected to impact up to 272.8 acres of desert tortoise habitat. Blythe Energy, LLC (Blythe Energy or Applicant) as owner of the Blythe Energy Project will assess construction impacts for the transmission lines by comparing construction areas before and after disturbance to determine the actual level of mitigation. The final acreage tally of habitat impacted during construction will determine the mitigation fees required for the project. Mitigation fees will be provided to the Desert Tortoise Preserve Committee (DTPC) for the purchase and management of desert tortoise habitat.

If both components are constructed, mitigation would address all of the impacts incurred for the Buck to Julian Hinds component as well as impacts incurred due to construction of the Midpoint Substation. Desert tortoise habitat compensation fees paid to DTPC will mitigate impacts to desert tortoise habitat.

Impacts to Harwood's milk-vetch (*Astragalus insularis* var*. harwoodii*) will be addressed through seed collection efforts. Finally, potential impacts to Mojave fringe-toed lizard (MFTL) (*Uma scoparia*), Abram's spurge (*Chamaesyce abramsiana*), Arizona spurge (*Chamaesyce arizonica*), Cove's cassia (*Senna covesii*), crucifixion thorn (*Castela emoryi*), mesquite nest straw (*Stylocline sonorensis*) and Orocopia sage (*Salvia greatae*) will be mitigated through the purchase of desert tortoise mitigation lands as described above. The required desert tortoise mitigation land will be selected so that it contains habitat appropriate to support the previously listed plant and animal species.

Western, BLM, and Energy Commission staff have determined that all impacts would be mitigated to less than significant levels with implementation of the proposed Conditions of Certification.

INTRODUCTION

This section provides a joint California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) analysis of potential impacts to biological resources from constructing and operating the proposed Project. This analysis addresses potential impacts to state and federally proposed and listed species, California species of special concern, and areas of critical biological concern. It also describes the biological resources at the project site and at the locations of associated facilities, and discusses the need for mitigation measures and the adequacy of mitigation measures proposed by Blythe Energy. It specifies additional mitigation measures to reduce identified impacts to less than significant levels, determines compliance with applicable laws, ordinances, regulations, and standards (LORS), and recommends Conditions of Certification.

This analysis is based, in part, upon information provided in the BEPTL Petition for Post Certification Amendment (BLYTHE 2004a), site visits, public workshops, Blythe Energy responses to staff data requests (BLYTHE 2004e), the Biological Assessment (WESTERN 2005c), the Biological Evaluation (TETRA 2005c), and consultations with various agency staff.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Blythe Energy must comply with the following LORS during project construction and operation.

FEDERAL

Federal Endangered Species Act of 1973 (FESA)

Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq., designate and provide for protection of threatened and endangered plant and animal species and their critical habitat. FESA authorizes the USFWS to review proposed Federal action to assess potential impacts to listed species. Listed species are those that are endangered or threatened and have been the subject of final regulation and listing in the Federal Register. FESA prohibits the “take” of federally-listed species. “Take” includes not only direct mortality but also other actions that may result in adverse impacts such as harm, harassment, or loss of habitat. Sections 7 and 10 of FESA allow “incidental take” of a listed species via a Federal or private action, respectively, through formal consultation with the USFWS and issuance of an incidental take permit.

NEPA Council for Environmental Quality (CEQ) Guidelines

The National Environmental Policy Act of 1969 (NEPA), as amended, (Pub. L. 91-90, 42 U.S.C. 4321 et seq.) established a national policy for the protection and enhancement of the environment. NEPA requires Federal agencies to integrate environmental values

into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. The Act also established the Council for Environmental Quality to direct implementation of NEPA through regulations, oversight and guidance. The NEPA regulations are contained in Title 40, Code of Federal Regulations, sections 1500-1508. Both the Act and CEQ Guidelines direct the formulation of this environmental analysis.

Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (16 USC, section 703, Supp. I, 1989) prohibits killing, possessing, or trading migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This Act encompasses whole birds, parts of birds, and bird nests and eggs.

Bald and Golden Eagle Protection Act of 1940

Title 16 U.S.C., section 668 a-d and Title 50, Code of Federal Regulations 22 et seq., prohibit hunting, possession, or sale of live and dead eagles, as well as parts, nests, and eggs. The regulations provide for permits under certain conditions for depredating eagles and possession for religious purposes.

BLM Guidelines

BLM Guidelines require that projects on BLM lands maintain consistency with applicable state requirements and local land use plans.

BLM Resource Management Plans (RMP)

BLM has RMPs which provide management standards and practices for assessing wildlife populations and habitat conditions and trends. Through its field offices, BLM manages such wildlife and habitats by regularly assessing the potential and actual conditions of a given area to provide forage, cover, water, and space requirements for wildlife as prescribed in the various regional RMPs.

California Desert Conservation Area (CDCA) Plan of 1980

The goal of the CDCA Plan is to develop and implement plans to ensure long-term successful maintenance of areas of special concern in the California desert. Biological resources managed by the CDCA Plan include fish and wildlife, vegetation, wilderness areas, wild horses, and burrows. The CDCA Plan divided these protected areas into four multiple-use classes. The majority of the proposed project is located on either Class M (Moderate use) or Class L (Limited use) or is unclassified.

Wildlife - The wildlife element in the CDCA Plan is governed by a number of public laws, acts and executive orders including NEPA and FESA. The following apply to all Class M and L land, except where noted:

- All state and federally listed species and their critical habitat shall be fully protected.
- The sensitive species shall be given protection in management decisions consistent with BLM policies.

- Control of predators and pests shall be allowed within the limits of existing state and Federal laws.
- Habitat manipulation on Class L land may be allowed, subject to environmental assessment. Use of chemical and mechanical vegetation manipulation may additionally be allowed on Class M land.
- Native or established exotic species may be introduced or re-introduced.
- Any wetland or riparian areas shall be considered in all proposed land use actions. These areas must be managed in accordance with Executive Order 11990, Protection of Wetlands (42 CFR 26951) and legislative and secretarial direction and BLM manual 6740.

Vegetation - The fragile nature of vegetation typical to arid climates makes it an especially important resource to protect. The following apply to all Class M and L lands, except where noted:

- All rare, threatened or endangered species shall be fully protected.
- Removal of native plants, commercial or non-commercial, may be allowed by permit only after NEPA requirements are met and necessary stipulations are developed.
- All sensitive plant species will be given protection in management decisions consistent with BLM policies.
- Mechanical control of vegetation is not permitted on Class L land. It may be allowed on Class M land after consideration of the possible impacts.
- Chemical control of noxious weeds may be permitted after site planning is conducted on Class L land. Spot application is permitted on Class M land.

Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) of 2002

NECO, finalized in 2002, amends the CDCA Plan of 1980. The NECO planning area of the CDCA covers 5.5 million acres in the southeastern California desert, including portions of the project area. It provides management direction for a variety of sensitive species and habitats on BLM and National Park Service land. NECO primarily addresses recovery of the desert tortoise, conservation of a variety of other species, management of wild burro herds in the planning area, and policies regarding off-road vehicle use and public land access and use.

California Desert Conservation Area Plan Amendment for the Coachella Valley

The Coachella Valley Plan amends the CDCA Plan for a 1.2 million-acre planning area encompassing the Coachella Valley, including 337,000 acres of BLM managed public lands. It provides management direction for a variety of sensitive species and habitats on BLM and National Park Service land. It primarily addresses recovery of the desert tortoise, conservation of a variety of other species, and policies regarding off-road vehicle use and public land access and use.

Federal Land Policy Management Act

Under the Federal Land Policy and Management Act of 1976 (FLPMA), the BLM is charged with managing public lands in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values. Under FLPMA, the BLM may issue right-of-way permits for systems related to the generation, transmission, and distribution of electric energy.

Executive Order 11312 – Prevention and Control of Invasive Species, February 3, 1999

Federal agencies are directed to prevent and control introductions of noxious species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. It established a national Invasive Species Advisory Committee (ISAC) that oversees and facilitates the order's implementation, including preparation of a National Invasive Species Management Plan. The ISAC is composed of approximately thirty stakeholders from state organizations, industry, conservation groups, scientists, academia and other interests.

STATE

California Endangered Species Act of 1984 (CESA)

Under the CESA, the CDFG has the responsibility for maintaining a list of rare, threatened, and endangered species as designated under state law (California Fish and Game Code section 2070), and maintains a list of "candidate species." "Candidate species" are species that the CDFG has formally noticed to the public as being under review for addition to the protected species list. CDFG also maintains lists of species of special concern, which serve as "watch lists". Fully Protected species are those for which no possession nor take is permitted (CDFG Code sections 3511, 4700, 5050, and 5515). Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFG encourages informal consultation on any proposed project that may impact a candidate species. Project impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern would be considered significant under circumstances discussed below.

Nest or Eggs – Take, Possess, or Destroy

Fish and Game Code section 3503 protects California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird.

Birds of Prey or Eggs – Take, Possess, or Destroy

Fish and Game Code section 3503.5 protects California's birds of prey and their eggs by making it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

Migratory Birds – Take or Possess

Fish and Game Code section 3513 protects California's migratory birds by making it unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act or any part of such migratory non-game bird.

Fully Protected Species

Fish and Game Code sections 3511, 4700, 5050, and 5515 prohibit take of animals that are classified as Fully Protected in California.

Significant Natural Areas

Fish and Game Code section 1930 et seq. designates certain areas such as refuges, natural sloughs, riparian areas and vernal pools as significant wildlife habitat.

Native Plant Protection Act of 1977

Fish and Game Code section 1900 et seq. prohibit the import, take, possession, or sale of rare and endangered native plants, except under certain circumstances, such as incident to the possession or sale of real property in which the plant is growing.

California Desert Native Plants Act

California Food and Agriculture Code 80001 et seq. allows removal of certain non-listed desert plants under permits issued by the count agricultural commissioner or sheriff

California Native Plant Society (CNPS)

CNPS uses four list categories to describe the status of rare, threatened, and endangered plants of California. A species' inclusion on this list does not confer it legal protection, but the list is commonly used by public agencies in CEQA evaluations of a species' status in relation to a particular project or management plan. (See Table 1 for category descriptions.)

California Code of Regulations

Title 14, sections 670.2 and 670.5 lists plants and animals of California designated as rare, threatened, or endangered.

Streambed Alteration Agreement

Fish and Game Code section 1600 et. seq. requires the California Department of Fish and Game to review project impacts to waterways, including impacts to vegetation and wildlife from sediment, diversions and other disturbances.

LOCAL

Riverside County General Plan

Riverside County encourages the protection and preservation of wildlife for the maintenance of the balance of nature. The conservation of wildlife shall be carried out in conjunction with such actions necessary to protect sensitive, rare, endangered and threatened species of wildlife and their habitats. Programs to consolidate public land as a means of preserving natural habitats shall be encouraged and supported.

City of Blythe General Plan

Biological Resources Goals

Goal 1 is to preserve and protect the City and regional biological resources, especially those sensitive, rare, threatened, or endangered species of wildlife and their habitat and to encourage a balance between nature and human development.

Biological Resources Policy

Policy 8 states that the City shall encourage and/or if appropriate, require the use of native vegetation, including palo verde, mesquite, cottonwood, ocotillo, and screwbean, in public areas, private common areas, street dividers, and other landscape areas where Planning Division control can be exercised.

Open Space and Conservation Goal

Goal 5 is to preserve riparian and ruderal habitats as important breeding and foraging habitat for native and migratory birds and animals.

Desert Center Specific Area Plan

The Wildlife Habitat section of this plan has policies that encourage the preservation of contiguous open space, limit off-road vehicle use, and require new development to conform with the Federal Desert Tortoise Critical Habitat designation requirements.

SETTING AND AFFECTED ENVIRONMENT

REGIONAL

The project components would be located in eastern Riverside County, California, and would begin approximately seven miles west of the Colorado River and California/Arizona border. Project components would be located in portions of the Mojave and Sonoran Deserts in the Palo Verde and Chuckwalla Valleys. The Chuckwalla Valley is bordered to the north by the Eagle, Palen, and McCoy Mountains. The Santa Rosa, Chuckwalla, and Palo Verde Mountains border the valley to the south, and Joshua Tree National Park is located north and west of the proposed project. The only species within the project area that is listed as threatened or endangered under Federal or state endangered species acts is the desert tortoise. It is listed as both a Federal and state “threatened” species. A compilation of the special status species known to occur in the project area is included in **Biological Resources Tables 1** and **2**.

PROJECT SITE AND VICINITY DESCRIPTION

Buck to Devers-Palo Verde Component

The proposed Buck to Devers-Palo Verde transmission line component begins at the existing Buck Substation, and would consist of upgrading the Buck Substation, constructing 6.7 miles of 230-kV transmission line (using new single pole concrete transmission structures), and constructing the new Midpoint Substation.

The Buck to Devers-Palo Verde transmission line would traverse areas of creosote bush scrub, agricultural, and urban habitats. A summary of the sensitive and special-status species locations by milepost is presented below:

- The area between mileposts 1 and 3 is agricultural land.
- Areas between mileposts 3 and 6 (approximate) are mixed creosote bush scrub and Sonoran vegetated dune habitats. Surveys conducted by Blythe Energy in 2004 and 2005 indicated that desert tortoise sign was not observed along this portion of the route (BLYTHE 2004a), (TETRA 2005b).
- The area between mileposts 3.1 and 6 contains habitat suitable for Mojave fringe-toed lizard (MFTL).
- Harwood's milk-vetch was observed at the proposed Midpoint Substation site and between mileposts 3.2 and 6 (BLYTHE 2004e).
- Other sensitive plant species listed in **Biological Resources Table 1** were not observed in surveys, but may occur along the route.
- No burrowing owls (*Athene cunicularia*) were observed during field surveys, however, burrowing owls could utilize any of the habitats within the Buck to Devers-Palo Verde component.

The proposed 41.3-acre Midpoint Substation site consists of creosote bush scrub habitat. Some narrow unimproved roads appear to have been bladed within the proposed site, and there is limited evidence of illegal trash dumping. This site is not designated as critical habitat by the USFWS and is not part of any BLM management areas; however, many areas not designated as critical habitat or BLM management areas are within the range of and capable of supporting desert tortoise.

Buck Substation upgrades would take place within the existing substation site. No biological resource impacts have been identified, therefore, no mitigation is proposed for the substation site.

Buck to Julian Hinds Component

The proposed Buck to Julian Hinds transmission line is the second component of the project. It would also begin at the Buck Substation and would include upgrading the Buck and Julian Hinds Substations and constructing 67.4 miles of new 230-kV transmission line (using single pole concrete transmission structures) between the substations. For the first 6.7 miles, the transmission line would follow the route proposed for the Buck to Devers-Palo Verde component. Blythe Energy proposes using existing access roads to construct the Buck to Julian Hinds 230-kV transmission line. With the exception of the existing Southern California Edison (SCE) transmission line and associated access roads, the Buck to Julian Hinds component beyond milepost 6.7 would traverse creosote bush scrub, desert wash woodland, and desert dune habitats. A summary of the sensitive and special status species locations by milepost is as follows:

- MFTL was observed during surveys conducted in 2004 between mileposts 10 and 17;

- Harwood's milk-vetch was observed between mileposts 7 and 16 (BLYTHE 2004a); and
- Abram's spurge, Arizona spurge, Cove's cassia, crucifixion thorn, mesquite nest-straw, and Orocopia sage were not observed during project surveys, however, suitable habitat exists to support these plant species.

The Buck to Julian Hinds transmission line route will cross areas managed by BLM. Public lands in the project area are managed under the Northern and Eastern Colorado Desert Coordinated Desert Management Plan (NECO). NECO outlined the multi-use policy of the agency, created Desert Wildlife Management Areas (DWMAs) and created specific management prescriptions for species and habitats on public lands with a focus on the recovery of the desert tortoise. NECO designated all lands within DWMAs as Category I desert tortoise habitat and identified additional desert tortoise habitat outside of the DWMAs. The Buck to Julian Hinds transmission line would traverse NECO-defined lands and USFWS-designated critical habitat including:

- Approximately 37 miles in the Chuckwalla Desert Wildlife Management Area (Category I desert tortoise habitat) (TETRA 2006a);
- Approximately 14.8 miles on BLM Category III management lands; and
- Approximately 52 miles would traverse USFWS-designated critical habitat for desert tortoise (BLYTHE 2004a).

The Buck and Julian Hinds Substation expansions would occur within areas already disturbed by the original construction of the substations. No biological resource impacts have been identified for mitigation at the Buck or Julian Hinds Substations, however, desert tortoises occur in the immediate area.

Both Components

If both components are constructed, two additional projects would be necessary to retain a functioning transmission line system (BLYTHE 2004a). The first change would require upgrades to the Buck Substation and the second change would be a change in the type of poles and conductors along the 6.7 mile stretch between the existing Buck Substation and proposed Midpoint Substation. The Buck Substation, as noted earlier, has no notable biological resources and is not discussed any further. Habitat types affected by the transmission line would be the same as described for the Buck to Devers-Palo Verde and Buck to Julian Hinds components.

Special Status Species

Biological Resources Table 1 and **Table 2** list the special status and rare plant species as well as threatened, endangered, candidate, and special status wildlife species that may occur in the vicinity of the proposed project. Species may be included under any of the following categories:

Federal Endangered Species Act (FESA)

Endangered species (E): An animal or plant species in danger of extinction throughout all or a significant portion of its range.

Threatened species (T): An animal or plant species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Candidate species (C): A plant or animal species for which FWS or NOAA Fisheries has on file sufficient information on biological vulnerability and threats to support a proposal to list as endangered or threatened.

Species of concern (SC): A species of concern indicates a species for which further research and field study are needed to determine the conservation status. Such species receive no legal protection and use of the term does not necessarily imply that a species will eventually be proposed for Federal listing.

Bureau of Land Management (BLM)

BLM Sensitive species (S): "Species that could easily become endangered or extinct in the state", including species under status review by the USFWS/ National Marine and Fisheries Service; species whose numbers are declining so rapidly that Federal listing may become necessary; species with typically small or fragmented populations; and species inhabiting specialized refugia or other unique habitats.

California Endangered Species Act (CESA)

Endangered species (E): A native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

Threatened species (T): A native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.

Species of Special Concern (SSC): Applies to animals not listed under the Federal Endangered Species Act or the California Endangered Species Act, but which nonetheless a) are declining at a rate that could result in listing, or b) historically occurred in low numbers and known threats to their persistence currently exist.

California Native Plant Society (CNPS) Lists

List 1A: Plants presumed extinct in California

List 1B: Plants rare, threatened, or endangered in California

List 2: Plants rare, threatened, or endangered in California but common elsewhere

List 3: Plants about which more information is needed

List 4: Plants not presently in danger of extinction but of limited distribution (Watch List)

BIOLOGICAL RESOURCES Table 1
Special Status Species that may occur along the Buck to Devers-Palo Verde Component

Common Name	Scientific Name	Status: USFWS/BLM/ CDFG/CNPS
Plants		
Abram's spurge	*Chamaesyce abramsiana*	-/-/-/List 2
Arizona spurge	*Chamaesyce arizonica*	-/-/-/ List 2
Cottonheads	*Nemacaulis denudate* var. *gracilis*	-/-/-/ List 2
Cove's cassia	*Senna covesii*	-/-/-/ List 2
Crucifixion thorn	*Castela emoryi*	-/-/-/ List 2
Flat-seeded spurge	*Chamaesyce platysperma*	-/-/-/ List 1B
Coachella Valley milk-vetch	*Astragalus lentiginosus* var. *coachellae*	-/-/-/ List 1B
Little San Bernardino Mtns. linanthus	*Linanthus maculates*	-/-/-/ List 1B
Mecca-aster	*Xylorhiza cognata*	-/-/-/ List 1B
Foxtail cactus	*Coryphantha alversonii*	-/-/-/ List 4
Glandular ditaxis	*Ditaxis claryana*	-/-/-/ List 2
California ditaxis	*Ditaxis serrata* var. *californica*	-/-/-/ List 3
Harwood's milk-vetch	*Astragalus insularis* var. *harwoodii*	-/-/-/ List 2
Birds		
Bendire's thrasher	*Toxostoma bendirei*	-/S/SSC/-
Burrowing owl	*Athene cunicularia*	-/S/SSC/-
California horned lark	*Eremophila alpestris actia*	-/-/SSC/-
Crissal thrasher	*Toxostoma crissale*	-/-/SSC/-
Ferruginous hawk	*Buteo regalis*	-/S/SSC/-
Golden eagle	*Aquila chrysaetos*	-/S/SSC/-
Le Conte's thrasher	*Toxostoma lecontei*	-/S/SSC/-
Loggerhead shrike	*Lanius ludovicianus*	-/-/SSC/-
Merlin	*Falco columbarius*	-/-/SSC/-
Northern harrier	*Circus cyaneus*	-/-/SSC/-
Prairie falcon	*Falco mexicanus*	-/-/SSC/-
Short-eared owl	*Asio flammeus*	-/-/SSC/-
Mammals		
American badger	*Taxidea taxus*	-/-/SSC/-
Big free-tailed bat	*Nyctinomops macrotis*	-/-/SSC/-
California leaf-nosed bat	*Macrotus californicus*	SC/-/SSC/-
Cave myotis	*Myotis velifer*	-/S/SSC/-
Occult little brown bat	*Myotis lucifugus occultus*	-/-/SSC/-
Pale big-eared bat	*Plecotus townsendii pallescens*	-/S/SSC/-
Pallid bat	*Antrozous pallidus*	-/S/SSC/-
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	-/-/SSC/-
Spotted bat	*Euderma maculatum*	-/S/SSC/-
Western mastiff bat	*Eumops perotis*	-/S/SSC/-
Yuma myotis bat	*Myotis yumanensis*	-/S/-/-
Reptiles/Amphibians		
Flat-tailed horned lizard	*Phrynosoma mcallii*	-/S/SSC/-
Colorado desert fringe-toed lizard	*Uma notata*	-/S/SSC/-
Desert tortoise	*Gopherus agassizii*	T/S/T/-
Mojave fringe-toed lizard	*Uma scoparia*	-/S/SSC/-
Northern red-diamond rattlesnake	*Crotalus ruber ruber*	-/-/SSC/-
Couch's spadefoot toad	*Scaphiopus couchii*	-/S/SSC/-

Sources: BLYTHE 2004a, Gould 2005.

BIOLOGICAL RESOURCES Table 2
Special Status that may occur along the Buck to Julian Hinds Component

Common Name	Scientific Name	Status USFWS/BLM/ CDFG/CNPS
Plants		
Abram's spurge	*Chamaesyce abramsiana*	-/-/-/List 2
Arizona spurge	*Chamaesyce arizonica*	-/-/-/ List 2
Ayenia	*Ayenia compacta*	-/-/-/ List 2
California colubrina	*Colubrina californica*	-/-/-/ List 2
Cottonheads	*Nemacaulis denudate* var. *gracilis*	-/-/-/ List 2
Coachella Valley milk-vetch	***Astragalus lentiginosus* var. *coachellae***	**-/-/-/ List 1B**
Little San Bernardino Mtns. linanthus	***Linanthus maculates***	**-/-/-/ List 1B**
Mecca-aster	***Xylorhiza cognata***	**-/-/-/ List 1B**
Foxtail cactus	***Coryphantha alversonii***	**-/-/-/ List 4**
Glandular ditaxis	***Ditaxis claryana***	**-/-/-/ List 2**
Califronia ditaxis	***Ditaxis serrata* var. *californica***	**-/-/-/ List 3**
Cove's cassia	*Senna covesii*	-/-/-/ List 2
Crucifixion thorn	*Castela emoryi*	-/-/-/ List 2
Desert sand parsley	*Ammoselinum giganteum*	-/-/-/ List 2
Flat-seeded spurge	*Chamaesyce platysperma*	-/-/-/ List 1B
Harwood's milk-vetch	*Astragalus insularis* var. *harwoodii*	-/-/-/ List 2
Mecca woody aster	*Xylorhiza cognate*	-/-/-/ List 1B
Mesquite neststraw	*Stylocline sonorensis*	-/-/-/ List 1A
Orocopia sage	*Salvia greatae*	-/-/-/ List 1B
Purple stemodia	*Stemodia druantifolia*	-/-/-/ List 2
Spearleaf	*Matelea parvifolia*	-/-/-/ List 2
Birds		
Bendire's thrasher	*Toxostoma bendirei*	-/S/SSC/-
Burrowing owl	*Athene cunicularia*	-/S/SSC/-
California horned lark	*Eremophila alpestris actia*	-/-/SSC/-
Crissal thrasher	*Toxostoma crissale*	-/-/SSC/-
Ferruginous hawk	*Buteo regalis*	-/S/SSC/-
Golden eagle	*Aquila chrysaetos*	-/S/SSC/-
Le Conte's thrasher	*Toxostoma lecontei*	-/S/SSC/-
Loggerhead shrike	*Lanius ludovicianus*	-/-/SSC/-
Merlin	*Falco columbarius*	-/-/SSC/-
Northern harrier	*Circus cyaneus*	-/-/SSC/-
Prairie falcon	*Falco mexicanus*	-/-/SSC/-
Short-eared owl	*Asio flammeus*	-/-/SSC/-
Mammals		
American badger	*Taxidea taxus*	-/-/SSC/-
Big free-tailed bat	*Nyctinomops macrotis*	-/-/SSC/-
California leaf-nosed bat	*Macrotus californicus*	SC/-/SSC/-
Cave myotis	*Myotis velifer*	-/S/SSC/-
Colorado Valley woodrat	*Neotoma albigula venusta*	-/-/SSC/-
Nelson's bighorn sheep	*Ovis canadensis nelsoni*	-/S/-/-
Occult little brown bat	*Myotis lucifugus occultus*	-/-/SSC/-
Pale big-eared bat	*Plecotus townsendii pallescens*	-/S/SSC/-
Pallid bat	*Antrozous pallidus*	-/S/SSC/-
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	-/-/SSC/-
Spotted bat	*Euderma maculatum*	-/S/SSC/-
Western mastiff bat	*Eumops perotis*	-/S/SSC/-
Yuma myotis bat	*Myotis yumanensis*	-/S/-/-
Reptiles/Amphibians		
Colorado Desert fringe-toed lizard	*Uma notata*	-/S/SSC/-
Flat-tailed horned lizard	***Phrynosoma mcallii***	**-/S/SSC/-**
Desert tortoise	*Gopherus agassizii*	T/-/T/-
Mojave fringe-toed lizard	*Uma scoparia*	-/S/SSC/-
Northern red-diamond rattlesnake	*Crotalus ruber ruber*	-/-/SSC/-
Couch's spadefoot toad	*Scaphiopus couchii*	-/S/SSC/-

Sources: BLYTHE 2004a, Gould 2005.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

Construction and operation of the transmission line and related components are expected to have direct and indirect impacts to biological resources. CEQA and NEPA define direct impacts as those impacts that result from the project and occur at the same time and place. Indirect impacts are caused by the project but can occur later in time or farther removed in distance, but are still reasonably foreseeable and related to the project.

METHOD AND THRESHOLD FOR DETERMINING IMPACT SIGNIFICANCE

Staff consulted Applications for Certification (AFC), previous Energy Commission Decisions, USFWS Biological Opinions, and CEQA documents for other projects in the local area in determining significance of project impacts. Additionally, staff consulted with BLM, Western, USFWS, and CDFG staff in determining impact significance. BLM Desert Wildlife Management Area plans and NECO were also consulted to assess impacts and determine suitable mitigation to reduce impacts (to areas under plan jurisdiction) to less than significant levels.

As stated in the 2005 CEQA Guidelines, "'Significant effect on the environment' means a substantial, or potentially substantial, adverse change in the environment." The significance criteria with respect to biological resources are framed in the form of questions which staff considers, as listed below.

Would the project:

1. Adversely impact, either directly or through habitat modifications, any endangered, rare, or threatened species, as listed in Title 14 of the California Code of Regulations (sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (sections 17.11 or 17.12)?

2. Have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

3. Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

4. Adversely impact federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?

5. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

6. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

7. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?

Under NEPA, significance is analyzed in terms of context and intensity. Context involves analyzing the action in terms of how it affects society as a whole (human, national), the affected region, the affected interests and/or the locality. Intensity refers to the severity of the impact. The following should be considered in evaluating intensity:

1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial;

2. The degree to which the proposed action affects public health or safety;

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas;

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial;

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks;

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration;

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts;

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources;

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973; and

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

DIRECT/INDIRECT IMPACTS AND MITIGATION

Construction of either of the transmission line routes and the construction of the Midpoint Substation are likely to directly impact sensitive species and their habitat.

Because it can take desert plant communities a long time to recover from disturbances (i.e., 100+ years), all construction impacts in the desert are considered permanent. The loss of habitat for each component has been calculated separately in the discussions below, and a final tally of both projects has been included at the end. Potential impacts to sensitive species found along the proposed routes can be found under the discussion of each component. Indirect impacts are also discussed separately for each component.

Direct Impacts: Buck to Devers-Palo Verde Component

Desert Tortoise Impacts and Mitigation: Construction and operation activities could result in direct and indirect impacts to desert tortoise, including loss of desert tortoise habitat. The desert tortoise is a Federal and State-listed threatened species and BLM sensitive species. Mitigation measures for impacts to desert tortoise include implementing measures to decrease the likelihood of incidental take of desert tortoise and desert tortoise habitat compensation.

Desert tortoise could be injured or killed, their activities altered, and their habitat degraded during construction and maintenance activities associated with this transmission line. Use of vehicles and equipment during construction activities could result in injury or death to tortoises. Hatchlings and immature desert tortoises are particularly vulnerable because their small size and coloration make them difficult to see. Desert tortoises could fall into uncovered holes or trenches that are dug during construction. In addition, desert tortoises could be entombed by equipment use and other construction activities in proximity to occupied burrows. The handling of desert tortoises by project personnel could result in the deleterious voiding of internal fluids and other physiological stress as well as the spread of respiratory tract and other diseases. Desert tortoises seeking shade under vehicles or equipment could be run over when the vehicles are started and moved.

In addition, construction of the Midpoint Substation would result in the loss of 41.3 acres of creosote bush scrub habitat that is suitable for desert tortoise. Construction activities may also cause the degradation of nearby desert tortoise habitat or aid the spread of non-native plant species detrimental to desert tortoise.

Western, BLM, and Energy Commission staff and Blythe Energy propose the purchase of desert tortoise mitigation land to offset the impact to 41.3 acres of desert tortoise habitat due to the construction of the Midpoint Substation. Staff consulted with the DTPC to determine the cost for acquisition, administration, and long-term management of desert tortoise habitat in Riverside County and was informed that the cost is $1,200 dollars/acre (J. Lee 2005). If desert tortoise habitat disturbances occur on BLM Category I desert tortoise habitat, the disturbance must be compensated for at a 5:1 ratio. The Midpoint Substation site, however, is not on Category I desert tortoise habitat. Therefore staff proposes a 1:1 habitat compensation ratio for this area. Desert tortoise habitat categories and compensation ratios are discussed in greater detail in the Buck to Julian Hinds impacts section. Thus, to mitigate the disturbance to 41.3 acres of desert tortoise habitat, staff proposes that a total of $49,560 (41.3 acres x $1200/acre) should be transferred to DTPC prior to construction for the purchase of 41.3 acres of desert tortoise habitat. Staff requires the purchase of mitigation land to offset the impact

of desert tortoise habitat loss from the construction of the Midpoint Substation as outlined in **Condition of Certification BIO-16** (BEPTL Habitat Compensation).

Mitigation measures to reduce the likelihood of impacts to desert tortoise include a 15 mile per hour speed limit, limitation of vehicle traffic to designated access and spur roads, and biological monitoring. In addition, Blythe Energy proposed the following mitigation measures and related steps to ensure that the level of impact to federally-listed species, including desert tortoise, is reduced to less than significant levels:

1. A pre-construction survey of each project component located within areas identified during previous surveys as designated Critical Habitat or as listed species habitat will be conducted by a qualified biologist no more than 7 days prior to the onset of construction activities.

2. Blythe Energy conducted an additional full presence/absence protocol survey in May, 2005 for desert tortoises for all disturbance areas.

3. At least 15 days prior to initiation of clearance surveys, Blythe Energy will submit the names, permit numbers, and resumes indicating relevant tortoise experience of anyone who might need to handle desert tortoises to the USFWS for approval. Proposed transmission line activities will not begin until an authorized biologist has been approved. While other biologists may be employed as monitors, only those approved by the USFWS will be permitted to handle tortoises.

4. The USFWS will provide the names of all proposed, authorized biologists to BLM for their records. All persons authorized by the USFWS to handle desert tortoise will follow the guidelines established in the Guidelines for Handling Desert Tortoises During Construction Projects (Desert Tortoise Council 1994, revised 1999).

5. Qualified biologists will monitor all work where prior Blythe Energy surveys have documented the occurrence of one or more listed species. In conjunction with Blythe Energy's Environmental Inspector, the Designated Biologist will have the authority to halt all non-emergency actions that might result in harm to a listed species, and will assist in the overall implementation of protection measures for listed species during project operations.

6. Employees and contractors will look under vehicles and equipment for the presence of protected species prior to movement. No equipment will be moved until the animal has left voluntarily or it is removed by a biologist authorized to do so. Any time a vehicle is parked, the ground around and under the vehicle will be inspected for desert tortoises before the vehicle is moved.

7. If a desert tortoise is observed, it will be allowed to move away from the project area on its own. If this does not occur within 15 minutes, an authorized biologist will remove and relocate the tortoise.

8. Desert tortoise found above ground and who need to be moved from harm's way will be placed in the shade of a shrub by the authorized biologist. All desert tortoises removed from burrows will be placed in an unoccupied burrow of approximately the same size as the one from which they were removed.

9. If an existing burrow is unavailable, the authorized biologist will construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original burrow. Desert tortoise moved during inactive periods will be monitored for at least two days after placement in the new burrows to ensure their safety. The authorized biologist will be allowed some judgment and discretion to ensure that survival of the desert tortoise is likely.

10. Firearms and pets will be prohibited from work sites.

11. Transmission line construction activities between dusk and dawn will be limited to emergencies only (i.e. issues involving human health and safety).

12. Open auger holes or other excavations that could entrap wildlife will be inspected by an authorized biologist a minimum of three times per day, and immediately prior to backfilling. Excavations that remain open overnight will be covered or ramped to prevent entrapment of wildlife.

13. If a listed species is located during construction, and a contingency for avoidance, removal, or transplant has not been approved by the USFWS or appropriate agency, Blythe Energy will not proceed with project activity until specific consultation with Western is completed.

14. All encounters with listed species will be reported to the Designated Biologist, who will record the following information:

    - Species name;
    - Location (GPS, narrative and maps) and dates of observations;
    - General condition and health, including injuries and state of healing;
    - Diagnostic markings, including identification numbers or markers; and
    - Locations moved from and to.

Western has requested additional information be provided to them on a quarterly basis, and Blythe Energy has agreed to these requests and included them in the BEPTL Petition. The following measures will be adopted by Western to mitigate direct and indirect impacts as part of their permitting of the project:

1. Employees and contractors will be informed during one or more training sessions that they are not authorized to handle or otherwise move listed species either while commuting to work sites or at a work site.

2. If a dead or injured protected species is located during construction, Blythe Energy will notify Western, the USFWS and CDFG within 24 hours. Written notification must be made within 5 days of the date and time of the finding or incident (if known) and must include: Location of the carcass, a photograph, cause of death (if known), and other pertinent information.

3. Should any sensitive species be found during pre-construction surveys and work must be done in identified areas during sensitive periods, the project owner shall

develop and implement a plan for the protection of these species. Western and the USFWS shall approve this plan prior to commencing work in these areas. The results of any surveys and any protective measures instituted as a part of the protection and monitoring plan shall be approved by Western prior to implementation. The project owner shall be responsible for reporting all observations of threatened/endangered species or of species of special concern to the CDFG Natural Diversity Data Base staff within 10 days of sighting.

4. Spoil sites shall not be utilized without prior approval by Western.

5. A clearance survey for the desert tortoise shall be conducted by a qualified biologist within 24 hours prior to ground disturbance.

6. Burrows outside of the limits of construction will be flagged so that the biological monitor will be able to more easily locate them during construction.

7. All desert tortoise burrows or pallets that would be affected by construction will be excavated by a qualified biologist. All desert tortoise handling and burrow excavation will be in accordance with handling procedures developed by the USFWS and conducted by qualified desert tortoise biologists.

8. Only approved access roads will be used. Only approved areas will be used for temporary storage areas, laydown sites, and any other surface-disturbing activities. Any routes of travel that require construction or modification, or any additional work areas, will have a qualified biologist(s) survey the area for tortoises prior to modification or construction of the route or construction or use of a new work area.

9. All excavations will be inspected for tortoises three times daily and prior to backfilling.

10. All construction activities in desert tortoise habitat will be conducted between dawn and dusk.

The above-listed mitigation measures, which are supported by BLM, Western, and Energy Commission staff, are included in the Applicant's proposed mitigation measures, and **Conditions of Certification BIO-1** (Sensitive Species Protection) and **BIO-14** (Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)) require that the project owner include them in the BRMIMP and implement them. Additionally, amended **Condition of Certification BIO-5** (Worker Environmental Awareness Program (WEAP)) and existing **Conditions of Certification BIO-2** (Designated Biologist)**, BIO-3** (Designated Biologist Duties)**, BIO-4** (Construction Manager Duties)**,** and **BIO-9** (Desert Tortoise Exclusion Fencing) will be applied during project construction and operations to mitigate impacts to desert tortoise to less than significant levels.

Mojave Fringe-toed Lizard (MFTL) Impacts and Mitigation: Temporary and permanent loss of MFTL habitat and direct mortality to MFTL (state species of special concern and BLM sensitive species). Mitigation of impacts will include implementation of measures to decrease the likelihood of harm to MFTL.

Constructing the Buck to Devers-Palo Verde component would affect MFTL habitat and may cause direct harm to individual lizards.

To reduce impacts to MTFL, Blythe Energy proposes, and staff supports, the following mitigation measures (DR 2004):

1. Qualified biologists will conduct preconstruction surveys to identify all potential habitats along the construction area. Within 7 days before construction begins, biologists will identify habitat areas subject to direct construction-related ground disturbance.

2. Biologists will conduct a final clearance survey prior to construction activities to excavate potential burrows and relocate the lizards to nearby suitable habitat. The management strategy guidelines for relocation that are described in the document prepared by the Working Group of Flat-tailed Horned Lizard Interagency Coordinating Committee (Foreman 1997) shall be utilized for MFTL.

3. Construction areas will be periodically examined (at least hourly when surface temperatures exceed 30 degree Celsius) for the presence of the MFTL. In addition, all trenches, holes, or deep excavations will be examined for the presence of these lizards prior to filling. If lizards are found they will be relocated to nearby suitable habitat.

4. A field contact representative will have the authority to ensure compliance with protective measures for these lizards, and will initiate a worker education program.

5. A biological monitor shall be present in each area of active construction within MFTL habitat throughout the work day from initial clearing through habitat restoration. The biological monitor shall have sufficient education and field experience or training with these lizards to understand their biology and behavior. The biological monitor shall have the authority and responsibility to halt activities that are in violation of these terms and conditions.

    - Examine construction areas periodically (at least hourly when surface temperatures exceed thirty degrees Celsius) for the presence of MFTL. In addition, all hazardous sites (open pipes, trenches, holes, or deep excavations) shall be inspected for the presence of these lizards prior to backfilling.
    - Work with the construction supervisor to take steps, as necessary, to avoid disturbance to MFTL and their habitat. If avoiding disturbance is not possible or if a lizard is found trapped in an excavation, the affected lizard will be captured by hand and relocated.
    - Relocated MFTL shall be placed in the shade of a large shrub a short distance from the construction area and in the direction of undisturbed habitat. If the surface temperature in the sun is less than 30 degrees Celsius or greater than 50 degrees Celsius, the biological monitor authorized to handle the lizard will hold it for later release.
    - Initially captured MFTL shall be held in a cloth bag, cooler, or other appropriate clean dry container from which the lizard cannot escape. Lizards shall be held at

temperatures between 25 and 35 degrees Celsius and shall not be exposed to direct sunlight. Release shall occur as soon as possible after capture and during daylight hours when surface temperatures range from 32 to 40 degrees.

To further mitigate impacts to MFTL, habitat purchased for desert tortoise mitigation will be selected so that the land contains habitat capable of supporting MFTL.

Staff agrees that the measures listed above would mitigate impacts to MFTL. The desert tortoise mitigation measures discussed earlier would further mitigate impacts to MFTL. Staff proposes amended **Conditions of Certification BIO-1** (Sensitive Species Protection) and **BIO-14** (BRMIMP)**,** and new conditions **BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol) to mitigate impacts to less than significant levels.

Burrowing Owl Impacts and Mitigation: Direct impacts to burrowing owls (state species of special concern and BLM sensitive species) could occur during construction, and owl burrows could be destroyed during construction. Mitigation will include implementation of measures to decrease the likelihood of direct or indirect impacts to burrowing owls.

Blythe Energy proposed burrowing owl clearance surveys within the first 3.5 miles of transmission line. For the remainder of the transmission line, Blythe Energy would look for burrowing owls along with desert tortoises during pre-construction surveys (BLYTHE 2004j). Staff agrees with Blythe Energy's proposal to include burrowing owl as a target species during pre-construction surveys. If owls are sighted on the project site, off-site habitat compensation will be required, unless the sighting was on actively cultivated land. Consultation with Commission and CDFG staff will be required to determine specific amounts of habitat compensation required to reduce impacts to less than significant levels. Staff proposes implementation of amended **Condition of Certification BIO-1** (Sensitive Species Protection) to reduce impacts to burrowing owls to less than significant levels.

Harwood's Milk-vetch Impacts and Mitigation: Harwood's milk-vetch plants are likely to be destroyed during construction, and Harwood's milk-vetch habitat will be lost.

Within the Buck to Devers-Palo Verde component, Harwood's milk-vetch was observed at milepost 3.2 and at the proposed Midpoint Substation site. Constructing the proposed Midpoint Substation would result in the loss of 41.3 acres of potential Harwood's milk-vetch habitat. Between mileposts 3.2 and 16 (excluding the Midpoint Substation), Blythe Energy calculated impacts to Harwood's milk-vetch habitat as high as 26 acres. (Note: areas beyond milepost 6.7 are within the Buck to Julian Hinds component of the proposed project and are discussed later in this analysis).

For impacts to Harwood's milk-vetch, Blythe Energy proposes providing compensatory funding of $22,270 to the Rancho Santa Ana Botanical Garden (RSABG) for collection and preservation of seed. Because the DTPC has recently had problems acquiring land with suitable Harwood's milk-vetch populations, staff agrees this is the best approach available, and it will mitigate the impact to less than significant levels. Staff requires a

check be issued to the RSABG prior to construction for collection and preservation of Harwood's milk-vetch seed per amended **Condition of Certification BIO-13**.

Other Special-status Plant Species Impacts and Mitigation: Disturbance to other special-status plant species habitat will be mitigated through purchase of habitat compensation land.

Abram's spurge, Arizona spurge, and Cove's cassia (all CNPS List 2 species) were not observed during surveys, however, habitat suitable to support these sensitive plant species exists within the Buck to Devers-Palo Verde component and will be impacted during construction.

Impacts to Abram's spurge, Arizona spurge, and Cove's cassia habitat would be mitigated through habitat purchased for desert tortoises. The location for desert tortoise habitat compensation lands has not been determined. The Conditions of Certification require that land that is purchased for desert tortoise habitat compensation also contain habitat capable of supporting Abram's spurge, Arizona spurge, and Cove's cassia. Staff proposes modifications to **Condition of Certification BIO-14** (BRMIMP) and new **Conditions of Certification BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol) to mitigate impacts to these sensitive plant species to less than significant levels.

Wildlife Habitat Acreage Impacts and Mitigation: Construction of the Buck to Devers-Palo Verde component will cause the permanent loss of wildlife habitat. In addition, habitat fragmentation could occur as a result of the project.

Construction of the Midpoint Substation will impact 41.3 acres of wildlife habitat, and construction of the transmission line between Buck and Midpoint Substations will impact additional wildlife habitat.

Desert tortoise habitat compensation fees as discussed earlier and in **Conditions of Certification BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol) would mitigate habitat loss and fragmentation impacts. In addition, implementation of **Conditions of Certification BIO-3** (Designated Biologist duties)**, BIO-10** (Weed Reduction Program)**, BIO-13** (Harwood's milk-vetch Compensation)**,** and **BIO-14** (Biological Resources Mitigation, Implementation, and Monitoring Plan (BRMIMP)) would further mitigate habitat loss and fragmentation impacts.

General Wildlife Impacts and Mitigation: Construction activities could result in direct wildlife mortality, temporary displacement of wildlife, and destruction of bird nests. Measures will be enacted to minimize impacts to wildlife.

Any wildlife residing within the proposed project area would potentially be displaced, injured, or killed during project activities. Animal species in the project area could fall into construction trenches, be crushed by construction vehicles or equipment, or be harmed by project personnel. In addition, construction activities may attract predators or crush animal burrows or nests, including loggerhead shrike and Leconte's thrasher nests.

To ensure biological resources are protected, Blythe Energy has proposed to retain a Designated Biologist (**Conditions of Certification BIO-2**) and to implement a Worker Environmental Awareness Program (WEAP) (**Condition of Certification BIO-5**). The project owner has stated, and staff will require, that qualified biologists will monitor all work in USFWS-designated critical habitat for desert tortoise and in areas where prior Blythe Energy surveys have documented the occurrence of one or more listed species. In conjunction with Blythe Energy's Environmental Inspector, the Designated Biologist will have the authority to advise the Construction Manager to avoid harm to a listed species and will assist in the overall implementation of protection measures for listed species during project operations (see **Conditions of Certification BIO-3** and **BIO-4**). Other mitigation requirements in the Conditions of Certification include speed limits in construction areas and clearance surveys prior to construction. All biological mitigation will be compiled into the BRMIMP (**Condition of Certification BIO-14**).

Avian Collision and Electrocution Impacts and Mitigation: The project could result in increased avian mortality due to collision with and electrocution from new transmission lines. Blythe Energy's proposed mitigation measures state that transmission lines will be installed according to Avian Powerline Interaction Committee (APLIC) Guidelines (BLYTHE 2004a). The APLIC Guidelines are designed to minimize avian-power line interactions. **Condition of Certification BIO-1** (Sensitive Species Protection) requires that the Applicant's proposed mitigation measures be included in the BRMIMP and be implemented.

Nesting Birds: The project could impact nesting birds in violation of the Migratory Bird Treaty Act. To mitigate potential impacts to nesting birds, the Designated Biologist will perform preconstruction surveys and will have the authority to advise the Construction Manager to avoid harm to nesting birds (**Conditions of Certification BIO-3** and **BIO-4**).

Indirect Impacts: Buck to Devers-Palo Verde Component

Invasive and Exotic Weed Impacts and Mitigation: Project activities could result in the introduction and dispersal of invasive or exotic weeds. A weed reduction program will be implemented to reduce and mitigate impacts.

The permanent and temporary earth disturbance adjacent to native habitats increases the potential for exotic, invasive plant species to establish and disperse into native plant communities, which leads to community and habitat degradation. The state and Federal governments have recognized and taken action on the threat that exotic species pose to native habitats and agriculture. As exotic plants displace native habitat, many species of birds, insects, fish and other wildlife may be lost. It has been estimated that invasive pest plants cost California hundreds of millions of dollars annually (Cal-IPC 2005). California's former Governor Davis signed and funded Assembly Bill 1168 - Noxious Weeds Management Program in 1999, indicating the State's commitment to manage noxious weeds. Federal Executive Order 13112 was signed by former President Clinton in 1999 to "prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause".

Invasion of weed species within the disturbance areas would decrease suitable forage for the protected desert tortoises. Invasive plant species are less palatable and nutritious, and out-compete native plants preferred by tortoises. Although the incidence of fire is very low in this area, most invasive weed species are more prone to fire than native species. An increase in fire frequency in this area would inhibit native plant succession and growth.

To prevent indirect impacts from invasive weeds along the Buck to Devers-Palo Verde component, Blythe Energy proposes surveying for invasive and noxious weeds and implementing appropriate control methods. Staff agrees with Blythe Energy's measures and proposes implementation of a weed reduction program as outlined in amended **Condition of Certification BIO-10** to reduce impacts to less than significant levels.

Raven Impacts and Mitigation: Project activities could attract common ravens to the area, thereby increasing predation on desert tortoise. Tortoise predation by individual ravens is dependent on a variety of factors, but the overall impact of raven predation on tortoise populations is considered to be substantial.

Raven populations have increased dramatically in recent years due to the increase in human activity in desert areas. Common ravens are known to predate juvenile desert tortoise, and the loss of juvenile tortoise through raven predation affects the stability and recovery of tortoise populations.

Most desert tortoise predation occurs in the spring when tortoises are active and ravens are feeding their young. Any trash, refuse or surface water left at the project site would attract ravens. Transmission line poles may provide nesting and perching sites, increasing local raven populations and desert tortoise predation.

As part of the "General Construction Measures", Blythe Energy has proposed mitigation measures to contain and remove trash and food items. These measures will decrease the likelihood of attracting ravens to the project area and reduce impacts to less than significant levels. The measures will be incorporated in the BRMIMP as outlined in **Conditions of Certification BIO-1** (Sensitive Species Protection) and **BIO-14** (BRMIMP).

Direct Impacts: Buck to Julian Hinds Component

If only this component is constructed, 67.4 miles of new transmission line will be constructed between the Buck Substation and the Julian Hinds Substation. This component would initially traverse the same route as the Buck to Devers-Palo Verde component (a 6.7 miles stretch) before being routed west adjacent to SCE's existing 500 kV transmission line. The Midpoint Substation is not part of the Buck to Julian Hinds component. Therefore, all impacts and mitigation measures as discussed in the Buck to Devers-Palo Verde component, with the exception of those only applicable to the Midpoint Substation, also apply to the Buck to Julian Hinds component. Staff provides a combined analysis of the two segments at the end of this section.

Constructing the Buck to Julian Hinds component of the BEPTL would cause direct impacts to desert tortoise, Harwood's milk-vetch, and MFTL. No impacts are expected

from construction activities on the Buck or Julian Hinds substation sites. Thus, the discussion below focuses on the transmission line installation along the 60.7-mile portion of the line that is not shared by the Buck to Devers-Palo Verde component.

Desert Tortoise Impacts and Mitigation: Construction and operation activities could result in direct impacts to desert tortoise, and desert tortoise habitat would be lost due to project construction. Indirect impacts to desert tortoise may also occur. Mitigation will include implementation of measures to decrease the likelihood of incidental take of desert tortoise and desert tortoise habitat compensation.

Desert tortoise could be injured or killed, their activities altered, and their habitat degraded during construction and maintenance activities associated with this transmission line. Use of vehicles and equipment during construction activities could result in injury or death to tortoises. Hatchlings and immature desert tortoises are particularly vulnerable because their small size and coloration make them difficult to see. Desert tortoises could fall into uncovered holes or trenches that are dug during construction. In addition, desert tortoises could be entombed by equipment use and other construction activities in proximity to occupied burrows. The handling of desert tortoises by project personnel could result in the deleterious voiding of internal fluids and other physiological stress as well as the spread of respiratory tract and other diseases. Desert tortoises seeking shade under vehicles or equipment could be run over when the vehicles are started and moved.

In addition, there will be a permanent loss of desert tortoise habitat during transmission line construction of the Buck to Julian Hinds component. Desert tortoise habitat compensation will be required for all disturbances between the Midpoint Substation and the Julian Hinds Substation.

Staff used figures provided by Blythe Energy and Western to calculate an estimate of the disturbance impacts associated with this component. Blythe Energy and Commission staff have different conclusions on the extent of impacts that will result from project construction. Western staff indicated that Blythe Energy's initial ground disturbance estimates for specific transmission line components were low, and past experience has led Western to revise ground disturbance impact estimates for pole construction and conductor pull, tension, and splice sites (WESTERN 2004b). Western staff concluded that constructing the transmission structures will require an area 150 feet by 150 feet and conductor pulling, splicing, and tensioning sites will require minimum areas of 100 feet by 200 feet (WESTERN 2004b). Where Western's impact estimates conflict with Blythe Energy's estimates, staff adopted Western's impact estimates in calculating impacts for construction of the Buck to Devers Palo-Verde component (**Biological Resources Table 3**). Laydown areas are not included in disturbance calculations because laydown areas will be on previously disturbed lands and no vegetation or wildlife habitat impacts would occur (BLYTHE 2004a).

Staff used Tables 3.2-2 and 3.3-2 in the Petition for Post-Certification Amendment (Blythe 2004a) to calculate the number and locations of transmission poles and conductor pull, tension and splice sites. Staff calculated that up to 272.8 acres of desert tortoise habitat could be disturbed.

BIOLOGICAL RESOURCES Table 3
Staff's Calculations of Desert Tortoise Habitat Impacts between the Midpoint Substation and the Julian Hinds Substation

Feature	Quantity	Impact Area* (Blythe Energy)	Impact Area** (Western)	Total Impact (Acres)
Crossing Structure	12	100'x100'		2.8
Pole Pad Construction	378	50'x50'	150'x150'***	**195.2*** **
Crane Pad	374	7'x60' and 15'x140'		-
Pull Site	34	50'x140'	100'x200'	**15.6**
Splice Site	19	95'x200'	100'x200'	**8.7**
Spur Roads	378	12'x115'		12.0
Access Road		14' wide		1.1
Radius, Access to Spur	378	4315 sq ft		37.4
Total Acreage				**272.8**

Bolded numbers are staff's impact calculations based on area estimates provided by Western.
***** Impact estimates provided by Blythe Energy.
****** Impact estimates provided by Western.
***Includes pole pad construction and crane pad areas
Sources: BLYTHE 2004a, WESTERN 2004b.

The Buck to Julian Hinds component of the proposed transmission line would traverse USFWS-designated critical habitat for desert tortoise and BLM management areas delineated to aid in the recovery of desert tortoise populations, including Categories I and III desert tortoise habitat. Habitat compensation fees to be used for the purchase, conservation, and long-term management of desert tortoise habitat will be required to mitigate for impacts to desert tortoise habitat. Habitat compensation for impacts that occur within the DWMA (all lands within the DWMA are considered Category I desert tortoise habitat) is at a ratio of 5:1, and impacts within other desert tortoise habitat are compensated for at a ratio of 1:1. **Biological Resources Table 4** outlines desert tortoise habitat categories along the BEPTL route.

BIOLOGICAL RESOURCES Table 4
Desert Tortoise Categories along the Proposed BEPTL

Milepost	Miles	Category of Habitat	Miles within Category I Habitat
0-10.8	10.8	None	
10.8-15	4.2	Category III	0
15-16.6	1.6	Category III and CH	0
16.6-28.8	12.2	Category I and CH	12.2
28.8-35	6.2	Category III and CH	0
35-35.4	0.4	Category III	0
35.4 -37.1	1.7	Category III and CH	0
37.1-37.3	0.2	Category I and CH	0.2
37.3 - 37.6	0.3	Category III and CH	0
37.6-46.1	8.5	Category I and CH	8.5
46.1-46.5	0.4	Category I	0.4
46.5 - 47	0.5	None	0
47-47.8	0.8	CH	0
47.8-49.9	2.1	Category I and CH	2.1
49.9-50.5	0.6	CH	0
50.5-57.1	6.6	Category I and CH	6.6
57.1-58.2	1.1	CH	0
58.2-62.4	4.2	Category I and CH	4.2
62.4-63.5	1.1	CH	0
63.5-66.3	2.8	Category I and CH	2.8
Total	**66.3**	**Category I**	**37**

DWMA = BLM-defined Desert Wildlife Management Area
Category III = BLM-defined suitable desert tortoise habitat outside the DWMA
CH = Critical Habitat as designated by the USFWS
Source: TETRA 2006a.

Land from milepost 0 to milepost 10.8 of the BEPTL route is not part of officially-designated desert tortoise habitat categories. Nevertheless, staff believes that all of the land from the Midpoint Substation site (milepost 6.7) to the Julian Hinds Substation is capable of supporting desert tortoise. Therefore, all land disturbance from milepost 6.7 to the Julian Hinds Substation will require desert tortoise habitat compensation and has been included in staff's desert tortoise habitat compensation calculations. As outlined in **Biological Resources Table 3**, staff calculated that desert tortoise habitat impacts from milepost 6.7 to the Julian Hinds Substation could be as high as 272.8 acres.

Information provided by Blythe Energy in **Biological Resources Table 4** indicates that 37 miles, or 61 %, of the 60.7-mile stretch beyond milepost 6.7 will pass through Category I desert tortoise habitat. Therefore, up to 166.4 acres (272.8 acres x 61%) could be disturbed within Category I desert tortoise habitat and up to 106.4 acres of desert tortoise habitat outside of Category I habitat could be disturbed. As discussed earlier, the cost for acquisition, administration, and long-term management of desert

tortoise habitat is $1,200 dollars/acre (J. Lee 2005). **Biological Resources Table 5** outlines staff's compensation payment calculations for desert tortoise habitat impacts.

BIOLOGICAL RESOURCES Table 5
Staff's Compensation Payment Calculations for Desert Tortoise Habitat Impacts, Buck to Julian Hinds Component

Habitat Category	Affected Acres	Compensation Acres	Acquisition and Management Costs
Category I (5:1)	166.4*	832.0	$1,200/acre x 832.0 acres = $998,400
Category III and other desert tortoise habitat (1:1)	106.4*	106.4	$1,200/acre x 106.4 acres = $127,680
Total	272.8	938.4	$1,200/acre x 938.4 acres = $1,126,080

*See text above for derivation of affected acreage amounts.

Staff reviewed desert tortoise habitat compensation figures provided in the Biological Assessment (WESTERN 2005c). Information in the Biological Assessment (**Biological Resources Table 6**) does not agree with staff's desert tortoise habitat impact calculations. The Biological Assessment estimates 119.5 acres of disturbance within the DWMA and 35.2 acres of disturbance within Category III habitat. Blythe Energy proposed compensating for impacts to desert tortoise habitat using the figures in the Biological Assessment as outlined in **Biological Resources Table 6**.

Although there is disagreement on desert tortoise habitat disturbances estimates, Staff, Blythe Energy, and several of the agencies have agreed that the final compensation figures will be based on actual disturbances as opposed to disturbance estimates. Estimates of construction disturbance are never as accurate as actual post-construction measurements of disturbance. Blythe Energy submitted a protocol for calculating actual disturbance due to construction of the BEPTL using pre-construction and post-construction aerial photographs. The final acreage impact tally will be used to determine the amount of desert tortoise habitat compensation fees that will be required. The adoption of this protocol as part of the BRMIMP (**Condition of Certification BIO-14)** will ensure that an accurate determination of disturbance is made, and that impacts are mitigated to less than significant levels.

BIOLOGICAL RESOURCES Table 6
BEPTL Desert Tortoise Habitat Impact Figures from the Biological Assessment

Habitat Level (Compensation ratio)	Affected Acres	Compensation Acres
Within DWMA (5:1)	119.5	597.5
Category III (1:1)	35.2	35.2
Total	154.7	632.7

Source: WESTERN 2005c

Blythe Energy has agreed that a minimum of 632.7 compensation acres will be required for the Buck to Julian Hinds component (see **Biological Resources Table 6**). However, staff believes that up to 938.4 compensation acres (a difference of 305.7) may be required due to differences in construction disturbance estimates as discussed earlier. Staff proposes that Blythe Energy pay the DTPC in advance $759,240 for 632.7 compensation acres (632.7 acres at $1,200 per acre) for this component. An additional $366,840 (to account for impacts to the additional 305.7 compensation acres at $1,200 per acre) will be put into an escrow account until the post-construction analysis is completed and reviewed by agency staff. If the proposed Buck to Julian Hinds transmission line requires fewer than 938.4 compensation-acres, Blythe Energy will receive a refund ($1,200 per compensation-acre plus interest accrued thereon) from the escrow account. If more than 938.4 compensation-acres are required, Blythe Energy will be required to pay $1,200 per compensation-acre for additional disturbance (**Conditions of Certification BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol)).

Mojave fringe-toed lizard Impacts and Mitigation: MFTL was observed between mileposts 10 and 17. The project's construction activities will result in temporary and permanent loss of MFTL habitat and has the potential for direct mortality to MFTL. Measures to decrease the likelihood of harm to MFTL will be implemented to mitigate impacts.

Impacts to MFTL as described earlier for the Buck to Devers-Palo Verde component would also apply to the Buck to Julian Hinds component.

Mitigation measures and applicable conditions of certification would be identical to those described earlier for the Buck to Devers-Palo Verde component.

Burrowing Owl Impacts and Mitigation: During construction, direct impacts to burrowing owls could occur. Owls could be directly harmed by construction activities, and owl burrows could be destroyed during construction. Burrowing owls are known to occur in the proposed project area. It is possible that owls could utilize habitat throughout the Buck to Julian Hinds component and could be directly affected by project construction and operation.

Mitigation will include implementation of measures to decrease the likelihood of direct or indirect impacts to burrowing owls. Blythe Energy has proposed looking for burrowing

owls as part of pre-construction surveys. If owls are sighted on the project site, off-site habitat compensation will be required, unless the sighting was on actively cultivated land. Consultation with Commission and CDFG staff will be required to determine specific amounts of habitat required to reduce impacts to less than significant levels. Staff proposes **Condition of Certification BIO-1** (Sensitive Species Protection) to reduce impacts to less than significant levels.

Harwood's milk-vetch Impacts and Mitigation: Harwood's milk-vetch was observed (BLYTHE 2004a) between mileposts 7 and 16. Construction of this component would directly and significantly affect Harwood's milk-vetch habitat.

Blythe Energy proposed the mitigation measures for impacts to Harwood's milk-vetch as discussed in the Buck to Devers-Palo Verde section earlier. Staff proposes **Conditions of Certification BIO-5** (WEAP)**, BIO-13** (Harwood's milk-vetch compensation)**, BIO-14** (BRMIMP)**,** and **BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol) be implemented to reduce impacts to Harwood's milk-vetch to less than significant levels.

Special-Status plant species Impacts and Mitigation: Abram's spurge, Arizona spurge, Cove's cassia, crucifixion thorn, mesquite nest-straw, Orocopia sage were not observed during project surveys for the Buck to Julian Hinds route. However, suitable habitat exists to support these species and constructing and operating the project would directly affect habitat suitable to support them (see **Biological Resources Table 7)**.

BIOLOGICAL RESOURCES Table 7
Locations of Sensitive Plant Habitat between the Midpoint Substation and the Julian Hinds Substation

Species	Milepost
Abram's spurge	6.7-22.3
Arizona spurge	6.7-22.3
Cove's cassia	6.7-67.4
Crucifixion thorn	21.0-67.4
Mesquite nest straw	63.5-64.5
Orocopia sage	22.0-67.4

Source: BLYTHE 2004a

Impacts to the special status plants listed in **Biological Resources Table 7** would be mitigated through desert tortoise habitat compensation as discussed earlier. The Conditions of Certification require that the aforementioned plants be considered in determining the specific land to be purchased for desert tortoise habitat compensation. Staff proposes **Conditions of Certification BIO-14** (BRMIMP)**, BIO-16** (BEPTL Habitat Compensation), and **BIO-17** (Disturbance Calculation Protocol) be implemented to reduce impacts to less than significant levels.

Wildlife Habitat Impacts and Mitigation: Construction of the Buck to Julian Hinds component of the project will cause the permanent and temporary loss of wildlife habitat. Habitat suitable to support desert tortoise, burrowing owls, and other species listed in **Biological Resources Table 2** would be permanently affected by constructing

the Buck to Julian Hinds transmission line. In addition, habitat fragmentation could occur as a result of the project.

Blythe Energy and staff have different conclusions on the extent of impacts that would result from project construction. Blythe Energy assumes that it can contain its construction activities within smaller footprints. Western staff indicated that Blythe Energy's initial estimates of acreage impacts for transmission line projects were low, and past experience has led Western to revise impact areas for pole construction and conductor pull, tension, and splice sites. Western staff concluded that constructing the transmission structures will require an area 150 feet by 150 feet and conductor pulling, splicing, and tensioning sites will require a minimum area of 100 feet by 200 feet. (WESTERN 2004b). Where Western's impact estimates conflict with Blythe Energy's estimates, staff adopted Western's estimates for calculating habitat impacts of the Buck to Julian Hinds component. As discussed in the desert tortoise impacts section, up to 272.8 acres of wildlife habitat may be disturbed during construction of the Buck to Julian Hinds component.

Desert tortoise habitat compensation fees as discussed earlier and in **Conditions of Certification BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol) would mitigate habitat loss and fragmentation impacts. In addition, requirements in **Conditions of Certification BIO-3** (Designated Biologist duties)**, BIO-10** (Weed Reduction Program)**, BIO-13** (Harwood's milk-vetch Compensation)**,** and **BIO-14** (BRMIMP) would further mitigate habitat loss and fragmentation impacts.

General Wildlife Impacts and Mitigation: Construction activities could result in direct wildlife mortality, temporary displacement of wildlife, and destruction of bird nests. The Conditions of Certification require that construction activities and vehicle operation would be conducted to minimize potential disturbance of wildlife and will require mitigation measures for potential disturbances.

Any wildlife residing within the proposed project area would potentially be displaced, injured, or killed during project activities. Animal species in the project area could fall into construction trenches, be crushed by construction vehicles or equipment, or be harmed by project personnel. In addition, construction activities may attract predators or crush animal burrows or nests, including Loggerhead shrike and Leconte's thrasher nests.

To ensure that biological resources are protected the project owner has proposed to retain a Designated Biologist (**Conditions of Certification BIO-2**) and to have a WEAP (**Condition of Certification BIO-5**). The project owner has stated, and staff will require, that qualified biologists will monitor all work in USFWS-designated critical habitat for the desert tortoise or where prior Blythe Energy surveys have documented the occurrence of one or more listed species. In conjunction with Blythe Energy's Environmental Inspector, the Designated Biologist will have the authority to advise the Construction Manager to avoid harm to a listed species and will assist in the overall implementation of protection measures for listed species during project operations (see **Conditions of Certification BIO-3** and **BIO-4**). Additional mitigation requirements in the Conditions of Certification include speed limits in construction areas and clearance surveys prior to

construction. All biological mitigation will be compiled into the BRMIMP (**Condition of Certification BIO-14**).

Avian Collision and Electrocution Impacts and Mitigation: The project could result in increased avian mortality due to collision with and electrocution from new transmission lines.

One of the Applicant's proposed mitigation measures states that transmission lines will be installed according to Avian Powerline Interaction Committee (APLIC) Guidelines, which are designed to minimize avian-power line interactions. **Condition of Certification BIO-1 (Sensitive Species Protection)** requires that the Applicant's proposed mitigation measures be included in the BRMIMP.

Additionally, collision potential with the proposed transmission line has been minimized through siting the new transmission line within a corridor that has existing transmission lines. The presence of multiple transmission lines would provide additional visual cues that can prompt birds to avoid the line.

Sensitive Habitat Impacts and Mitigation: The project may result in the permanent loss of areas of desert wash woodland habitat and desert dune habitat. Both habitat types are of limited distribution and disturbances to them generally result in very long-term impacts.

The desert dry wash woodland habitat is found in association with the larger drainages of the region. The associated trees are aphyllous or microphyllous with a high proportion of chlorophyll in or beneath the bark or stems (Turner and Brown 1982) and primarily include ironwood and blue palo verde, with variously common honey mesquite, smoke tree, and catclaw acacia. Desert dune habitat includes very sandy areas sparsely vegetated by creosote bush, galleta grass, white bursage, and other native plants. (IID/BLM 2005a)

The Applicant has stated that the final design and placement of project features will avoid impacts to microphyll woodland trees and desert dry wash habitat whenever possible (BLYTHE 2004a). Habitat purchased with desert tortoise habitat compensation funds discussed earlier will mitigate impacts to sensitive habitats to less than significant levels.

Nesting Birds: The project could impact nesting birds in violation of the Migratory Bird Treaty Act. To mitigate potential impacts to nesting birds, the Designated Biologist will perform preconstruction surveys and will have the authority to advise the Construction Manager to avoid harm to nesting birds (**Conditions of Certification BIO-3** and **BIO-4**).

Indirect Impacts Buck to Julian Hinds Component

Indirect impacts caused by the Buck to Julian Hinds component would be identical to indirect impacts caused by the Buck to Devers to Palo-Verde component.

Blythe Energy has proposed a noxious/invasive weed management program along this route as well. Staff proposes **Condition of Certification BIO-10** (Weed Reduction Program) to reduce exotic species impacts to less than significant levels.

In addition, mitigation measures that would decrease raven predation on desert tortoise as proposed by Blythe Energy in the General Construction Measures will be incorporated into the BRMIMP (**Condition of Certification BIO-14)**.

Direct Impacts Due to Construction of Both Components

If both components of the BEPTL are constructed, impacts would be equivalent to the combined impacts caused by construction of the Buck to Julian Hinds component and impacts caused by construction of the Midpoint Substation. All impacts and mitigation measures discussed in previous sections would apply.

Desert Tortoise Impacts: Direct mortality to desert tortoise may occur and desert tortoise habitat will be lost. Habitat compensation fees and mitigation measures to reduce direct impacts to desert tortoise will be required.

As discussed in previous sections, construction of the BEPTL could result in direct harm or mortality to desert tortoise as well as impacts to desert tortoise habitat. Staff has created **Biological Resources Table 8** to show the total potential impact to desert tortoise habitat due to construction of both components. **Biological Resources Table 9** indicates the compensation amounts based on impact figures from **Biological Resources Table 8**.

BIOLOGICAL RESOURCES Table 8
Potential Desert Tortoise Habitat Impacts (Acres) From Construction of Both Components

Desert Tortoise Habitat	Buck to Devers-Palo Verde	Buck to Julian Hinds	Both	Habitat Compensation Ratio	Compensation-Acres
Midpoint Substation (No category)	41.3		41.3	1:1	41.3
Category I		166.4	166.4	5:1	832.0
Category III/No category		106.4	106.4	1:1	106.4
Total			314.1		979.7

BIOLOGICAL RESOURCES Table 9
Staff's Compensation Payment Calculations for Desert Tortoise Habitat Impacts

BEPTL Component	Affected Acres	Compensation Acres	Acquisition and Management Costs
Buck to Devers-Palo Verde	41.3	41.3	$1,200/acre x 41.3 acres = $49,560
Buck to Julian Hinds	272.8	938.4	$1,200/acre x 938.4 acres = $1,126,080
Both Components	314.1	979.7	$1,200/acre x 979.7 acres = $1,175,640

As discussed in previous sections, Blythe Energy proposed desert tortoise habitat compensation amounts based on the disturbance impact figures in **Biological Resources Table 6**. Due to the differences between the amounts in **Biological Resources Table 6** and **Table 9**, Blythe Energy submitted a proposal discussing how the pre- and post-construction impacts would be documented, and outlining a method for determining the actual number of acres impacted. An escrow account will be established based on the figures in **Biological Resources Table 9**, but habitat compensation fees will be required based on the actual amount of desert tortoise habitat that is disturbed as described in **Condition of Certification BIO-16**. The adoption of these measures in **Conditions of Certification BIO-14** (BRMIMP)**, BIO-16,** and **BIO-17** will ensure that impacts are reduced to less than significant levels.

Indirect Impacts Both Components

Indirect impacts caused by the construction of both components would be identical to indirect impacts caused by the construction of either component. Impacts and mitigation measures discussed in previous sections would apply.

Residual Impacts Both Components

It is likely that there will be residual impacts after the adoption of proposed mitigation measures.

The possibility of desert tortoise mortality or injury would be greatly reduced, but a potential for impacts would remain due to increased vehicular traffic along the transmission line route. In addition, there is the potential that exotic weed species could invade the disturbed project area and later proliferate to adjacent areas.

Although residual impacts are likely to occur, the mitigation measures proposed for the project are such that any residual impacts are not likely to be significant.

OPERATION IMPACTS AND MITIGATION

Potentially significant impacts would be associated with maintenance of the transmission lines. Vehicles traveling on access roads could be a source of injury or mortality to animals on the road. However, the access roads are not paved and the varying terrain it crosses would likely limit excessive vehicle speed. Educating drivers on species and protection measures would also mitigate potential impacts. Staff proposes including transmission line maintenance personnel in the WEAP per amended **Condition of Certification BIO-5** to reduce impacts to less than significant levels.

TRANSMISSION LINES NEAR THE BLYTHE CITY AIRPORT

At the November 10, 2004 Informational Hearing and Site Visit, the Airport Manager/Assistant City Manager for the City of Blythe stated that the height of the power poles (110 feet) near the city airport would create a flight path problem if the proposed alignment is allowed.

The City of Blythe has suggested an alternative route for transmission line poles 8 through 28. This alternative route, which Blythe Energy has adopted, follows existing Imperial Irrigation District and Western transmission lines through a right-of-way in a citrus grove.

The proposed realignment of transmission line power poles near the Blythe Municipal Airport would affect two acres of citrus orchard. This area has the potential to support burrowing owls, and Blythe Energy has proposed pre-construction and clearance surveys prior to construction to determine the presence of burrowing owls. The project's Designated Biologist will implement appropriate protocol surveys. If burrowing owls are discovered during surveys, habitat compensation will be required, as discussed earlier. Staff supports these measures and concludes that construction of the transmission line within this area would not have a significant impact on biological resources.

CUMULATIVE IMPACTS AND MITIGATION

Habitat loss, fragmentation and degradation are a regional concern as are impacts to sensitive species. The proposed project would be constructed within a BLM utility corridor adjacent to an existing transmission line (SCE Devers - Palo Verde 1). Two

additional transmission lines (SCE Devers - Palo Verde 2 and Imperial Irrigation District Desert Southwest) are proposed adjacent to the proposed transmission line. All the lines do or would impact desert tortoise, Harwood's milk-vetch, MFTL, and other sensitive species in the project area. Each project has contributed or would contribute cumulatively to the regional loss, fragmentation, and degradation of sensitive species habitat. The NECO Plan allows for up to one percent cumulative land disturbance within the Chuckwalla DWMA. The Buck to Julian Hinds component of the project would disturb up to 166.4 acres within the DWMA, or 0.0002 % of the 820,077 total acreage within the DWMA. Staff considers habitat and sensitive species impacts caused by the Buck to Devers-Palo Verde or Buck to Julian Hinds components, or both components together to be cumulatively significant when considered together with the Blythe Energy Power Plant project, other proposed transmission lines including the Devers to Palo Verde 2 and the Desert Southwest alternatives, and the existing SCE Devers-Palo Verde 1 transmission line.

Individually or collectively, the project components would cause significant cumulative impacts to sensitive species and habitats. Staff believes that with the implementation of the proposed project's mitigation measures for direct and indirect impacts, the cumulative impacts would also be mitigated to less than significant levels, therefore, staff proposes **Conditions of Certification BIO-1, BIO-10, BIO-14, BIO-16, and BIO-17** to reduce cumulative impacts to less than significant levels.

COMPLIANCE WITH LORS

To be in compliance with applicable LORS, the project owner must obtain two biology-related permits: (1) a USFWS Biological Opinion on the potential for take of listed species, as undertaken by Western, the Federal lead; and (2) a CDFG Section 2080.1 Letter of Concurrence or Section 2081 Incidental Take Permit.

To obtain a USFWS determination, Western, the Federal lead for the project, submitted the Biological Assessment and asked for an amendment to the Biological Opinion for the Blythe Energy Project to include the BEPTL. The USFWS reviewed the materials submitted and issued an amendment to the original Biological Opinion on November 22, 2005. The Biological Opinion states, in part, project "changes are not likely to jeopardize the continued existence of the desert tortoise, or adversely modify designated critical habitat." In addition, it states that all mitigation measures proposed in the Biological Assessment and all terms and conditions in the original Biological Opinion and subsequent amendments shall be implemented for the incidental take exemption to apply.

Staff expects this project will receive a CDFG Section 2080.1 Letter of Concurrence since the only state-listed species, the desert tortoise, is also a federally-listed species. The Letter of Concurrence is dependent on the finalization of the Federal documents and the finalization of the CEQA process. CDFG has been involved in meetings with staff, Western, and USFWS and should be able to issue this permit within 30 days of the Commission issuing its Decision.

If the CDFG must issue a Section 2081 permit, the desert tortoise habitat compensation funds may become the property of the CDFG instead of the DTPC. Either endowment process will result in mitigation of impacts to less than significant levels and neither arrangement is prohibited by law because the DTPC is a non-profit and qualifies to receive endowment funds relating to conservation easements (Section 815.3 of the California Civil Code). However, because CDFG calculates endowment for compensation land differently than DTPC, the funding amounts in **Conditions of Certification BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol) may change.

RESPONSE TO PUBLIC AND AGENCY COMMENTS

This final analysis has been revised per written comments received by the Commission and the comments discussed at a workshop conducted on 8/16/06. Blythe Energy, LLC was the only entity that provided comments on the biological resources section of the analysis. Please see Appendix C of this document for comments and response to the comments.

CONCLUSIONS

Blythe Energy has obtained a USFWS Biological Opinion and must obtain a CDFG Concurrence Determination in order to be in compliance with LORS.

Constructing the proposed project components individually or together would result in potentially significant impacts to desert tortoise, Harwood's milk-vetch, and MFTL. Staff concludes that if the mitigation measures discussed in this document are implemented by the project owner as required by the Conditions of Certification and all permits are obtained, the project will not result in a significant impact to biological resources and will be in compliance with all state, Federal, and local LORS. Based on this analysis and discussions with representatives of other agencies, staff recommends the following new and amended Biological Resources Conditions of Certification.

PROPOSED CONDITIONS OF CERTIFICATION

As the BEPTL is an amendment to the Blythe Energy Project (Blythe I), the Conditions of Certification from Blythe I apply to BEPTL. The following includes amendments to the original Conditions of Certification from Blythe I as well as new Conditions of Certification. Where Conditions of Certification (COC) have changed from the original license issued to the Blythe Energy Project, those COC's are displayed in Underline and ~~Strikethrough~~. Where COC's have changed due to revisions to the Staff Assessment/Draft Environmental Assessment published on May 23, 2006, those changes are displayed in Double Underline and ~~Double Strikethrough~~.

DESERT TORTOISE AND SENSITIVE SPECIES PROTECTION

BIO-1 The project owner shall implement the following mitigation measures identified in Section 7.12.2.4 found on page 7.12-24 of the BEP Application for Certification (BEP 1999a), Attachment 1 of the Biological Assessment Blythe

Energy Project (BEP 1999a, AFC Appendix 7.12), project description clarification (BEP 2000s), ~~and~~ response to comments (BEP 2000l and BEP 2000w,) response to data requests (BLYTHE 2004e), and Blythe Energy Project Transmission Line Modification (BEPTL) Petition for Post Certification Amendment (BLYTHE 2004a). The project owner's proposed mitigation measures shall also be incorporated into the final BRMIMP (see Condition of Certification **BIO-14** below) unless the mitigation measures conflict with mitigation required by the USFWS or CDFG as contained within their respective biological opinion or consistency determination, or unless the mitigation measures conflict with mitigation measures proposed elsewhere in the Conditions of Certification.

Verification:

For the proposed 152-acre power plant site, the Julian Hinds substation site, ~~and~~ the proposed Midpoint Substation site, and the proposed Desert Southwest Transmission Project Midpoint Substation site (DSWTP MSO), the project owner shall ensure the following:

1. Fence the construction areas and permanent facilities with desert-tortoise-proof fencing prior to mobilization in undeveloped areas. Gate(s) shall be desert tortoise proof as well. Gate(s) shall remain closed except for the immediate passage of vehicles. High use gate(s) will be maintained and have monthly examinations. If the northern portion of the western 76-acre parcel is deemed a historic area and will not be developed, its northern and western edge shall be fenced with a chain-link fence at least 6-feet high which has a six-inch gap between the bottom of the fence and ground level. If, at some future time, the area is deemed not to be a historic area, and the area is developed, the northern and western edges shall be fenced with desert-tortoise proof fence.

2. Following fencing, a trained tortoise biologist shall search the interior of the fenced area areas for tortoises. Tortoise found on the construction site shall be removed and relocated using USFWS approved handling techniques (see #3 below).

3. Collection, holding, and translocation of tortoises shall comply with USFWS handling protocol that ensures their health and safety.

4. Monitoring for bird/wildlife fatalities and collecting data will be a part of environmental inspections of key facilities including evaporation ponds (see also **BIO-6** below).

5. Selected electrical equipment with the potential to electrocute wildlife within the substation shall be covered with appropriate UV resistant material.

6. Power lines shall be installed following Avian Power Line Interaction Committee Guidelines.

7. Surveying for burrowing owl activities will be conducted prior to project construction to assess owl presence and need for further mitigation.

8. If burrowing owls are found on the site or along the natural gas pipelines, off-site compensation for losses will be required, unless the sighting was on actively cultivated lands.

9. Only approved species shall be used for revegetating the applicable portion of the 66-acre expansion area.

For the El Paso natural gas pipeline connection, the project owner shall:

Avoid direct impact to any riparian habitat by utilizing the existing permanent ROW road easement, where practicable.

1. Schedule and conduct all construction activities at Borrow Pit Drain, Goodman Drain at Intake Boulevard, and the Colorado River outside of the spring nesting season to minimize potential impacts to bird species.

2. Construction at drainages and canals will be conducted during the daytime to avoid impacts to special-status amphibians and mammals.

3. Have a biologist monitor those areas of the pipeline route that are in or adjacent to tortoise habitat (creosote bush scrub).

4. Develop a worker education program and administer it to all construction and operations personnel involved in the project.

5. Have a qualified biologist monitor all construction activities within drainages and canals associated with the natural gas pipeline.

For the SoCal Gas natural gas pipeline the project owner shall:

1. Have a biologist monitor the pipeline route between Hobson Way and Interstate 10 for the presence of desert tortoises.

For the BEPTL, including the DSWTP MSO, the project owner shall:

1. Have approved biologists conduct a final clearance survey for Mojave fringe-toed lizard (MFTL) prior to construction activities to excavate potential burrows and relocate MFTL to nearby suitable habitat. The management strategy guidelines for relocation described in Working Group of Flat-Tailed Horned Lizard (FTHL) Interagency Committee (Foreman 1997) shall be utilized for MFTL.

2. Have approved biologists examine construction areas periodically (at least hourly when surface temperatures exceed 30 degrees Celsius) for the presence of MFTL. In addition, all trenches, holes, or deep excavations will be examined for the presence of these lizards prior to filling. If MFTL are found the biologists shall relocate them to nearby suitable habitat.

3. Have a field contact representative that has the authority to ensure compliance with protective measures for MFTL and who shall initiate a worker education program.

4. Have a biological monitor present in each area of active construction within MFTL habitat throughout the work day from initial clearing through habitat restoration. The biological monitor shall have sufficient education and field experience or training with MFTL to understand their biology and behavior. The biological monitor shall have the authority and responsibility to halt activities that are in violation of these terms and conditions. The biological monitor shall examine construction area periodically (at least hourly when surface temperatures exceed 30 degrees Celsius) for the presence of MFTL. All hazardous sites (open pipes, trenches, holes, or deep excavations) shall be inspected for the presence of these lizards prior to backfilling. In addition, the biological monitor shall work with the construction supervisor to take steps, as necessary, to avoid disturbance to MFTL and their habitat. If avoiding disturbance is not possible or if a lizard is found trapped in an excavation, the affected lizard will be captured by hand and relocated. Relocated MFTL shall be placed in the shade of a large shrub a short distance from the construction ROW and in the direction of undisturbed habitat. If the surface temperature in the sun is less than 30 degrees Celsius, or greater than 50 degrees Celsius, the biological monitor authorized to handle the lizard will hold it for later release. Initially captured MFTL shall be held in a cloth bag, cooler, or other appropriate clean dry container from which the lizard cannot escape. Lizards shall be held at temperatures between 25 and 35 degrees Celsius and shall not be exposed to direct sunlight. Release shall occur as soon as possible after capture and during daylight hours when surface temperatures range from 32 to 40 degrees Celsius.

~~5. Conduct an additional full presence/absence protocol survey, prior to the start of construction, for desert tortoises at all disturbance areas, unless otherwise directed by the USFWS.~~

6. Conduct a pre-construction survey for desert tortoise at each project component located within areas identified during previous surveys as designated Critical Habitat or as listed species habitat no more than 7 days prior to the onset of activities.

7. Submit the names, permit numbers, and resumes outlining relevant tortoise experience of all individuals who might need to handle desert tortoises to the USFWS and CPM for approval at least 15 days prior to initiation of clearance surveys. Proposed transmission line activities will not begin until an authorized biologist has been approved by the CPM. While other biologists may be employed as monitors, only those approved by the USFWS will be permitted to handle tortoises. Provide the names of all proposed, authorized biologists to BLM for their records. Ensure all persons authorized by the USFWS to handle desert tortoise follow the guidelines established in the *Guidelines for Handling Desert Tortoises During Construction Projects* (Desert Tortoise Council 1994, revised 1999).

8. Instruct all employees and contractors to look under vehicles and equipment for the presence of protected species prior to movement. No equipment will be moved until the animal has left voluntarily or it is removed by a biologist authorized to do so. Any time a vehicle is parked, the ground around and under the vehicle will be inspected for desert tortoises before the vehicle is moved.

9. Instruct all employees and contractors to follow the guidance of the USFWS for proper handling of desert tortoise. If a desert tortoise is observed, it will be left to move on its own. If this does not occur within 15 minutes, an authorized biologist can remove and relocate the tortoise. Desert tortoises that are found above ground and need to be moved from harm's way will be placed in the shade of a shrub by the authorized biologist. All desert tortoises removed from burrows will be placed in an unoccupied burrow of approximately the same size as the one from which it was removed. If an existing burrow is unavailable, the authorized biologist will construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original burrow. The project owner shall monitor desert tortoises moved during inactive periods for at least two days after placement in the new burrows to ensure their safety. The authorized biologist will be allowed some judgment and discretion to ensure that survival of the desert tortoise is likely.

10. Prohibit firearms and pets from work sites.

11. All transmission line construction activities will occur between dawn and dusk. Only emergency activities (i.e. issues involving human health and safety) will be allowed after dusk and before dawn.

12. Inspect open auger holes or other excavations that could entrap wildlife. Inspections shall be completed by an authorized biologist a minimum of three times per day, and immediately prior to backfilling. Excavations that remain open overnight will be covered or ramped to prevent entrapment of wildlife.

13. Report all encounters with federally- or state-listed species to the Designated Biologist, who will record the following information for the monthly compliance report: (1) species name; (2) location (global positioning system coordinates, narrative and maps) and dates of observations; (3) general condition and health, including injuries and state of healing; (4) diagnostic markings, including identification numbers or markers; and (5) locations moved from and to.

14. Surveys for burrowing owls shall be completed with desert tortoise pre-construction surveys. If burrowing owls are found along BEPTL components, then the project owner shall purchase off-site habitat as compensation for habitat losses, unless the sighting was on actively cultivated lands. Consultation with the compliance project manager (CPM) and CDFG shall occur to develop avoidance and mitigation measures in addition to habitat compensation required prior to construction activities occurring within 300 feet of the occupied burrow.

Verification: At least 30 days prior to the start of any project-related ground disturbance activities, the project owner shall provide the Energy Commission Compliance Project Manager (CPM) with the final version of the BEP BRMIMP for approval. The CPM will determine the plan's acceptability within 15 days of receipt of the final plan. Implementation of the above measures shall be included in the BRMIMP.

WORKER ENVIRONMENTAL AWARENESS PROGRAM (WEAP)

BIO-5 The project owner shall develop and implement a CPM approved Worker Environmental Awareness Program in which each of its employees, as well as

employees of contractors and subcontractors who work on the project site or related facilities during construction, operation, and maintenance are informed about the sensitive biological resources associated with the project area.

Protocol: The Worker Environmental Awareness Program must:

1. Be developed by the Designated Biologist and consist of an onsite or training center presentation in which supporting written material is made available to all participants;

2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas;

3. Present the reasons for protecting these resources;

4. Present the purpose of various temporary and permanent habitat protection measures; and

5. Identify whom to contact if there are further comments and questions about the material discussed in the program.

The specific program can be administered by the Designated Biologist or a competent individual(s) authorized by the Designated Biologist.

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement. New workers shall receive training within 15 days of their first day of employment.

Verification: Thirty (30) days prior to the start of ground-disturbance activities or the directional drilling at the Colorado River or a lesser period as mutually agreed, and also thirty (30) days prior to the start of ground-disturbance activities associated with the BEPTL, the project owner shall provide copies of the Worker Environmental Awareness Program and all supporting written materials prepared by the Designated Biologist and the name and qualifications of the person(s) administering the program to the CPM for approval. The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. The signed statements for the construction phase shall be kept on file by the project owner and made available for examination by the CPM for a period of at least six (6) months after the start of commercial operation. During project operation and maintenance signed statements for active project operational personnel shall be kept on file for the duration of their employment and for six (6) months after their termination.

WEED REDUCTION PROGRAM

BIO-10 A comprehensive exotic control program for California Department of Agriculture List A, List B, and Red Alert weeds, shall be implemented at the 152-acre power plant site and BEPTL components, including the DSWTP MSO.

With respect to the power plant site, this program should be implemented until such time that the adjacent land use on the north and west sides is no longer a natural community or agriculture, or until the plant is permanently closed. For the Midpoint Substation, the DSWTP MSO, and BEPTL transmission lines, the program shall be implemented as part of regular maintenance. At the Colorado River, this exotic control program should be implemented as feasible until the Caltrans ROW is replanted and established. The natural vegetation adjacent to the BEP site shall be monitored to determine if it has been modified or degraded, if so, these changes to the adjacent sites should be documented by the project's Designated Biologist in a report which includes photos of the adjacent land uses.

Verification: The project owner shall provide a progress/activity report regarding exotic weed control efforts and document changes (as needed) to the surrounding areas in the Annual Compliance Report.

HARWOOD'S MILK-VETCH COMPENSATION

BIO-13 To compensate for permanent impacts to Harwood's milk-vetch from the construction of the power plant or the 66 acre expansion area, the project owner shall provide $50,000 to revegetate or to protect an appropriate area with Harwood's milk-vetch. The minimum number of viable plants to be installed or protected will be two hundred. On the land conserved for the desert tortoise, appropriate locations for the plantings will be identified and the planting carried out under the supervision of a botanist with the desert restoration experience working for the Desert Tortoise Preserve Committee. Alternatively, a donation in the amount of $50,000 (or any portion that has not already been released to the Desert Tortoise Preserve Committee) shall be given to the Rancho Santa Ana Botanical Gargen (RSABG) for the collection and preservation of Harwood's milk-vetch seeds if the mitigation cannot be fulfilled on desert tortoise conservation parcel. Other appropriate options can be considered as needed and desired. To compensate for permanent impacts to Harwood's milk-vetch from the construction of the BEPTL, an amount of $22,720 shall be transferred to the RSABG for the collection and preservation of Harwood's milk-vetch seeds.

Verification: Within 30 days of the start of earth moving activities on the site, ~~or~~ the 66 acre expansion area (including the exclusion fencing), or the BEPTL, the project owner shall submit a plan to the CPM for review and approval. Or, the project owner will provide a check to the Desert Tortoise Preserve Committee or Rancho Santa Ana Botanical Garen as applicable, and will provide a copy of the check to the CPM.

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PROGRAM

BIO-14 The project owner shall submit to the CPM for review and approval, prior to any project-related ground disturbance activities, including BEPTL, a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and shall implement the measures identified in the plan.

~~Protocol~~: The final BRMIMP shall identify:

- All biological resources mitigation, monitoring, and compliance conditions included in the Energy Commission's Final and amended Decisions.
- All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure.
- All ~~mitigation~~ measures, terms, and conditions identified in the USFWS Section 7 Biological Opinion and amendments to the Biological Opinion.
- All ~~mitigation~~ measures, terms, and conditions identified in the CDFG Section 2081 ~~Biological Opinion (if applicable) or Letter of Concurrence~~ Incidental Take Permit or amended Incidental Take Permit or Section 2080.1 Letter of Concurrence.
- A CDFG Section 2080.1 Letter of Concurrence or Section 2081 Incidental Take Permit.
- All conditions identified in the USACE Nationwide Permit or amended USACE Nationwide Permit.
- Terms and conditions contained in the project's Federal ~~section 10 permit~~ 404 and state 401 certifications or amended Federal 404 and state 401 certifications.
- Terms and condition contained in the project's Streambed Alteration Agreement.
- Required habitat compensation funds and strategy, including provisions for acquisition, enhancement and management, for any permanent or cumulative loss of sensitive biological resources.
- Duration for each type of monitoring and a description of monitoring methodologies and frequency;
- Performance standards to be used to help decide if/when proposed mitigation is or is not successful.
- All performance standards and remedial measures to be implemented if performance standards are not met.
- A discussion of biological resource-related facility closure measures.
- A process for proposing plan modifications to the Energy Commission CPM and appropriate agencies for review and approval.
- All mitigation measures for protection of desert tortoise.
- All mitigation measure for protection of burrowing owl.
- All mitigation measures for protection of MFTL.
- All mitigation measures for controlling exotic and invasive weeds.
- All mitigation measures for reducing impacts to Harwood's milk-vetch to less than significant levels.

- All mitigation measures for reducing impacts to Abram's spurge, Arizona spurge, Cove's cassia, crucifixion thorn, mesquite nest-straw, and Orocopia sage to less than significant levels.
- All mitigation measures for avoidance of nesting birds during construction.

Verification: At least 30 days prior to start of any project-related ground disturbance (including exclusion fencing installation and BEPTL) activities, the project owner shall provide the CPM with the final version of the BRMIMP, and the CPM will determine the plan's acceptability within 15 days of receipt of the final plan. All modifications to the approved BRMIMP must be made only after consultation with Energy Commission staff, CDFG, and the USFWS as appropriate. The project owner shall notify the CPM five (5) working days before implementing any CPM approved modifications to the BRMIMP.

Implementation of the mitigation measures shall be reported in the monthly and annual compliance reports and submitted to the CPM for review. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written report identifying which items of the BRMIMP have been implemented; a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases; and which mitigation and monitoring items are still outstanding.

BEPTL HABITAT COMPENSATION

BIO-16 To compensate for permanent impacts to desert tortoise and other sensitive species affected by the project, the project owner will provide compensation funds to the Desert Tortoise Preserve Committee to be used for purchase, administration, maintenance, long-term management, and implementation of management plan objectives for desert tortoise habitat. The Midpoint Substation site, the DSWTP MSO site, and all areas disturbed between milepost 6.7 and the Julian Hinds Substation will require desert tortoise habitat compensation. CPM approval to purchase mitigation lands will be contingent on the land also being suitable to support MFTL, Harwood's milk-vetch, Abram's spurge, Arizona spurge, Cove's cassia, crucifixion thorn, mesquite nest-straw, and Orocopia sage. The project owner shall provide funds for habitat compensation to the Desert Tortoise Preserve Committee and shall establish an escrow account with additional funds. Funds provided to the Desert Tortoise Preserve Committee and to the escrow account shall be based on the following schedule:

Construction Scenarios	Low Estimate of Compensation Acres Required	High Estimate of Compensation Acres Required	Minimum Payment to DTPC	Additional Funds to Escrow Account
Buck to Julian Hinds Only	632.7 acres	938.4 acres	$759,240	$366,840
Buck to Devers-Palo Verde Only	41.3 acres	41.3 acres	$49,560	$0
Buck to DSWTP MSO Only	57.91 acres	70.93	$69,492	$15,624
Buck to Julian Hinds and Buck to Devers-Palo Verde if both Components are Constructed	674.0 acres	979.7 acres	$808,800	$366,840
Buck to Julian Hinds and Buck to DSWTP MSO if both Components are Constructed	674.0 acres	979.7 acres	$808,800	$366,840

Based on the final tally of disturbance (see Condition of Certification **BIO-17**), the funds plus interest accrued thereon from the escrow account will either be dispersed to the DTPC or returned to the project owner.

Verification: At least 90 days prior to the start of any BEPTL ground disturbing activities the project owner shall provide a check to the DTPC for the minimum amount, and a copy to the Energy Commission CPM, Western, USFWS, BLM, and CDFG to verify that funds have been paid to the DTPC. In addition, the project owner shall provide documentation to the CPM, Western, USFWS, BLM, and CDFG proving that the escrow account has been established.

BIO-17 In order to calculate the disturbance associated with BEPTL construction activities, the project owner shall implement the "Procedure for Calculation" within the "Protocol for Disturbance Calculation and Compensation" agreed to by the CEC, CDFG, Western, and USFWS ~~create a protocol for disturbance calculations for the approval of the CPM~~. The agreed upon procedure ~~shall at a minimum include~~ includes the use of aerial photos and ~~include a~~ includes field verification of actual disturbance. After construction is complete, the project owner shall circulate a final report of actual disturbance for CPM review and approval. After approval of the report, one of three actions will take place:

Case	Action
1) Actual disturbance acreage is equal to or less than the low-estimate of disturbance acreage identified in Condition of Certification **BIO-16**.	~~Upon~~ Within 30 days of approval of the final report ~~the project owner can request reimbursement from the escrow account for~~ all funds deposited in the escrow account and interest accrued shall be returned to the project owner. ~~If no claim is made within 180 days of approval of the final report, the CPM shall request the funds be dispersed to the DTPC along with all interest accrued.~~
2) Disturbance acreage is larger than minimum, but equal to or less than the high estimate of disturbance acreage identified in Condition of Certification **BIO-16**	~~Upon~~ Within 30 days of approval of the final report, a division of funds in the escrow account will be proposed by the project owner for approval by the CPM. The proposal shall identify the portion of the escrow account that will be dispersed to the DTPC, at a rate of $1,200 for every acre plus interest accrued thereon over the low-estimate. Remaining funds, and the interest on that portion, shall be returned to the project owner.
3) Disturbance acreage is larger than the high-estimate of disturbance acreage identified in Condition of Certification **BIO-16**	Within 30 days of approval of the final report, the project owner shall release all escrow funds and all interest accrued to the DTPC and in addition, shall provide funds for additional disturbance at a rate of $1,200 for every acre over the high-estimate.

If and when disturbance acreage is larger than the high estimate, the amount of mitigation land to offset the disturbance shall be calculated based on the location of the disturbance. If disturbance is within a Desert Wildlife Management Area, mitigation land must be purchased at a 5:1 ratio. If disturbance is in Category III lands or other lands that support desert tortoise (such as Midpoint Substation), mitigation land must be purchased at a 1:1 ratio. The cost of an acre of mitigation land is set at $1,200.

Verification: ~~At least 90 days prior to the start of any BEPTL ground disturbing activities, the project owner will submit a disturbance calculation and compensation protocol to the CPM for review and approval, and to the following agencies for review: CDFG, Western, USFWS, and BLM.~~ Within 90 days of the completion of construction, the project owner shall provide a final disturbance calculation and compensation report

to the CPM for review and approval and to the following agencies for review: CDFG, Western, USFWS, and BLM. Within 30 days of the approval of the final report, the project owner shall provide a final accounting of all escrow funds, or request an extension of time from the CPM. Extensions will be granted for reasonable cause. ~~If no claim is made within 180 days of approval of the final report, the CPM shall request the funds be dispersed to the DTPC along with all interest accrued.~~

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CULTURAL RESOURCES

Testimony of Gary Reinoehl

SUMMARY OF CONCLUSIONS

Various types of cultural resources exist within the impact area/area of potential effects (IA/APE) of the project. A current comprehensive survey and recording of the cultural resources in the IA/APE was conducted in January, February, and May, 2005, and the final draft technical report was completed in July, 2005. Cultural resources that cannot be avoided have been evaluated for the National Register of Historic Places and the California Register of Historic Resources.

Other measures have been designed to avoid impacts to cultural resources without evaluating them. Staff's Condition of certification, **CUL 16**, is required to ensure that the County of Riverside's standards are met. **CUL-17** requires the development of a Cultural Resources Monitoring and Mitigation Plan (CRMMP) that details the methods that would be employed to ensure the avoidance of cultural resources and implementation of mitigation measures. **CUL-18** requires copies of documents and correspondence that demonstrates the project's compliance with Federal LORS. **CUL-19** requires monitoring and recording information on a monitoring log and summaries of monitoring activities. It also requires notification of any non compliance issues and summaries of actions taken to resolve those issues. Native Americans expressed concern about the resources and how they would be avoided. **CUL-20** requires a Native American monitor in areas where resources important to Native Americans might be encountered.

Condition of certification **CUL-1** will need to be modified to include the qualifications of monitors. Condition **CUL-5** will have to be modified to include known resources that might be impacted in a previously unanticipated manner and to require that the Compliance Project Manager (CPM) approves mitigation measures. The requirement in **CUL-6** that Western Area Power Administration (Western) submit the research design and scope of work to the California State Historic Preservation Officer (CA SHPO) will be deleted because the Energy Commission can not require Western to comply with the conditions of certification. **CUL-7** will be modified to require the Cultural Resources Report (CRR) to include all cultural resources activities. In addition, the requirement that Western submit the CRR to the CA SHPO will be deleted because the Energy Commission can not require Western to comply with the conditions of certification.

INTRODUCTION

This cultural resources analysis identifies potential impacts to cultural resources by the proposed Blythe Energy Project Transmission Line Modification (BEPTL), as defined under state and Federal law. The primary concern for these project modifications is to ensure that all potential impacts are identified and that conditions are set forth that ensure that impacts are mitigated below a level of significance under the California Environmental Quality Act (CEQA) and under the National Environmental Policy Act (NEPA), if possible.

Staff provides a cultural overview of the project, as well as analyses of potential impacts from the project using criteria from the CEQA and the National Historic Preservation Act (NHPA). If cultural resources are identified, staff determines whether there may be a project-related impact to identified resources and whether the resources meet the eligibility requirements for the California Register of Historic Resources (CRHR) or the National Register of Historic Places (NRHP). If the resources meet the eligibility requirements for either register, staff recommends mitigation measures to ensure that impacts to the cultural resources are reduced to a less than significant level or less than adverse, if possible.

There is always a potential that a project may impact a previously unidentified cultural resource in an unanticipated manner. Staff, therefore, recommends procedures in the conditions of certification that mitigate these potential impacts.

CULTURAL RESOURCES Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

	Description
Federal	
36 CFR 800, implementing regulations of Section 106 of the National Historic Preservation Act	This regulation requires the agency to take into account the effects of a proposed action on cultural resources.
National Environmental Policy Act (NEPA): Title 42, USC, section 4321-et seq.	This requires Federal agencies to consider potential environmental impacts of projects with Federal involvement and to consider appropriate mitigation measures
Federal Land Policy and Management Act (FLPMA): Title 43, USC, section 1701 et seq.	This requires the Secretary of the Interior to retain and maintain public lands in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric water resource, and archeological values [Section 1701(a)(8)]; the Secretary, with respect to the public lands, shall promulgate rules and regulations to carry out the purposes of this Act and of other laws applicable to public lands [Section 1740].
Federal Guidelines for Historic Preservation Projects, Federal Register 44739-44738, 190 (September 30, 1983)	The Secretary of the Interior has published a set of Standards and Guidelines for Archeology[1] and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archeological and historic properties. The Secretary's standards and guidelines are used by Federal agencies, such as the Forest Service, the Bureau of Land Management, and the National Park Service. The State Historic Preservation Office refers to these standards in its requirements for selection of qualified personnel and in the mitigation of potential impacts to cultural resources on public lands in California.
Executive Order 11593 May 13, 1971 (36 Federal Register 8921)	This orders the protection and enhancement of the cultural environment through providing leadership, establishing state offices of historic preservation, and developing criteria for assessing resource values.
American Indian Religious Freedom Act; Title 42, USC, Section 1996	Protects Native American religious practices, ethnic heritage sites, and land uses.

[1] Laws, ordinances, regulations, standards, and organizations may use different spellings of the word archaeology/archeology. Both spellings are acceptable in the English language (Morris 1976). Citations of LORS or the names of organizations will always use the spelling as it appears in the LORS or name.

Native American Graves Protection and Repatriation Act (1990); Title 25, USC Section 3001, et seq.,	Defines “cultural items”, “sacred objects”, and “objects of cultural patrimony”; establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for the return of specified cultural items.
U.S. Dept. of the Interior, Bureau of Land Manage-ment (BLM), the California Desert Conservation Area Plan 1980 as amended (CDCA)– Cultural Resources Element Goals	1. Broaden the archeological and historical knowledge of the CDCA through continuing efforts and the use of existing data. Continue the effort to identify the full array of the CDCA’s cultural resources.
	2. Preserve and protect representative sample of the full array of the CDCA’s cultural resources.
	3. Ensure that cultural resources are given full consideration in land use planning and management decisions, and ensure that BLM authorized actions avoid inadvertent impacts
	4. Ensure proper data recovery of significant (National Register quality) cultural resources where adverse impacts can be avoided.
BLM Alligator Rock Area of Critical Concern (ACEA) Final Management Plan and E.A.	A. Enhance the ability of the BLM to protect cultural resources within the Alligator Rock ACEC
	B. Protect cultural resources from undue damage while allowing other current uses within the ACEC to continue.
	C. Provide physical protection for archeological sites and to enforce administrative measures.
	D. To fully document the archeological resources within the ACEC, to ensure their continued protection, and to institute a program of study and research to increase understanding of the prehistory of the Colorado Desert.
State	
California Code of Regulations, Title 14, section 4852	This defines the term "cultural resource" to include buildings, sites, structures, objects, and historic districts.
Public Resources Code, Section 5000	Establishes the California Register of Historical Resources (CRHR), the criteria for eligibility to the CRHR, and defines eligible resources. It prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and establishes the penalty for possession of such artifacts with intent to sell or vandalize them as a felony. This section sets procedures for notification if Native American artifacts or remains are discovered. It is the policy of the State that Native American remains and associated grave artifacts shall be repatriated.
Health and Human Safety Code 18961	Requires agencies that enforce and administer approvals affecting preservation of historical buildings to use the alternative provisions of this part and consult with the State Historical Building Safety Board to obtain its review prior to taking action or making decisions.

Penal Code, section 622 1/2	This states that anyone who willfully damages an object or thing of archeological or historic interest is guilty of a misdemeanor.
California Health and Safety Code, section 7050.5	If human remains are discovered during construction, the project owner is required to contact the county coroner.
Local	
Riverside County Ordinance 578.4	This ordinance declares as a matter of public policy that the recognition, protection, preservation, enhancement, perpetuation and use of sites and structures within the County of Riverside having historic significance is necessary and required in the interest of the health, safety, prosperity and general welfare of the public.
Riverside County General Plan Policy OS 19.2	Review all proposed development for the possibility of archeological sensitivity.
Riverside County General Plan Policy OS 19.3	Employ procedures to protect the confidentiality and prevent inappropriate public exposure of sensitive archeological resources when soliciting the assistance of public and volunteer organizations.
Riverside County General Plan Policy OS 19.4	Require a Native American Statement as part of the environmental review process on development projects with identified cultural resources.
Riverside County General Plan Policy OS 19.5	Transmit significant development proposals to the History Division of the Riverside County Regional Park and Open-Space District for evaluation in relation to the destruction/preservation of potential historical sites. Prior to approval of any development proposal, feasible mitigation shall be incorporated into the design of the project and its conditions of approval.
Riverside County General Plan Policy OS 19.6	Enforce the Historic Building Code so that historical buildings can be preserved and used without posing a hazard to public safety.
Riverside County General Plan Policy OS 19.7	When possible, allocate resources and/or tax credits to prioritize retrofit of County historic structures, which are irreplaceable.
Environmental Reports Packet (Riverside County Web Page)	Provides standards for the preparation of archeological or biological reports for privately initiated development proposals including a Memorandum of Understanding between the consultant and the county, notification to the county for the preparation of an archeological report, standard scopes of work, report outlines, and a level of significance checklist.

SETTING

The proposed transmission line modifications would be situated in eastern Riverside County, California. The area is primarily undeveloped desert bounded by mountains. The project area is within the Sonoran Desert. Precipitation in this area is typically about two inches of rainfall per year. High elevations sometimes receive as much as twelve inches of rainfall per year. Along the eastern border of the area is the Colorado River

that is characterized by a green belt of vegetation. The desert's predominate plant is the creosote bush in the lower, relatively flat areas.

PREHISTORIC SETTING

Early Man Period or Malpais (50,000-12,000 Before Present or B.P.)

Numerous archeologists discuss cultural materials attributed to this period. The materials are heavily varnished choppers and scrapers found in the desert pavement. In some cases, core-based tools, shell tools, trails, and geoglyphs are also included in the assemblage, which lacks pottery, ground stone, and hammer stones. The technology to date these materials is still disputed in the archeological community (BLYTHE 2004a, p. 5.16-1; BLYTHE 2004e Attachment DR#32-1, p. 24; Moratto 2004, pp. 76-92).

Paleoindian Period or San Dieguito (12,000-8,000 Years B.P.)

Throughout the Great Basin and in Central and Northern California, lake and marsh environments existed in what is now the desert region during this time period. The cultural tradition that has been associated with these environments is referred to as the Western Pluvial Lakes Tradition. This period is characterized by the hunting of Pleistocene large game that heavily utilized the lake and marsh environments. In the southern California desert, this phase is usually termed the San Dieguito complex. The artifact assemblage is characterized by foliate knives and points, crescents, and a variety of scrapers, cleavers, and choppers. The warming climate, the Altithermal, started the drying of the lakes and marshes at about 8,000 B.P., resulting in the nearly complete loss of these traditions by 7,000 B.P. (BLYTHE 2004a, p. 5.16-2; BLYTHE 2004e Attachment DR#32-1, pp.24-26; Moratto 2004, pp. 76-103).

Archaic Period (Pinto and Amargosa) (8,000-1,500 Years B.P.)

As the desert area dried, the carrying capacity of the area diminished and adaptation strategies changed. The general population of the desert area diminished, and people congregated in areas where there was greater moisture and the availability of food was more consistent. Springs became very important resources in the deserts, and larger archeological sites have been found in association with them. Use of hard seed materials became more prevalent, and storage of food materials more important (BLYTHE 2004a, p. 5.16-2; BLYTHE 2004e Attachment DR#32-1, p. 26).

Late Prehistoric Period (1,500-100 B.P.)

Some significant changes occurred during this period, including a shift from spear throwers to the bow and arrow and the advent of paddle and anvil ceramics (perhaps an influence from Mexico or from the Hohokam culture of the Gila River). Flood plain agriculture developed about this time, increasing sedentary activities in local groups that are in an area that is now in Arizona.

The groups still participated in trade and travel. Trail systems are well recorded for this period, documenting travel and trade to springs and resource procurement and ceremonial areas (BLYTHE 2004a, pp. 5.16-2 and 5.16-3; BLYTHE 2004e Attachment DR#32-1, pp. 26-27).

ETHNOGRAPHIC BACKGROUND

The transmission line crosses areas that are within the traditional boundaries used by the Cahuilla, Chemehuevi, Quechan and the Halchidhoma.

Cahuilla

The Cahuilla are of the Uto-Aztecan linguistic group, believed to have migrated from the Great Basin area into California. Independent clans owned territories within the area. Each territory extended from the valley floors to the mountaintops, covering several biotic zones. Villages were occupied year round, and temporary camps would be utilized by small groups to gather foods and products in different environmental zones.

Communities were centered around water sources. Houses and structures were spaced at some distance from each other, making the community a mile or two in size. Some communities were large, totaling over a thousand individuals (BLYTHE 2004a, p. 5.16-5; BLYTHE 2004a, Appendix D, pp. 9-10; BLYTHE 2004e Attachment DR#32-1, pp. 32-34).

Chemehuevi

The Chemehuevi are also of the Uto-Aztecan language stock. They occupied an area east of the Cahuilla, north of the Quechan, south of the Mojave, and east of the Halchidhoma. The Chemehuevi organized in smaller, more mobile groups than did the Cahuilla. Settlements were scattered, and small groups traveled in a seasonal round, visiting similar areas each year. They seldom maintained permanent settlements (BLYTHE 2004a, pp. 5.16-5 and 5.16-6; BLYTHE 2004a, Appendix D, p. 10; BLYTHE 2004e, Attachment DR#32-1, p. 36).

Quechan

The Quechan are part of the Western Hokan language group. They lived on both sides of the Colorado River from Blythe south to the confluence of the Gila and Colorado Rivers. The Quechan utilized agricultural practices as well as hunting and gathering. The villages were located on the higher river terraces, but smaller family groups moved to the flood plain to plant and tend the crops during the summer and fall (BLYTHE 2004a, p. 5.16-6; BLYTHE 2004a, Appendix D, p. 11).

Halchidhoma

The Halchidhoma were from the Western Hokan language group. The occupied an area south of the Quechan traditionally. They had moved north by the eighteenth century to an area around Blythe and Parker. They were subsequently forced out of this area by the Quechan and Mojave.

The Halchidhoma relied on agricultural practices with hunting and gathering activities as a supplement. Much like the Quechan, the Halchidhoma maintained villages in the winter and spring on the higher river terraces and moved to the flood plain in the summer and fall to tend crops (BLYTHE 2004a, pp. 5.16-6 and 5.16-7; BLYTHE 2004a, Appendix D, p. 11).

HISTORIC SETTING

Hispanic Period

The earliest exploration into the Colorado River area was in 1540 when Hernando de Alarcón sailed up the Colorado River to an area near present-day Yuma. Although some subsequent exploration occurred in this area, the Spanish occupation focused on the area to the south and east of Yuma and along the California coast. The desert interior remained somewhat isolated from the early influence of the Spanish missions. In the late 1700s, the Spanish started moving into this area by establishing the Misión La Purisima Concepción near present day Yuma and Misión San Pedro Y San Pablo de Bicuner north of Yuma near the current location of Bard, California. The mission system was also establishing trail routes between the Yuma missions and the California coastal missions. At first, relations were friendly between the Spanish and the Native Americans in this area. As the Spanish became more of a presence in the area, however, relations became strained. In 1781, the Quechans destroyed the main Spanish pueblo, San Pablo Bicuner, Misión San Pedro Y San Pablo, and the Misión La Purisima Concepción (BLYTHE 2004a, pp. 5.16-7 and 5.16-8).

The interaction between the Spanish and the Cahuilla Indians was quite different. It was not until the early 1800s that the Spanish began exerting more substantial influence over the Cahuilla, who seemed to accept and adjust to the presence of the Spanish fairly well (BLYTHE 2004a, Appendix D, pp. 34-35).

In 1821, Mexico declared its independence from Spain. The missions were secularized in 1834. The Mexican government granted many parcels of land to individuals, mostly to the descendants of early soldiers and civil officials. In 1848, the Treaty of Guadalupe Hidalgo, which ended the Mexican War, transferred control of what is now Arizona and California to the United States (BLYTHE 2004a, pp. 5.16-6 – 5.16-8; BLYTHE 2004e Attachment DR#32-1, pp. 34-35).

Euro-American Period

During this period development occurred fairly quickly and consequently will be considered under various themes.

Mining

The gold rush in California started in the northern part of the state. This did not influence the desert area until the availability of gold to individual miners diminished in the north and exploration for minerals spread to the south. The first discovery of gold in the area was north and east of Blythe in the 1860s. The development of the Southern Pacific Railroad (SPRR) through this area by the late 1870s helped move materials for mining and brought more people into the area for more exploration. Gold mining operations were also developed in the Chocolate Mountains to the southeast of Blythe. Other valuable minerals were found in the desert area, including silver, copper, gypsum, fluorite, manganese, and uranium.

During World War II, iron, zinc, fluorite, manganese, and gypsum became important minerals to extract. Kaiser Steel Corporation mined iron ore from their facility near Eagle

Mountain starting in 1942 (BLYTHE 2004a, p. 5.16-8; BLYTHE 2004e Attachment DR#32-1, pp. 37-38).

Transportation

The earliest transportation routes through the desert were Native American trails. These were utilized by many people entering the area as they connected to water sources. The Bradshaw Trail became the first published route from the west into Blythe. A stage line was operated along this route from 1862 until 1879. The trail remained as a transportation route until 1908 when a new route was developed that later became Interstate 10.

The SPRR was developed across the desert, starting from Los Angeles and reaching Yuma by 1877. The railway could transport goods and people faster and cheaper than other means. Supplies for the mines were transported at least in part using the SPRR.

The Eagle Mountain Railroad was built to transport goods to and from the Kaiser Steel Corporation mine. This spur from the SPRR to the mine opened in 1948. The rail line ceased transporting ore in 1983, but is still functional (BLYTHE 2004a, p. 5.16-9; BLYTHE 2004e Attachment DR#32-1, pp. 38-40).

Irrigation and Water Transportation

The development of the desert region of California was hampered by the scarcity of water. Diversion of water from the Colorado River into the area around Blythe started in the 1800s for the irrigation of crops. The Palo Verde Irrigation District (PVID) was created by an act of the California Legislature in 1923 to secure and distribute water to the area, but diverting water from the Colorado River became difficult after the construction of Hoover Dam caused river levels to lower downstream. The Bureau of Reclamation (BOR) built a temporary weir to divert water for the PVID in the 1940s. The Palo Verde Diversion Dam and upgrades to the PVID canal system were completed in 1957 by the BOR (BOR 2005).

In the 1930s, the Colorado River Aqueduct was built from the Colorado River to the City of Los Angeles. This project included the construction of Parker Dam on the Colorado River, water canals, pumping plants, tunnels, inverted siphons, reservoirs, and a 230-kV transmission system. This was one of the largest water diversion projects of the time (NPS HAER, 1998). The project was one of the largest employers in southern California during the Depression, drawing many laborers to this area (BLYTHE 2004a, pp. 5.16-9 - 5.16-10).

World War II

During World War II, the deserts of California and Arizona became U.S. Army training grounds in preparation for the North Africa Campaign. The Desert Training Center (DTC) was the largest military area in the United States. Gen. George S. Patton was the first commanding officer. The facility was named the California-Arizona Maneuver Area (CAMA) in 1943.

The army acquired the Blythe Airport and developed it into the Morton Air Academy. The army expanded the facility to accommodate bombers and other military aircraft

necessary for the war effort. The academy raised the population of Blythe to over 4,000 as a result of the influx of service men, families, and civilian employees.

The DTC/CAMA was closed in 1944 with the allied victory in North Africa. A few of the WWII buildings still stand at the Blythe Airport, and the old army runways are still part of this public municipal airport (BLYTHE 2004a, pp. 5.16-10 – 5.16-11; BLYTHE 2004e Attachment DR#32-1, pp. 40-42).

Electrification

Control of the Colorado River to prevent flooding of the lower portions of the river was considered an important project in the early twentieth century. If controlled by a dam, the river also had great potential for producing electrical energy that could supply the growing needs of southern California. For these reasons, Congress authorized the construction of Boulder (Hoover) Dam, and its construction began in 1931 (BOR 2004). Power was originally supplied to the dam construction site via the transmission line from Adelanto to Boulder. This line later became the first line to transmit power from Boulder Dam to Los Angeles.

The Parker Dam Project provided additional power to the southern California desert lands starting in the 1950s. Three transmission lines, Parker-Blythe No. 1, Blythe-Knob, and Parker-Gila, are associated with the Blythe substation. These lines were evaluated for their eligibility to the National Register of Historic Places (NRHP) for the construction of the Blythe Energy Project. None of the lines was found to meet the eligibility criteria for the NRHP.

RESOURCES INVENTORY

Literature and Records Search

Buck-to-Julian Hinds and Buck to Midpoint Substation Transmission Lines

The project owner conducted a record search of the project alternatives on September 17, 2003, and again on April 19 and 20, 2004. Several databases were utilized for the search: the National Archeological Database of bibliographic references for existing studies, the National Register of Historic Places (NRHP), the California Office of Historic Preservation (OHP) Archeological Determinations of Eligibility, the OHP Directory of Properties in the Historic Property Data File, archival topographic maps from 1940, 1952, and 1963, and historic resources site records. The search included an area one-quarter mile on each side of the transmission line and through road which included the area of the proposed Midpoint Substation. The record search indicated that at least 38 cultural resource studies have been conducted within the study area identifying 140 resources. The Colorado River Aqueduct and the Julian Hinds pumping plant were identified in the background research, and the record indicated that the pumping plant and aqueduct had been determined to be eligible for the National Register of Historic Places. In 1992, the American Society of Civil Engineers recognized the Colorado River Aqueduct as a significant piece of American engineering. This was followed by a Historic American Engineering Record (HAER CA-226) of the system (NPS 1998).

A recent survey for the Devers-to-Palo Verde No. 2 transmission line (DPV2) that postdates the record search recorded thirty-three cultural resource sites. A portion of the DPV2 parallels the proposed Buck-to-Julian Hinds route. Some of these cultural resource sites are probably near or within the Buck-to-Julian Hinds study area (BLYTHE 2004a Appendix D-1, pp 27-33).

The NRHP database (NPS NRHP 2005) for Riverside County lists two districts that are within the record search area: the North Chuckwalla Mountains Quarry District (CA-Riv-1814) and North Chuckwalla Mountains Petroglyph District (CA-Riv-1383). This database also indicates that there are other listed historic properties in the vicinity of the project area.

Additional background research included examining Government Land Office (GLO) maps (1856, 1910s and 1950s/1960s) in December of 2004 to identify areas of high potential for cultural resources. Numerous resources were delineated on the maps and were then field-checked during the pedestrian survey. Letters were sent to local jurisdictions requesting inventory or register information for significant resources near the project IA/APE. The City of Blythe responded via telephone that they were not aware of cultural resources within the project area of concern. Riverside County, the City of Twentynine Palms, and the City of Indio did not respond. In November 2004, letters were also sent to the Coachella Valley Historical Society, Coachella Valley Archaeological Society, the Colorado Desert Archaeology Society, the George S. Patton Memorial Museum, the Imperial Valley College Desert Museum, the Imperial County Historical Society Pioneers Museum, the Indio Chamber of Commerce, the Pioneer Historical Society of Riverside, the Palo Verde Historical Society and Museum, and the Twentynine Palms Historical Society. A letter response was received from the Coachella Valley Archaeological Society, and a telephone response was received from the Colorado Desert Archaeology Society. Neither indicated knowledge of resources in the projects IA/APE (April 2005). (BLYTHE 2004e, pp 29-32).

Recommendations of eligibility had previously been made indicating that the following resources do not meet the minimum requirements for eligibility to the National Register of Historic Places: CA-Riv-673T, CA-Riv-1018, CA-Riv-1115, CA-Riv-1635H, CA-Riv-1811, CA-Riv-1817, CA-Riv-1819, CA-Riv-1821, and CA-Riv-1822. CA-Riv-673T consists of two trails, one Native American and one historic (related to the Desert Training Area). Site CA-Riv-1018 had been previously mapped, surface collected, and tested for subsurface deposits. A total of 10 square meters of the site was tested, resulting in recovery of one flake, two pieces of waste material from flaked stone production, and one unidentified bone fragment. Site CA-Riv-1115 consists of two possible Native American trail segments and a lithic scatter. CA-Riv-1635H was recorded as a historic pet cemetery with about 15 grave features. CA-Riv-1811 was mapped and surface collected, recovering the information values contained in the site. CA-Riv-1817 is a sparse scatter of ceramic fragments, and one shard was collected previously. CA-Riv-1819 was mapped, surface-collected, and test-excavated, with the analysis of the materials resulting in the recovery of the information values contained in the site. Site CA-Riv-1821 had been previously mapped, surface collected, and test-excavated, resulting in the identification of two ceramic scatters representing two vessels and a few lithic artifacts. CA-Riv-1822 was mapped, surface collected, and test-

excavated, resulting in the site being characterized as a light lithic scatter with minimal diversity of pottery (G&B 2005d, MJ&S 2005c).

The Niland-Blythe 161 kV transmission line is one of three transmission lines that cross the Blythe Energy Project (BEP) site. These transmission lines were evaluated as part of the permitting process for this project. None of the lines met the eligibility criteria for either the NRHP or the CRHR (CEC and WAPA 2000).

Surveys

Western Area Power Authority (Western) staff, Bureau of Land Management (BLM) staff, and Energy Commission staff discussed and agreed on an IA/APE. Surveys were conducted within the IA/APE for the project. The survey areas were defined as a 300-foot-wide corridor for the transmission line, a 100-foot-wide corridor for all access and spur roads, and the foot print and a 200-foot buffer in all directions from the perimeter of the footprint of substations, staging areas, and other project components. In addition, any sensitive resources within one-quarter mile, for which setting is an important aspect of the integrity of the resource, are also considered to be within the IA/APE. Some additional areas were inventoried by the project owner in order to consider avoidance of important resources in the vicinity.

Buck-to-Julian Hinds Transmission Line (BJHTL)

The project owner conducted intensive surveys along this alignment in January and February, 2005. A single final draft inventory report was provided covering both the Buck-to-Julian Hinds transmission line and the Buck to Midpoint Substation transmission line in July, 2005. The intensive pedestrian survey revisited 43 of the previously recorded cultural resources and identified 63 additional resources. Three previously recorded resources (CA-Riv-893T, CA-Riv-5545H, and P33-13595) could not be located during this inventory.

Within the IA/APE, eighteen isolated finds were recorded: P33-13595, P33-14147, P33-14155, P33-14156, P33-14158, P33-14159, P33-14161, P33-14172, P33-14179, P33-14180, P33-14182, P33-14185, P33-14191, P33-14194, P33-14195, P33-14196, P33-14200, and P33-14205. The isolated finds were both Native American (eleven) and historic period cultural materials (seven). P33-13595 was previously recorded and could not be relocated during this inventory. The remaining isolates were newly recorded during this inventory.

The survey indicated that the portion of the Colorado River Aqueduct within the project area is in essentially the same condition as when the system was recorded per HAER in 1998. This includes the pumping plant and delivery pipes, the aqueduct canal/conduit, tunnels, and the 230-kV transmission system and substations. The project owner provided an updated Department of Parks and Recreation (DPR) Form 523 to include the associated housing for the operation of the pumping plant.

The transmission line will also pass through the North Chuckwalla Mountains Petroglyph District (CA-Riv-1383), which is within the BLM's Alligator Rock Area of Critical Environmental Concern (ACEC). An update of the DPR Form 523 was prepared by the project owner for CA-Riv-1383.

The project owner refined the BJHTL alignment to accomplish a variety of objectives. Only the final proposed alignment of the BJHTL is analyzed here **(See PROJECT DESCRIPTION)**. Table 2 lists the sites (isolates are excluded) that are within the survey area of the final proposed alignment of the BJHTL. The distances to project components (spur roads, major access road [through road] and pole locations) where construction activities may occur are provided in the table. If a road goes through or is planned to go through an archeological site, the table notes that the activity is planned “on site”.

Buck to Midpoint Substation Transmission Line (BMSTL)

The project owner conducted intensive surveys along this alignment in January and February, 2005, completing the draft technical report in April, 2005. An additional survey was conducted for a preferred Midpoint Substation just to the northwest of the first proposed Midpoint Substation. A draft final report was provided in July, 2005. The Buck to Midpoint Substation transmission line will be hung on the same poles as the Buck-to-Julian Hinds transmission line from the Midpoint Substation to the Buck Substation. A single draft inventory report was provided covering both the Buck-to-Julian Hinds transmission line and the Buck to Midpoint Substation transmission line in April, 2005. A second survey report was provided for the preferred Midpoint Substation to the northwest of the Midpoint Substation that was originally proposed. Resources that were identified in addition to those in the IA/APE for the BJHTL are those located within the boundaries of the preferred Midpoint Substation. Thirteen resources were depicted on maps within the IA/APE for the BMSTL portion of the project, three of which, P33-14385, P33-14386 and P33-14387, are located within the area of the preferred Midpoint Substation. The original proposed Midpoint Substation is not analyzed. Other changes were made to the BMSTL alignment. Only the final BMSTL alignment with the preferred Midpoint Substation is analyzed here **(See PROJECT DESCRIPTION)**.

Within the IA/APE three isolated finds were recorded: P33-14200, P33-14385, and P33-14386. The isolates were both Native American and historic-period cultural materials.

Table 2: Resources Found within the IA/APE for the BJHTL

Resource Name/Number	Distance to Resource*		
	Spur Road	Through Road	**Pole location**
CA-Riv-343T (c)	**On site**	**On site**	65 feet
CA-Riv-673T		**On site**	
CA-Riv-775T		**End of site**	
CA-Riv-1018		**85 feet**	125 feet
CA-Riv-1115		**On site**	100 feet
CA-Riv-1173		**100 feet**	
CA-Riv-1383/CA-Riv-991 Petroglyph District	**In District**	**In District**	In District
CA-Riv-1635H		**Adjacent**	235 feet
CA-Riv-1811	**On site**	**On site**	35 feet
CA-Riv-1815		**25 feet**	80 feet
CA-Riv-1817		**On site**	275 feet
CA-Riv-1819	**On site**	**On site**	On site
CA-Riv-1820		**Within 30 feet**	355 feet
CA-Riv-1821	**On site**	**On site**	35 feet
CA-Riv-1822	**30 feet**	**On site**	115 feet
CA-Riv-6726H Colorado River Aqueduct P33-06824, Julian Hinds Pumping Station		**Adjacent to residential area, existing paved road**	Connection to Julian Hinds Substation
CA-Riv-7127H – Niland-Blythe 161 kV T-Line		**Goes under Niland-Blythe line**	48 feet, conductor crosses Niland-Blythe line
P33-08706, Southern California Edison Telephone Pole line		**35 feet**	Conductor crosses alignment, but only poles remain
P33-13571		**165 feet**	140 feet
P33-13573		**90 feet**	295 feet**
P33-13574	**35 feet**	**150 feet**	35 feet
P33-13586		**210 feet**	165 feet
P33-13587	**Within 10 feet**	**125 feet**	51 feet
P33-13590		**25 feet**	150 feet
P33-13592		**15 feet**	190 feet
P33-13593		**On site**	125 feet
P33-13594		**75 feet**	290 feet
P33-13596	**On site**	**On site**	50 feet
P33-13597	**Adjacent**	**65 feet**	60 feet
P33-13598		**On site**	25 feet
P33-13599	**On site**	**On site**	On site
P33-13648	**On site (two)**	**On site**	On site
P33-13649		**580 feet**	390 feet
P33-13650	**On site**	**180 feet**	35 feet

P33-13659		**300 feet**	230 feet
P33-13672		**160 feet**	235 feet
P33-13673 Eagle Mountain Railroad		**Adjacent to and crosses railroad**	Conductor crosses railroad, runs parallel for ½ mile
P33-14146		**On site**	125 feet
P33-14148		**75 feet**	170 feet
P33-14149		**280 feet**	380 feet
P33-14150		**50 feet**	100 feet
P33-14151		**320 feet**	225 feet
P33-14152	**On site**	**40 feet**	On site
P33-14153	**On site**	**On site**	On site
P33-14154		**On site**	130 feet
P33-14157		**165 feet**	300 feet
P33-14160		**230 feet**	125 feet
P33-14162		**450 feet**	460 feet
P33-14163	**65 feet**	**335 feet**	130 feet
P33-14164		**300 feet**	290 feet
P33-14165		**180 feet**	360 feet
P33-14166		**125 feet**	190 feet
P33-14167		**225 feet**	400 feet
P33-14168		**On site**	On site
P33-14169		**65 feet**	70 feet
P33-14170		**On site**	50 feet
P33-14171		**On site**	235 feet
P33-14173		**On site**	13 feet
P33-14174		**185 feet**	125 feet
P33-14175		**65 feet**	100 feet
P33-14176		**265 feet**	140 feet
P33-14177		**85 feet****	150 feet
P33-14178	**40 feet****	**385 feet**	115 feet
P33-14181		**210 feet**	190 feet
P33-14183		**360 feet****	145 feet
P33-14184		**175 feet**	165 feet
P33-14186		**300 feet**	280 feet
P33-14187		**50 feet**	380 feet
P33-14188		**60 feet**	115 feet
P33-14190		**325 feet**	100 feet
P33-14192	**165 feet**	**170 feet**	275 feet
P33-14193		**30 feet**	Exceeds 1000 feet**
P33-14199		**On site**	10 feet
P33-14201		**90 feet**	485 feet
P33-14202		**225 feet**	390 feet
P33-14203	Realignment removes site from IA/APE		
P33-14204		alongside	

P33-14207		On site	Exceeds 1000 feet**
P33-14208		160 feet	200 feet

* All measurement taken from site sketch maps in Confidential Appendix Volume II unless otherwise noted.
** Measurement from text description in the cultural resource inventory report or Map V-1 in Confidential Appendix Volume II.
Table 3 lists the sites (isolates are excluded) that are within the survey area of the final BMSTL alignment with the preferred Midpoint Substation. The distances to project construction areas, access roads, or other project components are provided in the table.

Table 3: Resources Found within the IA/APE for the BMSTL

Resource Name/Number	Distance to Resource*			
	Access Road	Through Road	Pole location	**Substation**
CA-Riv-343T (c)	**Bisects site**	**Bisects site**	**66 feet**	
CA-Riv-673T		**Bisects site**		
CA-Riv-775T		**End of site**		
CA-Riv-7127H – Niland-Blythe 161 kV T-Line			**48 feet, conductor crosses Niland-Blythe line**	
P33-14173		**On site**	**13 feet**	
P33-14174			**125 feet**	
P33-14199		**On site**	**2 feet**	
P33-14387				On site
P33-14388				50 feet

* All measurement taken from site sketch maps in Confidential Appendix Volume II.

Desert Center Laydown Area

This area appears to be graded and fenced. Access was not allowed for the cultural resource survey. Areas that could be viewed from outside of the fence suggested that there were no resources in the lay down area.

Native American Contacts

Western requested a list of Native American contacts from the Native American Heritage Commission (NAHC) on September 28, 2004. On October 6, 2004, Western received a letter from the NAHC indicating that a search of the sacred lands file failed to indicate the presence of Native American resources in the area. The NAHC also provided a Native American contact list for Riverside County that included seventeen tribes and representatives that were concerned about projects in the area.

On December 1, 2004, BLM sent letters to ten tribal governments and copies to sixteen other tribal representatives initiating government-to-government consultation on behalf of BLM and Western regarding this project and any issues or concerns the Native Americans wanted to have addressed pursuant to NHPA, NEPA or state requirements (BEPTL 2004). A brief description of the project was provided as well as a map of the proposed route. The letter also notified the tribes and other interested representatives that the Energy Commission had received a request to amend the permit for the BEP I project to include the transmission line. On December 3, 2004, BLM sent the same letter to one additional tribe.

On December 13, 2004, BLM received an email from the Morongo Band of Mission Indians stating they would like to receive a copy of the cultural resources report once it was published. They indicated that the project area was within an area that might be considered a traditional use area or an area to which the tribe had cultural ties. They did not have information about cultural resources in the area. They also requested a copy of any subsequent reports documenting resources discovered during construction. The Morongo Band of Mission Indians also sent a letter, dated February 10, 2005, to the BLM, restating the information in the email. They also stated that since the tribe did not have information about the project area that they did not feel a need to enter into formal consultation at this time, but reserved the right to comment at a later date if cultural resources or Native American human remains are found on the project site. The tribe wanted to be sent all future notices for the project.

On January 26, 2005, BLM sent a letter to the eleven tribal governments and copies of the letter to sixteen other Tribal Representatives again extending the invitation to initiate government-to-government consultation. The second letter informed tribes and representatives of an upcoming public meeting and workshop hosted by the Energy Commission. The focus of the workshop was for Western, BLM and the Energy Commission staff to discuss the Preliminary Staff Assessment. The letter indicated that time would be available for the agencies to meet separately with tribes if any tribes or representatives so desired.

A representative of the Agua Caliente Band of Cahuilla Indians attended the Preliminary Staff Assessment workshop. No comments were provided at that time.

Western is developing a Programmatic Agreement (PA) with the BLM, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer to take into account the effects of the project as allowed under 36 CFR Part 800. The PA sets an alternative procedure to the standard regulations for certain types of projects. Tribes are being requested to review the document, make comments, and consider whether they would like to be concurring parties in the PA. Western sent a letter on March 25th to the tribal governments asking for comments on the PA. The letter referenced the previous letters regarding government-to-government consultation and clearly stated that Western is the lead for Section 106 consultation and the BLM is the lead for general comments on the project. The letter also stated that Clair Green would be assisting Western to set up meetings and/or field visits. Ms. Green would also be assisting Western in identifying traditional cultural properties or traditional use areas that could be affected by this project.

From April 7 through April 14, 2005, Western staff made telephone calls to the Ak-Chin Indian Community, the Campo Band of Mission Indians, the Cocopah Indian Tribe, the Fort McDowell Yavapai Nation, the Gila River Indian Community, the Hualapai Indian Tribe, the Kaibab Paiute Indian Tribe, and the Salt River Pima-Maricopa Indian Community. The calls were to confirm whether the tribes had an interest in the project and whether they would like to participate in the project review.

The Morongo Band of Mission Indians provided another email (April 11, 2005) and further written correspondence indicating that they were interested in continuing to receive information about the project, but were not taking an active role at this time.

They expressed particular interest in being involved if human remains or major habitation or cultural sites are found. The band did not want to be a signatory party to the PA.

On April 25, 2005, Native American representatives visited portions of the project site to see the cultural resources that may be affected by the project. Discussions of the avoidance measures were included in the site visits. The Native American representatives conveyed concern about protection for the history of their people as it is reflected on the land.

Western received written comments from the Agua Caliente Band of Cahuilla Indians regarding the PA, in a letter dated May 17, 2005. The Agua Caliente Band of Cahuilla Indians did not want to be a signatory party to the PA, but wanted to remain an interested party. Some language changes were suggested for the PA. Additionally, the tribe would like to have approved tribal monitors present during all ground-disturbing activities. They also requested a copy of the National Register Nomination Form for CA-Riv-1383. The project owner forwarded a copy of the National Register Nomination Form for CA-Riv-1383 on May 27, 2005.

Western provided to the Energy Commission a compilation of Native American consultation that they had completed for the Blythe II Energy Project and the Blythe Energy Transmission Line Project Amendment on July 22, 2005. The compilation was docketed and made available to interested parties.

On July 25, BLM provided additional letters to tribes describing three transmission line projects: 1) Blythe Energy Transmission Line Project, 2) the Desert Southwest Transmission Line Project, and 3) the Southern California Edison Devers-Palo Verde II Transmission Line Project. The letter states that the BLM intends to consult with the tribes in a clear and consistent manner for all of the projects. To accomplish this, BLM attached a briefing paper on each of the projects. In the letter, BLM also asked if the tribes needed additional information, invited the tribes to initiate formal government-to-government consultation, and requested that they identify any issues or concerns that need to be addressed during the National Historic Preservation Act or National Environmental Policy Act review process.

BLM and Western will continue to have meetings and telephone contacts with Native American groups. The PA provides for continuing consultation throughout its duration.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

Various laws apply to the treatment of cultural resources. These laws require the BLM, Western, and the Energy Commission to categorize resources by determining whether they meet several sets of specified criteria. These categories then in turn influence the analysis of potential impacts to the resources and the mitigation that may be required to eliminate or reduce potential significant impacts.

Historic Resources

The National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR) criteria state that the types of resources eligible for inclusion are: districts, sites, building, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that (1) are associated with events that have made a significant contribution to the broad patterns of our history; or (2) that are associated with the lives of persons significant in our past; or (3) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or (4) that have yielded, or may be likely to yield, information important to history or prehistory. Historical resources that are automatically listed in the CRHR include (1) California historical resources listed in or formally determined eligible for the NRHP and (2) California Registered Historical Landmarks from No. 770 onward.

For all resources that are not currently listed in the NRHP or the CRHR, the lead agency must make a determination as to whether the resources are historically significant and retain sufficient integrity to be recognizable and convey the reasons for their significance. If the criteria are met and the resource is determined by the agency to be eligible for the NRHP (Western or BLM) or the CRHR (Energy Commission), then the agency must evaluate whether the project will have an adverse effect on a historic property (significant resource) or cause a “substantial adverse change in the significance of the historical resource,” which regulations define as a significant effect on the environment.

Federal agencies may enter into a PA under the implementing regulations 36 CFR Part 800 of the National Historic Preservation Act. A PA is used when circumstances warrant a separate process from the normal Section 106 process. BLM and Western are currently developing a PA to take into account the effects of the transmission line project on historic properties. The PA defines: the Area of Potential Effect (APE); the inventories that will be conducted and the standards that will be maintained; how resources will be determined to be eligible; how the effects of the project will be identified; how a treatment plan will be developed and implemented if an adverse effect is identified; the treatment of discovery of previously unknown cultural resources; the treatment of human remains if they are encountered; and how project modification may be accomplished, if required. These stipulations in the agreement would mitigate any potential significant effects for the project an insignificant level. The PA also specifies the duration of the agreement and allows for amendments, dispute resolution, review of public objection, termination of the agreement, and withdrawal from the agreement (Appendix 1). The PA is expected to be signed by all participating parties prior to approval of the project. The execution and implementation of the PA would reduce impacts to less than significant for the purposes of the NEPA.

Unique Archeological Resources

CEQA contains a section addressing “unique” archeological resources and provides a definition of such resources (Public Resources Code, Section 21083.2). This section establishes limitations on analysis and prohibits imposition of mitigation measures for impacts to archeological resources that are not unique. However, the CEQA Guidelines state that the limitations in this section do not apply when an archeological resource has

already met the definition of a historical resource (Title 14, California Code of Regulations, Section 15064.5). Since staff has determined that the sites for which it is recommending mitigation meet the definition of historical resources, the prohibition does not apply to the mitigation discussed in this FSA.

IMPACTS AND MITIGATION

Western, the BLM, and Energy Commission staff agree that none of the twenty isolates (P33-13595, P33-14147, P33-14155, P33-14156, P33-14158, P33-14159, P33-14161, P33-14172, P33-14179, P33-14180, P33-14182, P33-14185, P33-14191, P33-14194, P33-14195, P33-14196, P33-14200, P33-14205, P33-14385, and P33-14386) appear to be exceptional; they do not meet the eligibility requirements for the NRHP or the CRHR under any of the criteria. These resources will not be discussed further in this analysis.

The IA/APE is defined as a 300-foot-wide corridor for the transmission line, a 100-foot-wide corridor for all access and spur roads, and the foot print and a 200-foot buffer in all directions from the perimeter of the footprint of substations, staging areas, and other project components. The project owner has committed to avoiding impacts/effects to cultural resources if the project can site poles, access roads, spur roads or other components away from the resources. Western, BLM and Energy Commission staff have agreed with the project owner that pole locations and access roads can be sited in a manner that would limit the direct construction impacts. Energy Commission staff agrees that if impacts can be avoided by locating project components at least 200 feet away for transmission line structures, substations, and staging areas, and at least 100 feet away for the access roads that the resource would not have to be evaluated for eligibility. If minimal measures identified in the Cultural Resources Monitoring and Mitigation Plan and the Historic Property Treatment Plan can be taken to avoid resources, even if they are within the IA/APE, they would not be evaluated. This may not be applicable to resources where setting is of high importance for the eligibility of the resource.

The project owner has recommended that micro-siting or other restrictions of construction activities can be used at pole locations, stub roads and through roads to avoid P33-13574, P33-13650, P33-14163, and P33-14204. Treatment would be needed for additional resources to ensure that impacts are avoided. Table 4 lists the resources and required measures to ensure avoidance so that an evaluation of the resource is not required.

Buck-to-Julian Hinds Transmission Line

The Julian Hinds Pumping Plant (originally called the Hayfield Pumping Plant) is part of the Colorado River Aqueduct (CRA) system. The CRA was built in the 1930s to provide water from the Colorado River to coastal southern California.

The Colorado River Compact in 1922 confirmed California's claim to 5.4 million acre-feet of Colorado River water, and in 1924, the city of Los Angeles claimed 1.1 million acre-feet of California's share. Concurrent with the signing of the compact, the Hoover Dam (then called Boulder Dam) on the Colorado was proposed. The Metropolitan Water District of Southern California (MWD) was formed in 1928 specifically to build and operate an aqueduct from the Colorado River to southern California to deliver Los Angeles's 1.1 million acre-feet (NPS HAER 1998).

Table 4: Cultural Resource Sites Avoided by Blythe Energy Transmission Project Redesign

Site No.	Location*	Avoidance Measure
CA-Riv-775T	**Through road near end of site**	**Restrictive fencing and monitor**
CA-Riv-1173	**Through road within 100 feet**	**Restrictive fencing and monitor**
CA-Riv-1815	**Through road within 25 feet and pole within 80 feet**	**Restrictive fencing and monitor**
CA-Riv-1820	**Through road within 30 feet**	**Restrictive fencing and monitor**
P33-08706, SCE pole line	**Conductor and through road crosses alignment**	**Restrictive fencing and monitor**
P33-13571	**Pole within 140 feet**	**Restrictive fencing and monitor**
P33-13573	**Through road within 90 feet**	**Restrictive fencing and monitor**
P33-13574	**Spur road and pole within 35 feet**	**Micro-siting of Structure and Stub Roads**
P33-13586	**Pole within 165 feet**	**Restrictive fencing and monitor**
P33-13587	**Pole within 51 feet, spur road within 50 feet**	**Restrictive fencing and monitor**
P33-13590	**Through road within 25 feet, pole within 150 feet**	**Restrictive fencing and monitor**
P33-13592	**Through road within 20 feet**	**Restrictive fencing and monitor**
P33-13594	**Through road within 75 feet**	**Restrictive fencing and monitor**
P33-13597	**Spur road adjacent, through road within 65 feet, pole within 60 feet**	**Restrictive fencing and monitor**
P33-13649	**Outside limits**	**Monitor**
P33-13650	**Propose spur road on site**	**Micro-siting spur road**
P33-13659	**Outside limits**	**Monitor**
P33-13672	**In ROW between structures**	**Monitor**
P33-13673	**Conductor crosses site, existing through road crosses site, through road within 20 feet of features**	**Restrictive fencing and monitor**
P33-14148	**Within 75 feet of through road and 170 feet of structure**	**Restrictive fencing and monitor**
P33-14149	**Outside limits**	**Possible monitor**
P33-14150	**Within 50 feet of through road and 100 feet of structure**	**Restrictive fencing and monitor**
P33-14151	**Outside limits**	**Possible monitor**
P33-14157	**Outside limits**	**Possible monitor**
P33-14160	**Pole within 125 feet**	**Restrictive fencing and monitor**
P33-14162	**In ROW between structures**	**Monitor**
P33-14163	**Stub Road within 65 feet and pole within 130 feet**	**Micro-siting Stub Road**
P33-14164	**Distance to stub road not identified**	**Monitor and possible fencing**
P33-14165	**Distance to stub road not identified**	**Monitor and possible fencing**
P33-14166	**Pole within 190 feet**	**Restrictive fencing and monitor**

P33-14167	**Distance to stub road not identified**	**Monitor and possible fencing**
P33-14169	**Within 65 feet of through road and pole within 70 feet**	**Restrictive fencing and monitor or micro-site pole**
P33-14174	**Pole within 125 feet**	**Restrictive fencing and monitor**
P33-14175	**Through road within 65 feet and pole within 100 feet**	**Restrictive fencing and monitor**
P33-14176	**Pole within 140 feet**	**Restrictive fencing and monitor**
P33-14177	**Through road within 85 feet and pole within 150 feet**	**Restrictive fencing and monitor**
P33-14178	**Pole within 115 feet, spur road within 40 feet**	**Restrictive fencing and monitor**
P33-14181	**Pole within 190 feet**	**Restrictive fencing and monitor**
P33-14183	**Pole within 145 feet**	**Restrictive fencing and monitor**
P33-14184	**Pole within 165 feet**	**Restrictive fencing and monitor**
P33-14186	**Outside limits**	**Possible monitor**
P33-14187	**Through road within 50 feet**	**Restrictive fencing and monitor**
P33-14188	**Through road within 60 feet and pole within 115 feet**	**Restrictive fencing and monitor**
P33-14190	**Pole within 100 feet**	**Restrictive fencing and monitor**
P33-14193	**Through road within 30 feet**	**Restrictive fencing and monitor**
P33-14201	**Through road within 90 feet**	**Restrictive fencing and monitor**
P33-14202	**Distance to stub road not identified**	**Monitor and possible fencing**
P33-14204	**Alongside existing through road**	**Restrict through road to existing width, possible fencing and monitoring**
P33-14208	**Pole within 200 feet**	**Restrictive fencing and monitor**
P33-14388	**Substation within 50 feet**	**Restrictive fencing and monitor**

* All measurement taken from site sketch maps in Confidential Appendix Volume II, from text description in the cultural resource inventory report, or Map V-1 in Confidential Appendix Volume II.

Even before Hoover Dam was finished, the CRA was begun. It was constructed between 1933 and 1941 by the MWD which was formed by thirteen southern California cities. The CRA ran 242 miles over mountains and across deserts to deliver water from the Colorado River at Parker Dam to Lake Mathews in western Riverside County, from which it was distributed to the MWD member cities. At the time of completion, the CRA was one of the largest water conveyance systems in the world. The American Society of Civil Engineers designated the CRA a National Historic Civil Engineering Landmark in 1995. The CRA was also an important economic boon to the region. As a huge public works project, it employed over 35,000 people. With up to 10,000 workers on the payroll at a time, the CRAt provided Southern Californians with their best opportunity for employment during the hard times of the Depression (NPS HAER, 1998).

Southern California's need for water played a vital role in Congress's approving the construction of Hoover (Boulder) Dam. To get that approval in 1928, the Bureau of Reclamation had to prove that the dam would be economically feasible—that it would pay for itself by selling the power it produced. The Metropolitan Water District, already

anticipating that the aqueduct they were planning would use electricity from the dam to power its pumps, promised to purchase one-third of the power that the Hoover Dam would produce (NPS HAER 1998). Thus the CRA is associated with the construction of Hoover Dam and also with the national drive of the Federal government to construct large-scale water control and power projects in the 1930s, both of which made significant contributions to the broad patterns of regional and national history.

Throughout the twentieth century, California has evolved and implemented a comprehensive agenda to provide water for agricultural and residential growth and development in the semi-arid parts of the state. This has entailed the building and operation of many large-scale public works to impound and move water from where it is abundant and to distribute it to where it is scarce. The CRA is associated with this continuing state-wide policy of developing public works programs to control and redistribute water in the state. This policy has made a significant contribution to the broad pattern of twentieth-century agricultural and economic development in the state.

Securing enough water to ensure that Los Angeles and San Diego would continue to grow and prosper throughout the twentieth century, and beyond, was the goal of three generations of planners and engineers in the Metropolitan Water District (NPS HAER 1998). The CRA is their crowning achievement. It is associated with southern California's post-war population and development boom, which made a significant contribution to the state trend of increasing political dominance by the southern part of the state, and to the national pattern of population redistribution to the coasts and to the southern part of the country in the mid-to-late twentieth-century.

The CRA is a resource which consists of many miles of canals, conduits, tunnels, siphons, pumping plants, reservoirs, water pipes, and a 230 kV electrical transmission system, all of which had to be built. The construction of the Aqueduct system encompassed both proven construction techniques and innovations which changed how later projects would be done. The construction methods for the dams, conduits, tunnels, pumping plants, water pipes, and the 230 kV electrical transmission system were typical and characteristic of the period, but in the construction of the canals and siphons, the CRA system contributed two new techniques. The first was a way to speed up the process of lining the excavated canals with concrete, which had previously been done by hand. A machine, newly devised for the Aqueduct's canal construction and known as a "canal liner" (also called "canal paver") ran on tracks on the sides of the canal and distributed and leveled concrete to the canal's final dimensions as it moved down the length of the canal. The second was the building of one of the siphons, the Little Morongo Canyon siphon, by assembling short, 12-foot-diameter sections of concrete pipe, pre-cast off-site. All the other system siphons were formed of reinforced concrete in place, but the Little Morongo siphon was an experiment. Its success resulted in the extensive use of pre-cast concrete pipe sections in the MWD distribution system downstream of the CRA.

The system's pumps were also innovative in their efficiency. They had to lift more water higher than the pumps of any other water conveyance system in existence at the time, and the final pump specifications, optimized by two years of testing at the California Institute of Technology, produced pumps of unprecedented efficiency.

The CRA system in its construction period could claim two distinctions. One, which has endured to this day, was that the excavation for Parker Dam was the deepest for any dam ever. The other distinction was that no other aqueduct project at that time had involved construction on such a large scale (NPS HAER 1998).

Western, BLM, and Energy Commission staff agree that the CRA is eligible for the NRHP, at the state level of significance, under criterion A, and for the CRHR, under criterion 1, for its historic association with Hoover Dam, with the broad pattern of water control and redistribution that is characteristic of California's twentieth-century water policy, and with the post-war urban development and population boom of southern California. The period of significance for criterion A/1 is 1941-2001, representing the period from the opening of the aqueduct to the time when the amount of water California was allowed to take from the Colorado River was reduced significantly. Western, BLM, and Energy Commission staff also agree that the Aqueduct further meets the eligibility requirements for the NRHP, under criterion C, and for the CRHR, under criterion 3, as embodying the distinctive characteristics of a method of construction, that for building dams, tunnels, and canals in the 1920s and 1930s, an era when construction was transformed by the increasing replacement of animal and hand labor with machine labor, which is evidenced on the CRA project. The period of significance for criterion C/3 is 1933 through 1941, from the beginning of the construction through the end of the construction. The aqueduct maintains its integrity of location, design, setting, feeling, and association.

The transmission line project proposes to connect to the substation at the Julian Hinds Pumping Plant. All alterations would occur to the Julian Hinds substation on the south side of the aqueduct. This substation is associated with the Julian Hinds-to-Mirage 230 kV transmission line. It is not the original Julian Hinds Substation (north of the aqueduct) that was built as part of the 230 kV transmission system to power the CRA.

The Julian Hinds-to-Mirage 230 kV transmission line was constructed in 1945. Portions of the substation have been subsequently altered by moving the rack in 1958. Also, the first pole outside of the substation was changed to a lattice pole in 1958.

The proposed substation and BJHTL line would not alter any of the historic fabric of the CRA. The BJHTL would alter the integrity of the setting, feeling and association of this portion of the CRA by introducing a new substation, a new transmission line, and a new access road, placing new elements in the setting of the CRA on the south side. Although the new power line and substation would change the setting, those new elements would be consistent with the industrial nature of the CRA. Setting and association were not characterized as important aspects of integrity in the HAER recording of the CRA, and the changes in setting, feeling, and association would be small in relation to the entire 242-mile-long resource. Under Federal regulations the proposed project would not change any of the character-defining elements of the CRA, and would not affect the property adversely. Under CEQA, the changes to the setting, feeling, and association would not materially impair the eligibility of the resource, and do not represent a significant change to the environment. Mitigation would be limited to preparing a photographic record of the setting of this portion of the CRA prior to the start of construction. The recordation would be part of a treatment plan under the

requirements of the PA and the treatment plan would be part of the Cultural Resources Monitoring and Mitigation Plan (CRMMP) required in the Conditions of Certification.

The North Chuckwalla Mountains Petroglyph District (District), CA-Riv-1383/CA-Riv-991, is a National Register-listed resource/property. The National Register Nomination Form prepared in 1981 states that the District is eligible under criteria C and D. The form contains a section on Native American significance discussing the relationship between petroglyph sites and traditional practices maintained by Native American groups and individuals. Petroglyph sites may be associated with religious practices and may be significant in the continuation of the culture. In such a case, the setting, feeling and association (aspects of integrity) would be part of the character defining attributes and important in the eligibility of the District. Changes in these aspects of integrity could be critical to their eligibility to the NRHP and the CRHP.

The District would be impacted/affected by the project. The transmission line, spur roads, and poles were originally planned to be within the boundaries of the District. The pole locations have been changed so that the poles and spur roads are outside of the District boundary. The conductor would still pass through the District, and the poles would be adjacent to the District boundary. The Devers to Palo Verde power line already crosses the District and has a tower within it. The proposed BJHTL would cause further alteration of the setting, feeling, and association. The changes in the pole and spur road locations would lessen the impact/effect to this District. This change in the alignment is consistent with comments received from Native American tribes regarding this sensitive resource. These changes are also consistent with the BLM's cultural resources goals for the California Desert Conservation Area (CDCA) Alligator Rock ACEC.

Under Federal regulations and the stipulations of the PA, the alteration of the North Chuckwalla Mountains Petroglyph District would be an adverse impact. The realignment of the transmission line is consistent with the recommendations of Native American tribes. The realignment of the transmission line reduces the effect to no adverse effect in accordance with the provision of the PA and the regulations. The realignment is consistent with the BLM CDCA element goals. It is also consistent with the goals of the BLM ACEC. The project owner has indicated that they would assist BLM with the installation of gates on some spur roads (not routes of travel designated by BLM as open and available for public use) to limit access to the district. This would allow the BLM to advance the goals of the ACEC by adding further protection to the district, and it would assist in diminishing overall impacts to the district. Details of the location and number of gates would be part of the Cultural Resources Monitoring and Mitigation Plan required by the Conditions of Certification and the Historic Property Treatment Plan required by the PA.

Using the CEQA guidelines, the addition of the conductor through the district and the placement of poles in close proximity to the district would be an impact/effect because it would add a non-contributing element to the district and would create a change in alter the resource and important characteristics of the resource, it would not materially impair the eligibility of the resource. The addition of gates to limit vehicular access to the district should diminish overall impacts to the district and would be an appropriate

mitigation measure. Details of the location and number of gates would be provided as part of a treatment plan as part of the CRMMP.

The project owner has suggested that CA-Riv-1821 and CA-Riv-1822 may be portions of a single site and appear to be deposited within the same time period. The sites have undergone eolian erosion and deposition of modern trash. The erosion has revealed additional constituents of the deposit, including a more complex lithic scatter, three hearth features, and habitation debris (G&B 2005d, MJ&S 2005c). Western, BLM, and Energy Commission staff visited these sites and found that the complexity of these sites is typical of sites that can provide important information about prehistory. Western, BLM, and the Energy Commission staff agree that CA-Riv-1821 and CA-Riv-1822 meet the eligibility requirements for the NRHP, under criterion D, and for the CRHR, under criterion 4. The through road has been graded through CA-Riv-1821 and CA-Riv-1822. If the through roads can be used without further grading or widening, avoidance additional impacts by using this road to the sites may be accomplished by fencing and monitoring. The spur road that crosses the site would need to be micro sited to an area outside of the sites. It may be necessary to mirco site one tower to allow sufficient construction area outside of the site boundary. If additional grading or widening would be required or micro siting would not be possible, then data recovery would be required. Details of all required treatments would be part of a treatment plan as required by the PA and the treatment plan would become part of the CRMMP. If data recovery is required, this would mitigate the impact to less than significant.

Western, BLM, and Energy Commission staff visited several other sites, reviewed information provided by the project owner, and determined that there was not a sufficient change in information gathered in the current survey to reconsider the eligibility of the following sites: CA-Riv-673T, CA-Riv-1018, CA-Riv-1115, CA-Riv-1635H, CA-Riv-1811, CA-Riv-1817, CA-Riv-1819, and CA-Riv-7127H. These sites are determined to not meet the minimum eligibility requirements for either the NRHP or the CRHR under any of the criteria.

Other sites that Western, BLM, and Energy Commission staff visited included CA-Riv-343T(c), P33-13593, P33-13596, P33-13597, P33-13598, P33-13599, P33-13648, P33-14146, P33-14152, P33-14153, P33-14154, P33-14168, P33-14170, P33-14171, P33-14173, P33-14199, and P33-14207. Staff reviewed information provided by the project owner and determined that there was not sufficient complexity or integrity in these resources that they would meet the minimum eligibility requirements for either the NRHP or the CRHR under any of the criteria.

Table 5 lists all sites that Western, BLM, and Energy Commission staff have reviewed and determined that they do not meet the minimum eligibility requirements for either the NRHP or the CRHR under any of the criteria. These resources will not be discussed further in this analysis.

Buck-to-Devers Palo Verde Midpoint Substation Transmission Line

The resources within the IA/APE for this portion of the project are CA-Riv-343T(c), CA-Riv-673T, CA-Riv-775T, CA-Riv-7127H, P33-14173, P33-14174, P33-14199, and P33-14387. CA-Riv-343T(c), CA-Riv-673T, CA-Riv-7127H, P33-14173, P33-14199, and

P33-14387 were determined to not meet the minimum eligibility requirement for either the NRHP or the CRHR under any of the criteria (Table 5). These resources will not be discussed further in this analysis.

Desert Center Lay Down Area

No cultural resources were identified within this area, consequently there are no eligible resources in this area.

Table 5: Cultural Resource Sites Affected by the Blythe Energy Transmission Project and Determined Ineligible for the NRHP or the CRHR

SITE No.	AFFECT	ELIGIBILITY
CA-Riv-343T(c)	Existing through road; proposed Stub Road	Does not meet minimum requirements
CA- Riv-673T	Existing through road	Previously determined not eligible
CA- Riv-1018	Existing through road; proposed Stub Road	Previously determined not eligible
CA- Riv-1115	Existing through road on margin	Previously determined not eligible
CA- Riv-1635H	Existing through road on margin	Previously determined not eligible
CA- Riv-1811	Existing through road; proposed Structure & Stub Road	Previously determined not eligible
CA- Riv-1817	Existing through road	Previously determined not eligible
CA- Riv-1819	Existing through road; proposed Structure & Stub Road	Previously determined not eligible
CA-Riv-7127H	Transmission line crosses and parallels	Previously determined not eligible
P33-13593	Existing through road	Does not meet minimum requirements
P33-13596	Existing through road; proposed Spur Road	Does not meet minimum requirements
P33-13597	Proposed Spur Road	Does not meet minimum requirements
P33-13598	Existing through road and intersection Wiley Well Road; proposed Structure	Does not meet minimum requirements
P33-13599	Existing through road; proposed Structure	Does not meet minimum requirements
P33-13648	Existing through road & Stub Road; proposed Structure and Stub Road	Does not meet minimum requirements
P33-14146	Existing through road	Does not meet minimum requirements
P33-14152	Existing through road; proposed Structure & Stub Road	Does not meet minimum requirements
P33-14153	Existing through road; proposed Structure & Stub Road	Does not meet minimum requirements
P33-14154	Existing through road	Does not meet minimum requirements
P33-14168	Existing through road; proposed Structure	Does not meet minimum requirements
P33-14170	Existing through road	Does not meet minimum requirements
P33-14171	Existing through road	Does not meet minimum requirements
P33-14173	Existing through road; proposed Structure & Stub Road	Does not meet minimum requirements
P33-14199	Proposed Structure and Stub Road	Does not meet minimum requirements
P33-14207	Existing through road	Does not meet minimum requirements
P33-14387	Mid Point Substation	Does not meet minimum requirements

CUMULATIVE IMPACTS AND MITIGATION

At least two other transmission lines are proposed along this corridor, the Devers to Palo Verde II (DPV II) and the Desert-Southwest Transmission Line (DSWTL). Both of these projects are in earlier planning stages than the current project. The preferred

alternatives for the DPV II and DSWTL are roughly parallel to the proposed project and many of the same resources would be involved in all of the projects. If resources are impacted where the values can be fully recovered through data recovery or other recordation (photography, drawings, and descriptive history), the cumulative impact of the projects would not be significant. However, the design of both of these transmission lines locates poles and conductors within the District. With the addition of these two transmission lines in the proposed alignments, there would be significant changes in the setting, feeling and association. The current design of these projects would result in a significant cumulative impact to the District.

If avoidance measures can be instituted on the DPV II and DSWTL such as moving the poles outside of the District and moving the alignment near to the northern or southern boundary of the District, then cumulative impacts would not have a significant cumulative impact. The proposed project has modified its alignment to minimize impacts to this sensitive resource. The cumulative impact could be reduced to less than significant if all projects used the same roads, and if a single transmission line could transmit the power required by the three projects in the proposed BJHTL alignment where it crosses the District.

COMPLIANCE WITH LORS

FEDERAL REGULATIONS

Federal agencies are required to comply with the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act and the implementing regulations 36 CFR Part 800, the Federal Land Policy and Management Act, the Federal Guidelines for Historic Preservation Projects, Executive Order 11593, the American Indian Religious Freedom Act, and the Native American Graves Protection and Repatriation Act. The Federal agencies involved in this project will require the project owner to complete sufficient work for the agency to fulfill their duties under each of the acts and their implementing regulations. Federal agencies have begun consultation with Native American tribes to fulfill their obligations under several laws to ensure that cultural resources are identified and that Native American religious practices, ethnic heritage sites, and land uses are not adversely impacted. Under Section 106, the Federal agencies are preparing to implement a Programmatic Agreement with the California State Historic Preservation Officer, the project owner, and several Native American tribes, prescribing the process for taking into account the effects of the proposed project. The PA is expected to be signed by all participating parties prior to approval of the project. The execution and implementation of the PA would reduce impacts to less than significant for the purposes of the NEPA.

AREA OF CRITICAL ENVIRONMENTAL CONCERN

The transmission line would pass through the Alligator Rock ACEC. The project owner has modified the project to minimize impacts to important resources within the ACEC. In addition, the project owner has committed to working with the BLM to install and maintain gates to restrict vehicular traffic to sensitive areas. This would assist in fulfilling goals of the ACEC.

COUNTY OF RIVERSIDE GENERAL PLAN

The County of Riverside General Plan requires review of all proposed development in the county, confidentiality of sensitive resource information, a written Native American statement as part of the review process, review of impacts and mitigation measures, enforcement of the historic building code, allocation of resources and tax credits when possible, the use of approved consultants, and the execution of a Memorandum of Understanding (MOU) between the consultant and the County. The MOU requires the submittal of notification to the County that the consultant will be preparing an archeological report, the use of a standard format for the report, and submission of the consultant's report to the County before or at the same time as the project sponsor (project owner). The County of Riverside also requires that the archeologist conducting the work is approved by the County. Mooney and Associates, the cultural resources consultant conducting the cultural resource studies for the transmission line project is on the County's approved list of consultants. To ensure that the County LORS are met, the Energy Commission conditions of certification will require that reports are provided to the County in a timely manner.

RESPONSE TO PUBLIC AND AGENCY COMMENTS

No comments were received.

CONCLUSIONS

Various types of cultural resources exist within the impact area/Area of Potential Effects of the project. A current comprehensive survey and recording of the cultural resources in the IA/APE has been completed. Resources that are eligible for either the NRHP or the CRHR and that cannot be avoided have been identified, and mitigation measures have been identified. The Cultural Resources Monitoring and Mitigation Plan (**CUL-17**) will identify culturally sensitive locations and mitigation measures that will be taken to avoid significant impacts to the resources involved in this proposed project.

Condition of certification, **CUL 16**, is required to ensure that the County of Riverside's standards are met. **CUL-17** requires the development of a Cultural Resources Monitoring and Mitigation Plan (CRMMP) that details the methods that would be employed to ensure the avoidance of cultural resources and implementation of mitigation measures. **CUL-18** requires copies of documents and correspondence that demonstrates the project's compliance with Federal LORS. **CUL-19** requires monitoring and recording information on a monitoring log and summaries of monitoring activities. It also requires notification of any non compliance issues and summaries of actions taken to resolve those issues. Native Americans expressed concern about the resources and how they would be avoided. **CUL-20** requires a Native American monitor in areas where resources important to Native Americans might be encountered.

Condition of certification **CUL-1** will need to be modified to include the qualifications of monitors. Condition **CUL-5** will have to be modified to include known resources that might be impacted in a previously unanticipated manner and to require that the CPM approves mitigation measures. The requirement in **CUL-6** that Western submit the

research design and scope of work to the CA SHPO will be deleted because the Energy Commission can not require Western to comply with the conditions of certification. **CUL-7** will be modified to require the Cultural Resources Report (CRR) to include all cultural resources activities. In addition, the requirement that Western submit the CRR to the CA SHPO will be deleted because the Energy Commission can not require Western to comply with the conditions of certification.

PROPOSED CONDITIONS OF CERTIFICATION

The Blythe Energy Power Plant Project was certified March 21, 2001 with conditions **CUL-1** through **CUL-8**. On August 14, 2002, the project was amended and condition **CUL-7** was modified and conditions **CUL-9** through **CUL-15** were added. Conditions of certification **CUL-1, CUL-5** and **CUL-7** will be modified as noted above. **CUL-6** will be deleted because these requirements are now covered under **CUL-5**. **CUL-2** through **CUL-4** and **CUL-8** through **CUL-15** shall still apply to the project. **CUL-16** through **CUL-20** are added.

Modify the following Cultural Resource Conditions
(Additional shown underlined, deletions shown with strikeouts)

CUL-1 Prior to the start of construction-related vegetation clearance, or earth disturbing activities or project site preparation; or the movement or parking of heavy equipment onto or over the project surface, the project owner shall provide the California Energy Commission (Energy Commission) Compliance Project Manager (CPM) with the name and statement of qualifications for its designated cultural resource specialist and alternate cultural resource specialist, if an alternate is proposed, who will be responsible for implementation of all cultural resources conditions of certification.

Protocol: The statement of qualifications for the designated cultural resource specialist and alternate shall include all information needed to demonstrate that the specialist meets at least the minimum qualifications specified by the National Park Service, Heritage Preservation Services. The CRS must be able to obtain a BLM cultural resources permit and field authorization.

~~Alternatively, the archeologist shall be qualified by the Register of Professional Archaeologists (RPA).~~ The minimum qualifications include the following:

1. a graduate degree in archeology, cultural resource management, or a comparable field;

2. at least three years of archeological resource evaluation, management, impact mitigation and field experience in California; and

3. at least one year's experience in each of the following areas:
   a. leading archeological resource field surveys;

   b. leading site and artifact mapping, recording, and recovery operations;

c. marshaling and use of equipment necessary for cultural resource recovery and testing;

d. preparing recovered materials for analysis and identification;

e. determining the need for appropriate sampling and/or testing in the field and in the laboratory;

f. directing the analyses of mapped and recovered artifacts of both Native American and historical origin;

g. completing the identification and inventory of recovered cultural resource materials; and

h. preparing appropriate reports to be filed with the receiving curation repository, the State Historic Preservation Officer (SHPO), and all appropriate regional information center(s) CHRIS.

The statement of qualifications for the designated cultural resource specialist shall include:

1. a list of specific projects the specialist has previously directed;

2. the role and responsibilities of the specialist for each project listed; and

3. the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.

In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM, that the proposed CRS or alternate has the appropriate training and background to effectively implement the conditions of certification. If the designated specialist does not intend to personally supervise all surveys, studies, monitoring, or excavations, the principal shall designate the name and qualifications of a comparably qualified alternate cultural resource specialist. The specialist shall also provide the names and qualifications of any potential consultants such as historian or architectural historian who may participate.

Cultural Resources Monitors (CRMs) shall have the following qualifications:

1. a BS or BA degree in anthropology, archeology, historic archeology or a related field and one year experience monitoring in California; or

2. an AS or AA degree in anthropology, archeology, historic archeology or a related field and four years experience monitoring in California; or

3. enrollment in upper division classes pursuing a degree in the fields of anthropology, archeology, historic archeology or a related field and two years of monitoring experience in California.

Verification: At least ninety (90) days prior to the start of construction-related vegetation clearance, or earth-disturbing activities or project site preparation, or the

movement or parking of heavy equipment onto or over the project surface, the project owner shall submit the name and statement of qualifications of its designated cultural resource specialist and alternate cultural resource specialist, if an alternate is proposed, to the CPM for review and approval. The CPM may rescind approval of a CRS at any time if the CRS fails to carry out the duties required in the conditions of certification.

At least ten (10) days but no more than thirty (30) days prior to the start of any ground-disturbing action, the project owner shall confirm in writing to the CPM that the approved designated cultural resource specialist will be available at the start of earth-disturbing activities and is prepared to implement the cultural resources conditions of certification.

At least ten (10) days prior to the start of any ground-disturbing action, the project owner shall provide copies of the BLM cultural resources permit and field authorization provided to the CPM.

At least 20 days prior to ground disturbance, the CRS shall provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resource monitoring required by this condition. If additional CRMs are obtained during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to the qualifications of the CRM, at least five days prior to the CRM beginning on-site duties. At least 10 days prior to beginning tasks, the resume(s) of any additional technical specialists shall be provided to the CPM for review and approval.

At least ten (10) days prior to the termination or release of a designated cultural resource specialist or field director, the project owner shall obtain CPM approval of the replacement professionals by submitting to the CPM the name and resume of the proposed new designated individuals.

CUL-5 ~~The designated cultural resource specialist shall be available at all times to respond within 24 hours after pre-construction or construction activities have been halted due to the discovery of a cultural resource(s) The specialist, or representative of the project owner shall have the authority to halt or redirect construction activities if previously undiscovered cultural resource materials are encountered during vegetation clearance or earth disturbing activities or project site preparation or construction~~ .The project owner shall grant authority to halt construction to the CRS, alternate CRS and the CRMs in the event previously unknown cultural resource sites or materials are encountered, or if known resources may be impacted in a previously unanticipated manner (discovery). Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

~~The specialist, or representative of the project owner shall have the authority to halt or redirect construction activities if previously undiscovered cultural resource materials are encountered during vegetation clearance or earth disturbing activities or project site preparation or construction.~~ In the event cultural resources are found or impacts can be anticipated, the halting or redirection of construction shall remain in effect until all of the following have occurred:

~~If such resources are discovered, the designated cultural resource specialist shall be notified and the project owner or project owner's representative shall halt construction in the immediate area in order to protect the discovery from further damage; project construction may continue elsewhere on the project.~~

~~If such resources are found, the specialist shall contact the CPM and Western's archeologist as soon as possible for a determination of significance.~~

~~If such resources are found and the CPM and/or Western's archeologist determines that they are or may be significant, the halting or redirection of construction shall remain in effect until:~~

1. The CRS has notified the project owner, and the CPM, Western's archeologist and BLM's archeologist (if the discovery is on BLM administered lands) has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e. work stoppage or redirection), a recommendation of eligibility and recommendations for mitigation of any cultural resources discoveries whether or not a determination of significance has been made.

2. the specialist, the project owner, and the CPM have conferred and the CPM, Western's archeologist and BLM's archeologist (if the discovery is on BLM administered lands) have determined what, if any, data recovery or other mitigation is needed; and

3. any needed data recovery and mitigation has been completed.

~~The designated cultural resources specialist, the project owner, and the CPM shall confer within five working days of the notification of the CPM to determine what, if any, data recovery or other mitigation is needed.~~

~~If data recovery or other mitigation measures are required, the designated cultural resource specialist and team members shall monitor construction activities and implement the agreed upon data recovery and mitigation measures, as needed.~~

~~All required data recovery and mitigation shall be completed expeditiously unless all parties agree to additional time. Western will report any discovery to the State Historic Preservation Officer as part of Western's responsibilities under Section 106.~~

Verification: Thirty (30) days prior to the start of vegetation clearance or earth disturbing activities or project site preparation, the project owner shall provide the CPM and Western's archeologist with a letter confirming that the designated cultural resources specialist has the authority to halt construction activities in the vicinity of a cultural resource~~s finds~~ discovery and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural

resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning.

CUL-7 The project owner shall ensure that the designated cultural resources specialist prepares a report on ~~any discovery~~ all ~~of~~ cultural resources ~~activities for the project~~. The CRR shall be written by the CRS and shall be provided in the ARMR format. The project owner shall submit the Cultural Resources Report (CRR) to Western and the CPM for review and written approval. The CRR shall report on all field activities including dates, times and locations, findings, samplings and analysis. All survey reports, Department of Parks and Recreation (DPR) 523 forms and additional research reports not previously submitted to the California Historic Resource Information System (CHRIS) shall be included as an appendix to the CRR.

~~The CRR shall include (but not be limited to) the following:~~

~~1. A brief description of pre-project literature search and surveys;~~

~~2. A description of the cultural resource(s) that could be affected by the project;~~

~~3. A description of the process used to arrive at a determination of significance;~~

~~4. A discussion of the research questions that the recovered data could address or answer;~~

~~5. A description of the methods employed in the field and laboratory to complete data recovery efforts;~~

~~6. A description (including drawings and/or photos) of recovered cultural materials;~~

~~7. An inventory list of recovered cultural resource materials;~~

~~8. Results and findings of any special analyses conducted on recovered cultural resource materials, including an interpretation of the site in regards to any research design prepared prior to the data recovery;~~

~~9. Conclusions and recommendations;~~

~~10. Maps (7.5 minute USGS topographic map) showing the area involved in the data recovery;~~

~~11. Copies of completed DPR 523 forms, including photos, maps, and drawings; and~~

~~12. The name and location of the public repository that has agreed to receive the recovered cultural resources for curation.~~

Verification: The project owner shall ensure that the designated CRS completes the CRR within ninety (90) days following completion of ~~the analysis of the recovered cultural materials~~ ground disturbance (including landscaping). Within 10 days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the SHPO, the CHRIS and the curating institution (if archeological materials were collected). ~~seven (7) days after completion of the report, the project owner shall submit the CRR to Western and the CPM for review and written approval. Reports previously submitted to the Energy Commission and approved in compliance with other conditions of certification and copies provided to the CHRIS may be incorporated by reference.~~

Add the following Cultural Resource Conditions:

CUL-16 The project owner shall provide the County of Riverside with all cultural resources (archeological, historic, ethnographic) confidential and non-confidential reports completed for the siting phase of BEPI and any amendments to BEPI. Any cultural resources draft documents shall be provided to the County of Riverside for review and comment prior to submission to Western Area Power Administration and the CPM.

Verification: Within two weeks of certification, the project owner shall provide the County of Riverside with copies of all final cultural resources reports, both confidential and non-confidential, prepared for BEP I and its amendments. During the construction phase of the project, any cultural resources reports prepared for the project shall be provided to the County of Riverside, Western, and the CPM for approval. If a report is a draft, the County of Riverside shall have a 30-day period to provide comments to the project owner. After the comment period has expired the cultural resources reports and any county comments received by the project owner regarding a cultural resources report shall be provided to the CPM and Western.

CUL-17 Prior to the start of ground disturbance, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by or overseen by the CRS, to the CPM for approval. The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, each monitor, and the project owner's on-site manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless specifically approved by the CPM.

The CRMMP shall include, but not be limited to, the following elements and measures.

1. A proposed research design that includes research questions and testable hypotheses applicable to the project area. A refined research design will be prepared for any resource where data recovery is required. A programmatic treatment plan may be included in the CRMMP for limited resources types.

2. The Cultural Resources Conditions of Certification shall be attached as an appendix to the CRRMP, and the following statement shall be added to the Introduction: Any discussion, summary, or paraphrasing of the conditions in this CRMMP is intended as general guidance and as an aid to the user in understanding the conditions and their implementation. If there appears to be a discrepancy between the conditions and the way in which they have been summarized, described, or interpreted in the CRMMP, the conditions, as written in the Final Decision, supercede any interpretation of the conditions in the CRMMP.

3. Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during ground disturbance, construction, and post-construction analysis phases of the project.

4. Identification of the person(s) expected to perform each of the tasks, their responsibilities; and the reporting relationships between project construction management and the mitigation and monitoring team.

5. A description of the manner in which Native American observers or monitors will be included, the procedures to be used to select them, and their role and responsibilities.

6. A description of all avoidance measures (such as flagging or fencing) and archeological monitoring to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and identification of areas where these measures are to be implemented. The discussion shall address how these measures would be implemented prior to the start of construction and how long they would be needed to protect the resources from project-related effects.

7. A treatment plan (including schedules) that shall provide details of the mitigation measures to be implemented for the following impacts:

    a. changes in setting for the Colorado River Aqueduct (recording and photographic recordation),

    b. limiting vehicular access to CA-Riv-1383/-991 (locations and number of gates), and

    c. data recovery plan for CA-Riv-1821/-1822.

8. A statement that all cultural resources encountered shall be recorded on a DPR Form 523 and mapped (may include photos). In addition, all archeological materials collected as a result of the archeological investigations (survey, testing, data recovery) shall be curated in accordance with the State Historical Resources Commission's "Guidelines for the Curation of Archeological Collections," into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of

cultural resources set forth at Title 36 of the Federal Code of Regulations, Part 79.

9. If archeological materials are to be curated, the name and phone number of the contact person at the institution shall be provided. A statement shall be included that the project owner will pay all curation fees and state that any agreements concerning curation will be retained and available for audit for the life of the project. Also provide a statement that all collections shall be prepared in accordance with the specifications and requirements of the curatorial facility.

10. A statement that the designated specialist has access to equipment and supplies necessary for site mapping, photographing, and recovering to fulfill CUL-17, item 7, and any cultural resource materials encountered during construction.

11. A description of the contents and format of the Cultural Resources Report which shall be prepared according to Archaeological Resource Management Report (ARMR) Guidelines.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall submit the subject CRMMP. Per ARMR Guidelines the author's name shall appear on the title page of the CRMMP. Ground disturbance activities may not commence until the CRMMP is approved, unless specifically approved by the CPM. A letter shall be provided to the CPM indicating that the project owner would pay curation fees for any materials collected as a result of the archeological investigations (survey, testing, data recovery).

Within one week following the preparation of any DPR Form 523s for this project, they shall be submitted to the CPM for review and approval.

CUL-18 During the construction and operation phases of the project, the project owner shall ensure that copies of documents or correspondence between the project owner and Federal agencies that address the project's compliance with Section 106 of the National Historic Preservation Act shall be provided to the CPM.

Verification: Within two weeks of receiving or generating a document or correspondence that demonstrates or discusses the project's compliance with Section 106, the project owner shall provide a copy of the document or correspondence to the CPM.

CUL-19 The project owner shall ensure that the CRS, alternate CRS, or CRMs shall monitor ground disturbance (including grading and landscaping) full-time in the vicinity of the project site and linears, and ground disturbance at laydown or other ancillary areas, to ensure there are no impacts to undiscovered cultural resources and to ensure that known cultural resources are not impacted in an unanticipated manner. In the event that the CRS determines that full-time monitoring is not necessary in certain locations, a letter or e-mail providing a detailed justification for the decision to reduce the level of monitoring shall be

provided to the CPM for review and approval at least 24 hours prior to any reduction in monitoring.

On forms provided by the CPM, CRMs shall keep a daily log of any monitoring, any other cultural resources activities, and any instances of non-compliance with the conditions of certification and/or applicable LORS. Copies of the daily logs shall be provided to the CPM by the CRS as directed by the CPM. In addition, the CRS shall use these logs to compile a monthly summary report on the progress or status of cultural resources-related activities. If there are no monitoring activities, the summary report shall specify why no monitoring is occurring. The CRS, at his or her discretion or at the request of the Energy Commission technical staff, shall informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff.

Cultural resources monitoring activities are the responsibility of the CRS. Decisions of the CRS must be made independent of the project owner or construction team. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these conditions of certification.

The CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours of any incidents of non-compliance with the Cultural Resources conditions of certification and/or applicable LORS, upon becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the conditions of certification. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR.

Verification: At least 30 days prior to the start of ground disturbance, the CPM will provide to the CRS reproducible copies of forms to be used as daily monitoring logs. Each day that no discoveries are made under CUL-5, the CRS shall provide a statement that “no cultural resources were discovered” to the CPM as an email or in some other form acceptable to the CPM. This notification will not be necessary during suspensions of construction or when construction is concluded. While monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS. Copies of daily logs shall be retained by the project owner on-site during construction.

CUL-20 A Native American monitor or monitors shall be obtained to monitor ground disturbance (including grading and landscaping) in areas where Native American artifacts may be discovered. Informational lists of concerned Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor or monitors shall be given to Native Americans with traditional ties to the area that shall be monitored.

Verification: At least one (1) week prior to ground disturbance in areas where there is a potential to discover Native American artifacts, the project owner shall send

notification to the CPM identifying the person(s) retained to conduct Native American monitoring. The project owner shall also provide a plan identifying the proposed monitoring schedule and information explaining how Native Americans who wish to provide comments will be allowed to comment. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. The CPM will either identify potential monitors or will allow ground disturbance to proceed without a Native American monitor.

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Appendix 1

DRAFT
PROGRAMMATIC AGREEMENT
AMONG THEWESTERN AREA POWER ADMINISTRATION, THE UNITED STATES BUREAU OF LAND MANAGEMENT, PALM SPRINGS AND SOUTH COAST FIELD OFFICES, AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE BLYTHE ENERGY TRANSMISSION PROJECT

WHEREAS, the BLM manages the public lands in the California Desert in accordance with the 1980 California Desert Conservation Area Plan (CDCA Plan), as amended, and the CDCA Plan designates Energy Production and Utility Corridors (CDCA Plan, Map 16) appropriate for the development and installation of electrical transmission and other utility lines across said public lands, and Blythe Energy, LLC (Applicant) proposes to utilize certain utility corridors so designated; and

WHEREAS, the Western Area Power Administration (Western) intends to provide the interconnection to the Applicant for the Blythe Energy Transmission Project (Project) and the United States Bureau of Land Management, Palm Springs and South Coast Field Offices (BLM) would issue rights-of-way (ROW) for Project transmission lines and associated access, and Western and the BLM, pursuant to 36 CFR § 800.2(a)(2), designate Western as the lead Federal agency for the purpose of compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, and its implementing regulations at 36 CFR Part 800; and

WHEREAS, Western finds that the construction, operation, and maintenance of the Project (Undertaking) may adversely affect historic properties; and

WHEREAS, Western has consulted with the California State Historic Preservation Officer (SHPO), pursuant to 36 CFR § 800.14(b)(3), because the effects of the Undertaking's implementation on historic properties cannot be fully determined prior to the Undertaking's approval, is yet in the process of considering different alternatives for the Project that each may have the potential to adversely affect historic properties, and chooses to conclude its assessment of the Undertaking's potential adverse effect and resolve any such effect through the implementation of this Programmatic Agreement (PA); and

WHEREAS, Western has notified the Advisory Council on Historic Preservation (Council) pursuant to 36 CFR § 800.6(a)(1)(i)(C), and intends to execute this PA pursuant to 36 CFR § 800.6(b)(1,) because the Council has declined to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii-iv); and

WHEREAS, the Applicant is a private party who proposes to fund the construction of the Project and the associated costs for all actions related to this PA and has been invited to concur in this PA; and

WHEREAS, Western has consulted with the California Department of Transportation (Caltrans), which may issue ROWs to the Applicant for access to and construction of certain components of the Project, and has invited Caltrans to concur in this PA; and

WHEREAS, Southern California Edison (SCE) will authorize changes at its Julian Hinds Substation and install inset structures on its Julian Hinds-Mirage Transmission Line, and Western has invited SCE to concur in this PA; and

WHEREAS, pursuant to section 101(d)(6)(B) of the NHPA, 36 CFR 800.2(c)(2)(ii), the American Indian Religious Freedom Act (42 U.S.C. 1996; AIRFA), Executive Order 13175, and section 3(c) of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001-13; NAGPRA), Western has consulted with the Agua Caliente Band of Cahuilla Indians, Augustine Band of Cahuilla Indians, Cabazon Band of Indian Tribes, Cahuilla Band of Mission Indians, Campo Band of the Kumeyaay Indians, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Laguna Band of Mission Indians, Manzanita Band of Mission Indians, Morongo Band of Mission Indians, Torrez-Martinez Desert Cahuilla Indians, and Twenty-nine Palms Band of Mission Indians (Tribes), and has invited those Tribes expressing an interest in the Undertaking to concur in this PA, with the further understanding that, notwithstanding any decision by these Tribes to decline concurrence, Western shall continue to consult with these Tribes throughout the implementation of this PA;

NOW, THEREFORE, Western, the BLM, and the SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties, and that these stipulations shall govern the Undertaking and all of its parts until this PA expires or is terminated.

STIPULATIONS

Western, in cooperation with the BLM, shall ensure, irrespective of the BLM's ability to cooperate, that the following stipulations are carried out:

I. DEFINITIONS

The definitions provided at 36 CFR § 800.16 and in this stipulation are applicable throughout this PA.

"Cultural resources" means any archaeological materials and sites dating to the Prehistoric, Historic or Ethnohistoric periods that are currently located on, or are buried beneath the ground surface; standing structures that are over 50 years old; and cultural and natural places that have importance for Native Americans.

"Day," singular or plural, refers to a calendar, rather than a business, day.

"Tribes" means the 14 Tribes that Western has consulted with and invites above to concur in this PA.

II. COMPONENTS OF THE PROJECT

The Project includes the following three components:

A. BUCK TO JULIAN HINDS TRANSMISSION LINE COMPONENT

1. Installation of approximately 67.4 miles of new 230-kV transmission line between the Buck Substation located adjacent to the Blythe Energy Project (BEP) and the Julian Hinds Substation located approximately 60 miles to the west;

2. Construction of concrete, single-pole transmission line structures;

3. Upgrades to the Buck Substation to accommodate new equipment;

4. Upgrades to the Julian Hinds Substation to accommodate new equipment; and

5. Access roads and spur road construction and improvements and other ancillary facilities (construction staging/laydown areas) associated with the construction of this transmission line.

B. BUCK TO DEVERS-PALO VERDE TRANSMISSION LINE COMPONENT

1. Upgrades to the Buck Substation to accommodate new equipment;

2. Installation of approximately 6.7 miles of new 230-kV transmission line (initially operated at 161-kV) between Buck Substation and Southern California Edison's (SCE) existing D-PV1 500-kV transmission line;

3. Construction of concrete, single-pole transmission line structures;

4. Construction of a new 161-kV to 500-kV substation ("Midpoint Substation") at the point of interconnection with SCE's existing D-PV1 500-kV transmission; and

5. Access roads and spur road construction and improvements and other ancillary facilities (construction staging/laydown areas) associated with the construction of this transmission line.

C. JULIAN HINDS-MIRAGE TRANSMISSION LINE MODIFICATIONS COMPONENT

Installation of interset structures to raise the conductor due to increased electrical load.

III. STANDARDS

A. Professional Qualifications. All actions prescribed by this PA that involve the identification, evaluation, analysis, recordation, treatment, monitoring, and disposition of historic properties and that involve the reporting and

documentation of such actions in the form of reports, forms or other records, shall be carried out by or under the direct supervision of a person or persons meeting, at a minimum, the Secretary of the Interior's Professional Qualifications Standards (PQS) for archaeology, history, or architectural history, as appropriate (48 FR. 44739). However, nothing in this stipulation may be interpreted to preclude any party qualified under the terms of this paragraph from using the services of properly supervised persons who do not meet the PQS.

B. DOCUMENTATION STANDARDS. Reporting on and documenting the actions cited in paragraph A. of this stipulation shall conform to every reasonable extent with the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR. 44716-44740), as well as the California Office of Historic Preservation's Preservation Planning Bulletin Number 4(a) December 1989, *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format (ARMR Guidelines) for the Preparation and Review of Archaeological Reports*.

C. CURATION AND CURATION STANDARDS. To the extent permitted under §§ 5097.98. and 5097.991. of the California Public Resources Code, the materials and records resulting from the actions cited in paragraph A. of this stipulation shall be curated in accordance with 36 CFR Part 79. Where Federal lands are involved, all records and materials resulting from the actions cited in paragraph A. of this stipulation shall be curated in accordance with 36 CFR Part 79 and the provisions of the NAGPRA, 43 CFR Part 10, as applicable. Curation and disposition of cultural materials obtained from state-owned lands and records pertaining to cultural resources on state-owned lands will be curated with materials obtained from Federal lands. If cultural materials are recovered from private lands, Western will seek to have the materials donated through a written donation agreement to be curated with other cultural materials. Western will attempt to have all collections curated at one location.

IV. AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE) for the Undertaking is defined as follows:

A. APE DESCRIPTION. For the Buck to Julian Hinds and Buck to Devers transmission lines, the APE will be a 300-foot wide corridor (see stipulation II.A and B and attachments 1-12). The width of this corridor will not always be centered on the transmission line; in all cases it will have at least 100 feet on one side, but may be up to 200 feet on the other side in order to incorporate areas for siting new or using existing access roads. For all access roads that are located outside the APE for the transmission lines, the APE will be a 100-foot wide corridor. For all project components including, but not limited to, substations and staging areas, the APE will be the footprint of each area as well as a 200-foot buffer in all directions from the perimeter of the footprint. For the new interset structures on the existing Julian Hinds-Mirage

Transmission Line (see stipulation II.C), the APE will be 150 feet x 150 feet centered on each transmission line structure and a 100-foot wide corridor for any new access roads. For indirect effects for location, setting or cultural landscapes, the APE will be limited to .25 miles on either side of the transmission line unless consultation identifies cultural resources studies or other consultations have identified a need to expand the APE.

B. AMENDING THE APE.

1. The APE of stipulation IV.A above encompasses an area sufficient to accommodate all of the alternative project components under consideration as of the date of the execution of this PA. If Western determines in the future that unforeseen changes to the Undertaking may cause alterations in the character or use of historic properties, if any such properties exist, in a geographic area or areas beyond the extent of the original APE above, then Western shall increase the size of that APE using the process set forth in stipulation IV.B.2 below. Western may choose, conversely, to decrease the size of the subject APE to accommodate the engineering design locations of transmission line structures, access roads, substations, and other components of the Project alternative that Western ultimately selects.

2. Any signatory to this PA may propose that the APE established hereunder be modified. Western shall notify the other signatories of the proposal and consult with the proposing signatory and the other signatories for no more than 7 days to reach agreement on the proposal. If the signatories agree to the proposal, then Western will prepare a description and a map of the modification to which the signatories agree. Western will keep copies of the description and the map on file for its administrative record for the Undertaking, and distribute copies of each to the other signatories within 30 days of the day upon which agreement was reached. Upon agreement hereunder to a modification to the APE that adds a new area, Western shall follow the processes set forth in stipulations V–IX below to identify and evaluate historic properties in the new APE area, assess the effects of the Undertaking on any historic properties in the new area, and provide for the resolution of any adverse effects to such properties, known or subsequently discovered. If the signatories cannot agree to a proposal for the modification of the APE, then they will resolve the dispute in accordance with stipulation XIV below.

V. IDENTIFICATION OF HISTORIC PROPERTIES

Western, in consultation with the SHPO, the BLM, the Tribes, the Applicant, Caltrans, and the public, shall make a reasonable and good faith effort to identify historic properties in the Undertaking's APE.

A. A literature search (Class I Survey, as defined in BLM Manual 8100 Guidance) will be conducted for the present APE as defined in stipulation IV.A and for any revisions thereof. All information on the location of cultural

resources shall be treated as confidential and not released to the public or other unauthorized entity, consistent with Section 304 of the NHPA (16 U.S.C. 470w-3(a)-(c)), and Section 9 of the Archaeological Resources Protection Act of 1979 (16 U.S.C 470aa-mm), as amended.

B. In order to locate historic properties that may be affected by the Undertaking, Western shall ensure that an intensive pedestrian cultural resource survey (Class III Survey, as defined in BLM Manual 8100 Guidance) is completed of the Undertaking's APE. The pedestrian survey interval will not exceed 15 meters.

1. All prehistoric and historic sites identified during Class III inventories will be recorded on new or updated California Department of Parks and Recreation Form DPR 523 (Series 1/95), using the "Instructions for Recording Historical Resources" (Office of Historic Preservation, March 1995). The cultural resources contractor shall obtain permanent site numbers from the appropriate California Historical Resources Information System (CHRIS) Regional Information Center (RIC) and shall submit the final approved site forms to that CHRIS RIC. Permanent site numbers shall then be used in all final reports prepared pursuant to the requirements of this PA.

2. Previously unknown traditional cultural properties identified during Class III inventories and/or through consultations with Tribes may be recorded on the DPR Form 523, unless a Tribe or an individual from a Tribe objects. If such objection arises, the properties may be recorded on a form and in a manner that is in accordance with the recommendations of the Tribe or of the individual.

3. Western will ensure that a Class III Cultural Resource Inventory Report (Class III Report) is prepared to document the results of the actions prescribed by paragraphs B.1-2 of this stipulation and that the draft Class III Report is submitted concurrently by Western to the other signatories, except for the SHPO, for a 30 day review period, subject to the confidentiality requirements stipulated in this PA. Absent comments within this time frame, Western may assume the reviewing signatories' concurrence that the draft Class III Report is satisfactory. Western will provide the reviewing signatories with written documentation indicating whether and how the draft Class III Report will be modified in response to any timely comments received. Unless the reviewing signatories object to this documentation in writing to Western within 15 days following receipt, Western may finalize the draft Class III Report as it deems appropriate. Western will then send this version to the SHPO for a 30 day review period. Absent comments within this time frame, Western may assume the SHPO's concurrence that the draft Class III Report is satisfactory. The draft Class III Report will be modified based on SHPO comments, and Western will provide the reviewing signatories and the CHRIS RIC with

copies of the final Class III Report, subject to the confidentiality requirements stipulated in this PA.

C. Western shall consult with the signatories and other interested parties to develop methods for identifying sites or areas of historic or cultural value to Native American and/or other ethnic groups, and to develop mechanisms to ensure that the views of these groups are considered in Project planning, following the provisions of sections 101(d)(6)(A) and (B) of the NHPA.

VI. DETERMINATIONS OF ELIGIBILITY

A. Western will initially assume, for the purpose of the consultation that is the subject of this PA, the NRHP eligibility of any prehistoric or historic district, site, building, structure, or object (properties) in the APE. The development of the engineering design for the Project will take these properties into account and strive to avoid the majority of them.

B. Where the implementation of the Undertaking along the Project's ultimate alignment may affect a property, Western, in consultation with the signatories, shall evaluate and develop a formal determination of eligibility, pursuant to 36 CFR § 800.4(c)(1), for each such property. Western shall submit said determinations to the other signatories to this PA and, upon request, to other interested parties concurrently with and under the same review schedule for the draft Class III Report of stipulation V.B.3 above. Should a dispute arise over the subject determinations, Western shall provide the SHPO with a summary of the dispute in conjunction with Western's consultations with the SHPO below on the determinations. . After the initial comment and response periods in stipulation V.B.3 above, Western will forward formal determinations of eligibility, and any of the above dispute summaries, to the SHPO as a part of the SHPO 30 day review period under stipulation V.B.3. Absent comments within this time frame, Western may assume the SHPO's concurrence that the recommendations for eligibility are satisfactory. If the SHPO provides comment, Western will discuss that comment with the SHPO and modify the determinations of eligibility accordingly or resolve any dispute that may arise in accordance with 36 CFR § 800.4(c)(2).

C. Rather than only using existing Federal guidance (e.g. Bulletin 38), Western shall, in consultation with the signatories and other interested parties, develop methods to evaluate sites or areas of historic or cultural value to Native American and/or other ethnic groups for eligibility for listing in the NRHP.

D. Western shall evaluate properties identified subsequent to the conclusion of the inventory process in stipulation V.B.3 above but prior to the implementation of the Undertaking in accordance with 36 CFR § 800.4(c).

VII. EFFECTS ASSESSMENT

A. Once the Applicant has finished the preliminary engineering design for the Project, the potential effects of constructing, operating, and maintaining

transmission lines, access roads, substations, and other components of the Project will be better understood. At that time, Western shall assess, in consultation with the other signatories and in accordance with 36 CFR § 800.5(a), the specific effects of the preliminary design on the historic properties, assumed or determined, in the Undertaking's APE. This will be done concurrently with the distribution of the Class III Inventory Report and the above determinations of eligibility (see stipulations V.B.3 and VI.C). These effects assessments will serve as the basis for the development of the HPTP (see stipulation VIII).

B. Western shall assess, in consultation with the other signatories and in accordance with 36 CFR § 800.5(a), the specific effects of the preliminary or subsequent engineering designs for the Project on historic properties that are identified subsequent to the conclusion of the effects assessment process in stipulation VII.A above but prior to the implementation of the Undertaking. Western shall consult with the other signatories in each such instance, and incorporate and account for the results of each such consultation in the HPTP.

VIII. HISTORIC PROPERTIES TREATMENT PLAN

A. Upon the completion of the effects assessments of stipulation VII above and prior to the onset of any activity related to the implementation of the Undertaking, with the exception of the activities listed in stipulation XII.A.1 below, Western shall develop, in consultation with the other signatories, an HPTP that will:

1. List the historic properties, assumed or determined, in the Undertaking's APE that the construction of the Project will unconditionally avoid,

2. Specify the conditions which Western will fulfill to ensure that the construction of the Project will not adversely affect historic properties in the Undertaking's APE that are near the Project's ultimate alignment,

3. Individually specify how Western will avoid, minimize, or mitigate any adverse effects that the agency finds that the construction of the Project may have on particular historic properties,

4. Provide for the disposition of all properties that are found subsequent to the preparation of the HPTP as a result of Western's efforts under stipulations IV.B, V, VI.D, and VII.B above and stipulation X below.

The HPTP will be implemented subsequent to the issuance of each of the Federal agencies' NEPA decisions and concurrent with the onset of any activity related to the implementation of the Undertaking. The HPTP shall be submitted for review and comment in accordance with stipulation VIII. D.

B. The HPTP shall state that Western, the BLM, and the SHPO agree that the BLM shall manage the future operation and maintenance of the transmission line where it traverses public lands through a ROW grant and consider effects to cultural resources in relation to those actions, operation and maintenance, in accordance with stipulation V of the *State Protocol Agreement Between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer Regarding the Manner in Which the Bureau of Land Management Will Meet its Responsibilities under the National Historic Preservation Act and the National Programmatic Agreement among the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers* (25 October 2004)(BLM Protocol).

C. The HPTP shall reflect the guidance provided in the *Council's Treatment of Archaeological Properties* (1980), the Secretary of the Interior's *Standards for the Treatment of Historic Properties* and will be focused on the determination of the Project effects. In addition to the standard minimum requirements outlined in the above documents, the HPTP shall include:

1. The methodology to be used to record any historic structures to sufficient architectural standards, in consultation with the National Park Service;

2. The methodology to be used to further investigate and record information on any properties identified as traditional cultural properties;

3. The proposed disposition of recovered materials and records which shall include a discussion of curation;

4. The procedures for treatment and disposition of any human remains, funerary objects, sacred objects, and objects of cultural patrimony;

5. A description of avoidance measures for historic properties, assumed and determined, located near the Project's ultimate alignment which will ensure that the construction of the Project results in no adverse effect to them. Avoidance measures for such properties may include, but not be limited to, temporary fencing, flagging, staking or using a monitor. This section of the HPTP will describe a monitoring report and related schedule for completion and distribution;

6. The methods for testing and excavation describing techniques and sample design. There will be a discussion of analysis methodology for all artifact types, necessary dating of samples, macrobotanical analysis, pollen analysis and faunal analysis;

7. A culture history section which addresses themes for the types of sites to receive treatment as well as appropriate research questions to apply to the excavations and testing. For historic standing structures, it will include how to address architectural history and landscape;

8. A schedule for completing data recovery, including analysis, reporting and disposition of materials and records, as well as a schedule for completing the draft and final data recovery report(s);

9. A description of using the guidance in the HPTP to develop a treatment plan for historic properties that would be adversely affected by a modification to the Project (see stipulation XII. B. 2).

10. A description of alternative treatments for adverse effect that are not data recovery.

11. The Plan *for Discovery of Cultural Resources* for when any cultural resource is encountered by the Applicant during the construction of the Project (see stipulation X).

D. Western shall submit the HPTP to all signatories, except for the SHPO, for a 30 day review period. Absent comments within this time frame, Western may assume the reviewing signatories' concurrence. Western will provide the reviewing signatories with written documentation indicating whether and how the draft HPTP will be modified in response to any timely comments received. Western will then send this version to the SHPO for a 30 day review period. Absent comments within this time frame, Western may assume the SHPO's concurrence that the draft HPTP is satisfactory. The draft HPTP will be modified based on SHPO comments, and Western will provide the reviewing signatories a copy of the final HPTP. Any disputes that may arise between Western and another signatory over the content of the HPTP shall be resolved in accordance with stipulation XIV below.

IX. REPORTING REQUIREMENTS

A. Western shall submit each report relating to the PA, including the reports detailing the results of the identification efforts [Class III Report], HPTP, and the report for the results from the implementation of the HPTP [Treatment Plan] provided for in stipulation VIII above, as well as the project monitoring effort [Monitoring Report] and Discovery Report (see stipulations VIII and X), to the other signatories in complete but draft form for review. The other signatories shall submit comments to Western within 30 days of receipt unless the signatories mutually agree upon a different time period. Comments shall be incorporated into the final report(s). Western shall distribute the final version of the report(s) to the other signatories Should any signatory fail to respond to a request to comment within the specified time limit, Western shall assume they concur with the report(s) and any recommendations therein. All reports will be reviewed initially by the other signatories, except for the SHPO. A modified report will subsequently be submitted to SHPO for the same review time frames.

Should the report(s) deal with sensitive information regarding sacred areas or other similar resources, Western shall withhold specific information as

confidential from any signatory who lacks interest in eligibility or management concerns. This will be completed for any property based upon the negotiations with the Tribes and/or any other interested person(s) concerning confidentiality and the treatment for these resources.

X. DISCOVERIES AND UNANTICIPATED EFFECTS

A. Western will implement the *Plan for Discovery of Cultural Resources,* which will be part of the HPTP (see stipulation VIII), should the Applicant encounter a previously unknown cultural resource during the implementation of the Undertaking, or should the Applicant affect, directly or indirectly, a known historic property in an unanticipated manner. Where the implementation of the Undertaking may adversely affect a found component of a cultural resource which may be historic, all work within 200 feet of that find shall cease until Western can evaluate the National Register eligibility of the find and assess the probable character of the Undertaking's effects on it. Western shall consult with the other signatories as it evaluates the National Register eligibility of the find, assesses the Undertaking's effects on the find, and develops a resolution to any adverse effect. Discovery consultation will also involve determining if and when work at the discovery location may resume. If a previously unknown cultural resource has been determined to be damaged by the Undertaking, the resource will be evaluated for National Register eligibility. If eligible, a site damage assessment will be completed by an approved archaeologist. This report will be reviewed by the other signatories following review procedures in stipulation IX. Appropriate mitigation measures will be recommended in the site damage assessment.

B. The design and execution of data recovery or other mitigation measures (treatment) would be done in consultation with the other signatories. Mitigation measures would be agreed upon among all signatories. If treatment becomes necessary, the development of a treatment plan would reflect the structure described in the HPTP as described in stipulation VIII. In the event a dispute arises during consultation on appropriate mitigation measures, Western shall proceed in accordance with stipulation XIV to resolve the issue.

XI. NATIVE AMERICAN CONSULTATION, TREATMENT OF NATIVE AMERICAN HUMAN REMAINS AND ASSOCIATED FUNERARY OBJECTS

A. Western shall continue to facilitate consultation with the Tribes as the lead Federal agency for Section 106 compliance, and serve as the liaison and the coordinator for affairs with the Tribes.

B. Work shall cease in a 200 ft. radius around human remains or funerary objects found in association with human remains that are encountered during inventory, evaluation, or treatment phase fieldwork, or during the implementation of the Undertaking. Western shall immediately notify the County Coroner, the SHPO, the California Native American Heritage Commission (NAHC), the Tribes, and the BLM of any such find. If the human remains are determined to be those of a Native American as defined by

NAGPRA (Public Law 101-601), the BLM would then take the lead in the treatment of those remains and the objects found in association with them by implementing that agency's procedures for complying with NAGPRA.

C. In the event that Native American human remains or funerary objects found in association with such human remains are encountered on private or state lands, Western shall treat the remains and objects in accordance with California Public Resources Code 5097.98.

XII. IMPLEMENTATION OF THE UNDERTAKING

A. INITIATION OF CONSTRUCTION. After Western has agreement from the other signatories on the initially revised draft Class III Report, on the property evaluations done under stipulations VI.B and C, and on the effects assessments done under stipulation VII.A, some construction-related activities, those listed in stipulation XII.A.1 below, would be allowed to proceed in those portions of the Undertaking's APE where no effect to historic properties has been found pursuant to the following:

1. The construction-related activities that the signatories to this PA agree may occur subsequent to the completion of the effects assessments of stipulation VII.A include only

   a. the demarcation, set up, and use of staging areas for the Project's construction, and

   b. the conduct of geotechnical boring investigations.

2. The ultimate location of construction staging areas, geotechnical boring sites, and routes related to the access of each would be determined by Western in consultation with the BLM, the Applicant, and the Tribes and would be exclusively in areas

   a. where no historic properties, assumed or determined, exist, and

   b. 25 meters beyond the known boundaries of such properties.

      1) Initiation of these activities would not occur until ROWs have been issued by either BLM or Caltrans.

      2) These construction activities would be subject to the requirements in stipulation X regarding discoveries and stipulation XI regarding human remains and funerary objects.

B. POST-REVIEW MODIFICATIONS TO THE UNDERTAKING

1. It is anticipated that once the HPTP is finalized, certain minor modifications to the project may become necessary. Some of these modifications could include rerouting to avoid other environmental

impacts, the establishment of construction camps, minor changes in access routes, and other construction contractor-dependent actions. Western shall determine whether such modification require revisions of the Undertaking's APE, and, if so, Western shall proceed in accordance with stipulation IV.B.2.

2. If a proposed modification to the Undertaking is found to adversely affect historic properties as a result of Western's efforts under stipulation XII.B.1 above, then Western shall attempt to move the activity that would cause the adverse effect, modify that activity in a manner that would avoid the adverse effect, or, if prudent and feasible, cancel the subject activity. If Western can not ultimately avoid the adverse effect, the agency shall prepare a treatment plan that follows the structure described in the HPTP for such modifications (see stipulation VIII. A. 4). Review of the plan shall be in accordance with stipulation IX above.

XIII. AMENDMENTS TO THE AGREEMENT

A. Any signatory to this PA, through consultation, may, pursuant to 36 CFR §§ 800.6(c)(1) and (7), request an amendment to its terms, or the provisions of any attachment hereto. The signatory wishing to amend the PA shall initiate such consultation by completing the form provided as Appendix A and submitting it to Western.

B. Western shall consult with the signatory initiating consultation on an amendment, and, if there is agreement on the principles of the amendment, Western shall submit the form to the other signatories to this PA for concurrent review and signature. After review and signature, each signatory shall return its form to Western, who will prepare the distribution copy of the amendment and distribute the resultant document to all signatories.

C. Western and the other signatories to this PA shall consult for no more than 30 days to consider a proposed amendment. Western may extend this consultation period.

D. If the PA is not amended through the above process, any signatory to this PA may terminate the agreement in accordance with stipulation XV below.

XIV. DISPUTE RESOLUTION

Should any party to this PA object within 30 days to any actions proposed pursuant to this PA, Western shall consult with the objecting party, as soon as possible, to try to resolve the objection. Western and the disputing party will pursue alternative dispute resolution processes and consult with the other signatories during a 60-day period. If, within the 60 days, the consultation fails to resolve the objection or dispute, Western shall forward all documentation relevant to the dispute to the Council, and inform the other signatories of the status of the dispute. Within 30 days of receipt of all pertinent documentation, Western will expect that the Council may:

A. Advise Western that the Council concurs in Western's proposed response to the objection, whereupon Western will respond to the objection accordingly. The objection shall thereby be resolved; or

B. Provide Western with recommendations, which Western will take into account in reaching a final decision regarding its response to the objection. The objection shall thereby be resolved; or

C. Notify Western that the objection will be referred for comment pursuant to 36 CFR § 800.7(c), and proceed to refer the objection and comment. Western shall take the resulting comments into account in accordance with 36 CFR § 800.7(c)(4) and Section 110(l) of the NHPA. The objection shall thereby be resolved.

Should the Council not exercise one of the foregoing options within 30 days after receipt of all pertinent documentation, Western may assume the ACHP's concurrence in its proposed response to the objection and proceed to implement that response. The objection shall thereby be resolved.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; Western's responsibility is to carry out all actions under this PA that are not the subject of the dispute will remain unchanged.

XV. TERMINATION

A. Only the signatories may terminate this PA. If the PA is not amended as provided for in Section XIII above, or if any signatory proposes termination of the PA for other reasons, the signatory proposing termination shall notify the other signatories and concurring parties in writing, explain the reasons for proposing the termination, and consult with the other signatories for at least 30 days to seek alternatives to termination. Should such consultation result in an agreement on an alternative to termination, then the signatories shall proceed in accordance with the terms of that agreement.

B. Should that consultation fail, the signatory proposing termination may terminate the PA by promptly notifying the other signatories and concurring parties to this PA in writing. Termination hereunder shall render this PA without further force or effect.

C. If this PA is terminated hereunder and if Western determines its Undertaking will nonetheless proceed, then Western shall either consult in accordance with 36 CFR § 800.6 to develop a new agreement or request the comments of the Council pursuant 36 CFR Part 800.

XVI. DURATION OF THIS AGREEMENT

A. Unless the PA is terminated pursuant to stipulation XV above, another agreement executed for the Undertaking supersedes it, or the Undertaking

itself has been terminated, this PA will remain in full force and effect until Western, in consultation with the other signatories, determines that construction of all aspects of the Undertaking has been completed and that all terms of this PA have been fulfilled in a satisfactory manner. Upon a determination by Western that construction of all aspects of the Undertaking has been completed and that all terms of this PA have been fulfilled in a satisfactory manner, Western will notify the other signatories and concurring parties of this PA in writing of the agency's determination. This PA will terminate and have no further force or effect on the day that Western so notifies the other signatories to the PA.

B. The terms of this PA shall be satisfactorily fulfilled within five (5) years following the date of execution by the signatories. If Western determines that this requirement cannot be met, the signatories to this PA will consult to reconsider its terms. Reconsideration may include continuation of the PA as originally executed, amendment, or termination. In the event of termination, Western will comply with stipulation XV.C if it determines that the Undertaking will proceed notwithstanding termination of this PA.

C. If the Undertaking has not been implemented within 5 years following execution of this PA by the signatories, this PA shall automatically terminate and have no further force or effect. In such event, Western shall notify the other signatories and concurring parties to this PA, in writing, and, if it chooses to continue with the Undertaking, shall reinitiate review of the Undertaking in accordance with 36 CFR Part 800.

XVII. WITHDRAWAL OF WESTERN FROM THE PROJECT

If for some reason Western should decide to withdraw from the Project, Western shall inform the other signatories to this PA of its intention to withdraw as soon as is practicable. Upon receipt of Western's notification of its withdrawal from the Project, the BLM shall become the acting lead agency for the purpose of implementing this PA while the BLM and the other signatories to this PA consult to consider whether the BLM or another Federal agency should replace Western as the lead agency for the implementation of this PA, or whether this PA should be terminated. The final decision to replace Western as the lead agency, to terminate this PA, or to initiate consultation under stipulation XIII to amend this PA to designate another Federal agency as the lead agency shall rest with the BLM. The withdrawal consultation and decision process of this stipulation shall not exceed a period of 60 days from the BLM's receipt of the above notification from Western.

Nothing in this stipulation shall be construed as a constraint on the right of the SHPO to terminate the present PA should Western, for any reason, fail to fully implement this PA.

XVIII. EFFECTIVE DATE

This PA shall take effect on the date that it has been executed by Western, the BLM, and the SHPO.

EXECUTION of this PA by Western, the BLM, and the SHPO, its transmittal by Western to the Council in accordance with 36 CFR § 800.6(b)(1)(iv), and subsequent implementation of its terms, shall evidence, pursuant to 36 CFR § 800.6(c), that this PA is an agreement with the Council for purposes of Section 110(l) of the NHPA, and shall further evidence that Western and the BLM have afforded the Council an opportunity to comment on the Undertaking and its effects on historic properties, and that Western and the BLM have taken into account the effects of the Undertaking on historic properties.

SIGNATORY PARTIES:

WESTERN AREA POWER ADMINISTRATION

BY: _____ DATE _____

TITLE: _____

U.S. BUREAU OF LAND MANAGEMENT

BY: _____ DATE _____

TITLE: _____

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

BY: _____ DATE _____

TITLE: _____

CONCURRING PARTIES:

CALIFORNIA DEPARTMENT OF TRANSPORTATION

BY: _____ DATE _____

TITLE: _____

BLYTHE ENERGY, LLC.

BY: _____ DATE _____

TITLE: _____

SOUTHERN CALIFORNIA EDISON

BY: _____ DATE _____

TITLE: _____

AGUA CALIENTE BAND OF CAHUILLA INDIANS

BY: _____ DATE _____

TITLE: Tribal Historic Preservation Officer

FORT YUMA QUECHAN TRIBE

BY: _____ DATE _____

TITLE: _____

TWENTY-NINE PALMS BAND OF MISSION INDIANS

BY: _____ DATE _____

TITLE: _____

TORRES-MARTINEZ DESERT CAHUILLA INDIANS

BY: _____ DATE _____

TITLE: _____

MORONGO BAND OF MISSION INDIANS

BY: _____ DATE _____

TITLE: _____

FORT MOJAVE TRIBE

BY: _____ DATE _____

TITLE: _____

COLORADO RIVER INDIAN TRIBE

BY: _____ DATE _____

TITLE: _____

CHEMEHUEVI TRIBE

BY: _____ DATE _____

TITLE: _____

CAHUILLA BAND OF MISSION INDIANS

BY: _____ DATE _____

TITLE: _____

CABAZON TRIBE

BY: _____ DATE _____

TITLE: _____

AUGUSTINE BAND OF MISSION INDIANS

BY: _____ DATE _____

TITLE: _____

APPENDIX A

AMENDMENT FORM

AMENDMENT # _____
DATE: _____

PROGRAMMATIC AGREEMENT
AMONG
THE WESTERN AREA POWER ADMINISTRATION,
THE U.S. BUREAU OF LAND MANAGEMENT, PALM SPRINGS AND SOUTH COAST FIELD OFFICES,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICE;

REGARDING THE CONSTRUCTION OF THE BLYTHE ENERGY TRANSMISSION PROJECT

1. Need for Amendment:

2. Amendment:

SIGNATORY PARTIES:

WESTERN AREA POWER ADMINISTRATION

BY: _____ DATE _____

TITLE: _____

U.S. BUREAU OF LAND MANAGEMENT

BY: _____ DATE _____

TITLE: _____

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

BY: _____ DATE _____

TITLE: _____

CONCURRING PARTIES:

CALIFORNIA DEPARTMENT OF TRANSPORTATION

BY: _____ DATE _____

TITLE: _____

BLYTHE ENERGY, LLC.

BY: _____ DATE _____

TITLE: _____

SOUTHERN CALIFORNIA EDISON

BY: _____ DATE _____

TITLE: _____

AGUA CALIENTE BAND OF CAHUILLA INDIANS

BY: _____ DATE _____

TITLE: Tribal Historic Preservation Officer

FORT YUMA QUECHAN TRIBE

BY: _____ DATE _____

TITLE: _____

TWENTY-NINE PALMS BAND OF MISSION INDIANS

BY: _____ DATE _____

TITLE: _____

TORRES-MARTINEZ DESERT CAHUILLA INDIANS

BY: _____ DATE _____

TITLE: _____

MORONGO BAND OF MISSION INDIANS

BY: _____ DATE _____

TITLE: _____

FORT MOJAVE TRIBE

BY: _____ DATE _____

TITLE: _____

COLORADO RIVER INDIAN TRIBE

BY: _____ DATE _____

TITLE: _____

CHEMEHUEVI TRIBE

BY: _____ DATE _____

TITLE: _____

CAHUILLA BAND OF MISSION INDIANS

BY: _____ DATE _____

TITLE: _____

CABAZON TRIBE

BY: _____ DATE _____

TITLE: _____

AUGUSTINE BAND OF MISSION INDIANS

BY: _____ DATE _____

TITLE: _____

HAZARDOUS MATERIALS MANAGEMENT

Testimony of Geoff Lesh, P.E. and Rick Tyler

SUMMARY OF CONCLUSIONS

By incorporating the recommended Conditions of Certification, the transport to/from and use of hazardous materials at the Blythe Energy Project Transmission Line Modifications (BEPTL) project site would not result in significant impacts to the public or the environment. No significant or reportable quantities would remain on site during either the construction or operations phase of the proposed project.

INTRODUCTION

The purpose of this staff analysis is to determine if the proposed BEPTL project complies with applicable laws, ordinances, regulations, and standards (LORS), and has the potential to cause significant impact on the public as a result of the use, handling or storage of hazardous materials on the project. If significant adverse impacts on the public are identified, Energy Commission staff must also evaluate the potential for facility design alternatives and additional mitigation measures to reduce impacts to the extent feasible.

Hazardous materials stored in smaller quantities, such as mineral and lubricating oils would be present at the proposed Midpoint Substation facility. None will be stored along the transmission line. However, these materials pose no significant potential for off-site impacts because of the quantities on-site, their relative toxicity, and/or their environmental mobility.

This analysis does not address potential exposure of workers to hazardous materials used at the proposed facility. Staff's **Worker Safety and Fire Protection** analysis portion of this document describes the requirements applicable to the protection of workers from such risks.

This analysis does not address methods, materials, and procedures to be used for spill cleanup or disposal methods of recovered materials and contaminated soil. Staff's **Waste Management** analysis portion of this document describes the requirements applicable to waste management.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)

A framework, based on environmental laws, ordinances, regulations and standards (LORS), exists to reduce risks of accidents and reduce routine hazards. The following Federal, state, and local laws generally apply to the protection of public health and the environment. Their provisions have established the basis for staff's determination regarding the significance of potential impacts and acceptability of the BEPTL project.

Hazardous Materials Management Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Superfund Amendments and Reauthorization Act of 1986	Also known as SARA Title III, the Federal regulations governing SARA Title III are found in 40 CFR 300-355. They established a nationwide emergency planning and response program, and imposed reporting requirements for businesses which store, handle, or produce significant quantities of extremely hazardous materials.
Clean Air Act (CAA) of 1990	(42 U.S.C. §7401 *et seq*. as amended) Section 112(F) of the CAA, 42 U.S.C. §7412(F) requires the states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility through preparation of Risk Management Plans. These requirements of the CAA are reflected in the California Health and Safety Code, section 25531 *et seq*.
California Health and Safety Code, sections 25534 and 25535.1	Directs owners of a stationary source, as defined in 40 C.F.R. §68.3, who store or handle acutely hazardous materials in reportable quantities, to develop a Risk Management Plan (RMP) and to submit it to appropriate local authorities, the United States Environmental Protection Agency (USEPA), and the designated local administering agency for review and approval.
California Health and Safety Code, section 41700	Requires that "No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property."
Uniform Fire Code (UFC) Articles 79 and 80	Contains provisions regarding the storage and handling of hazardous materials.
California Building Code (CBC)	Also contains requirements regarding the storage and handling of hazardous materials. The Chief Building Official must inspect and verify compliance with these requirements prior to issuance of an occupancy permit.

SETTING

The proposed BEPTL modifications would be located in eastern Riverside County, California, predominantly on undeveloped public desert lands administered by the Bureau of Land Management (BLM). Expansive, primarily undeveloped desert and mountainous areas characterize this portion of eastern Riverside County. Interstate-10, State Route 78, and State Route 177 are the primary highways providing vehicular access throughout this region.

A number of hazardous chemicals will be used during construction of the BEPTL in small quantities. Proposed safeguards and measures to greatly reduce the opportunity for, or the extent of, exposure to hazardous materials or other hazards would be put in place.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

A variety of hazardous materials are proposed for storage and use during the construction of the project and for routine operation and maintenance. A list of the hazardous materials to be used during construction of the facility is included in Table 5.11-1 of the Petition for Post-Certification Amendment (PPCA) (BEPTL 2004), and also included in the Appendix Table 5.11-1 of this analysis section.

METHOD AND THRESHOLD FOR DETERMINING IMPACTS

In order to assess the potential for released hazardous materials to travel off-site, and impact the public, staff analyzed several aspects of the proposed use of these materials at the facility. Staff recognizes that some chemicals must be used that are toxic. Therefore, staff conducted its analysis by examining the need for hazardous materials, the choice of chemical to be used and its amount, the manner in which Applicant will use the chemical, the manner it would be transported to and from the facility and transferred to facility storage tanks, and the way Applicant chooses to store the material on-site. Both engineering and administrative controls can act as methods of prevention or as methods of response and minimization. In both cases, the goal is to prevent spills from occurring, and should a spill occur, containment to keep it from moving off-site and causing harm to people. Potential impacts would be considered significant if the use of hazardous materials would pose a substantial hazard to the offsite public by potentially exposing members of the public to concentrations of hazardous materials that would reasonably be expected to cause lasting negative health effects.

Staff conducted a review and evaluation of Applicant's proposed use of hazardous materials as described by the Applicant (BEPTL 2004, Section 5.11). Staff's assessment followed the five steps listed below:

- Step 1: Staff reviewed the chemicals and the amounts proposed for use as listed in Table 5.11-1 of the PPCA (and Appendix Table), and determined the need and appropriateness of their use;
- Step 2: Those chemicals proposed for use in small amounts or whose physical state is such that there is virtually no chance that any spill would migrate off the site and impact the public were removed from further assessment;
- Step 3: Measures proposed by Applicant to prevent spills were reviewed and evaluated. These include engineering controls such as automatic shut-off valves and different size transfer-hose couplings and administrative controls such as worker training and safety management programs;
- Step 4: Measures proposed by Applicant to respond to accidents were reviewed and evaluated. These measures also include engineering controls such as catchment basins and methods to keep vapors from spreading and administrative controls such as training emergency response crews; and
- Step 5: Staff then analyzed the theoretical impacts on the public from a worst-case spill of hazardous materials with the mitigation measures proposed by the Applicant. If the mitigation methods proposed by Applicant were found to be sufficient, no further mitigation would be required. If the mitigation proposed by Applicant was found to be insufficient to reduce the potential for adverse impacts to an insignificant

level, staff then proposed additional prevention and response controls until the potential for causing harm to the public was reduced to an insignificant level. It is only at this point that staff could recommend that the facility be allowed to use hazardous materials in significant quantities.

DISCUSSION OF IMPACTS

Acutely Hazardous Materials

No acutely hazardous materials are proposed for usage or storage during construction or operations and maintenance of the facility.

Large Quantity Hazardous Materials

No hazardous materials are proposed for usage or storage in reportable quantities.

Small Quantity Hazardous Materials

In conducting this analysis, staff determined in Steps 1 and 2 that some materials, although present at the proposed facility, pose a minimal potential for off-site impacts as they will be stored in a solid form, in smaller quantities, have low mobility, or have low levels of toxicity.

In addressing the potential for impacts during the **construction phase** of the project, the only hazardous materials proposed for use include gasoline, fuel oil, hydraulic fluid, lubricants, solvents, cleaners, sealants, welding gases and flux, paint, paint thinner, and wasp spray. Most of these will be used for fueling and maintenance of on-site vehicles and equipment to be used during construction activities. Cleaners, solvents, paint, and welding supplies will be used during construction of the project.

Hazardous materials would be stored in proper containers in material yards and designated construction areas. Cleanup spill kits would also be stored in these areas. Refueling and maintenance of vehicles and equipment would be done in designated areas that would be either bermed or covered with concrete or asphalt to control potential spills, and would be done by authorized and trained personnel. Refueling would be done from service trucks that would leave the work site once refueling is completed. Service trucks would have fire extinguishers and approved spill containment equipment, such as absorbents. In the event of a spill, any contaminated soil would be placed into approved containers and properly disposed of as a hazardous waste.

Any impact of spills or other releases of the proposed hazardous materials would be limited to the site due to the small quantities involved, so no further analysis of construction phase activities appears warranted. These chemicals would be present in very small quantities – and some are solids, thus posing an insignificant risk of off-site impacts. Therefore, all hazardous materials listed in the Appendix Table 5.11-1 were eliminated from further consideration.

During **normal operations** at Midpoint Substation, and of the transmission lines, there will be no use of any hazardous materials. Periodic maintenance may require the use of

small quantities of the materials listed in the Appendix Table 5.11-1. Methods and procedures similar to those used in the construction phase for these materials would continue to be used.

Continuing with the assessment for the **operations and maintenance phase**, after removing from consideration those chemicals that fit into Steps 1 and 2, staff concluded that there were no remaining materials requiring analysis.

Staff finds that there is very low possibility of off-site impact from a hazardous materials release, and finds that there is less-than-significant impact from hazardous materials handling.

Spill Prevention and Analysis

The most likely incidents involving the hazardous materials to be used would be associated with small spills and drips from hoses and equipment. These will be contained and cleaned up immediately by trained, on-site personnel. Larger spills will be cleaned up with the assistance of off-site containment and clean up crews, contacted through their emergency phone numbers, in accordance with applicable laws and regulations.

During construction, the worst-case scenario for an accidental release, would involve a refueling truck. While this would not be large enough to impact the off-site public, off-site help would likely be called, and any contaminated soils would be excavated, containerized, and disposed of as hazardous waste.

During operations or maintenance, in the event of an emergency, personnel would call the Riverside County Hazardous Materials Team for assistance.

Transportation/Delivery of Hazardous Materials

The hazardous materials to be used will be delivered periodically to the construction sites. Transportation is regulated by and will comply with all DOT, U.S. Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC), California Highway Patrol (CHP) and the California State Fire Marshall regulations for the transportation of hazardous materials. The CHP has the authority to issue permits, and may specify the route for hazardous material delivery.

Hazardous materials traffic to and from the site would mostly utilize I-10 from Blythe going west, or from Riverside going east, then short distances on county and state roads. There is good road access, and area traffic is relatively light.

Staff finds that compliance with applicable LORS will result in less-than-significant impacts from transportation of hazardous materials.

CUMULATIVE IMPACTS AND MITIGATION

Evaluation of the primary potential cumulative effect would require consideration of the possibility that any one chemical release from the site would create an additive risk to the public when combined with other releases from surrounding chemical-use facilities.

However, Staff considers the scenario of simultaneously occurring releases, under meteorological conditions which allow their respective plumes to merge, and travel downwind without significant dispersion until they reached off-site members of the public, to be extremely unlikely. This scenario becomes even more unlikely when the low probability of the materials onsite to create any offsite impacts, combined with the general isolation and undeveloped surroundings of most of the proposed site, is taken into account. Therefore, Staff finds that there would be no cumulative impacts.

FACILITY CLOSURE

The requirements for the handling of hazardous materials remain in effect until such materials are removed from the site regardless of facility closure. Therefore, the project owner, Blythe Energy, LLC is responsible for continuing to handle such materials in a safe manner, as required by applicable laws. In the event that BEPTL abandons the project in a manner, which poses a risk to surrounding populations, staff would coordinate with the California Office of Emergency Services, Riverside County Fire Department, and the California Department of Toxic Substances Control (DTSC) to ensure that any unacceptable risk to the public is eliminated. Funding for such emergency action can be provided by Federal, state, or local agencies until the cost can be recovered from the responsible parties.

RESPONSE TO PUBLIC AND AGENCY COMMENTS

No comments were received.

CONCLUSIONS

By incorporating the amendment to Condition of Certification **HAZ-1** to include the list of hazardous materials listed in the Petition for Post-Certification Amendment, the transport to/from and use of hazardous materials at the BEPTL project site will not result in significant impacts to the public or the environment. Analysis shows that there will be no significant direct or cumulative impact to an environmental justice population.

Staff recommends the Energy Commission impose the proposed amended condition of certification, presented herein, to ensure that the project is designed, constructed, and operated to comply with applicable LORS and to protect the public from significant risk of exposure to an accidental release of any hazardous material.

PROPOSED AMENDED CONDITIONS OF CERTIFICATION

HAZ-1 The project owner shall not use any hazardous material in reportable quantities, as specified in Title 40, C. F.R. Part 355, Subpart J, section 355.50, not listed as such in Appendix B <u>of the AFC, or in Table 5.11-1 of the Petition for Post-Certification Amendment,</u> unless approved in advance by the CPM.

<u>Verification:</u> The project owner shall provide to the CPM, in the Annual Compliance Report, a list of hazardous materials contained at the facility in reportable quantities.

REFERENCES

AIChE. 1994. Guidelines for Implementing Process Safety Management Systems, AIChE. New York, NY 10017.

API (American Petroleum Institute). 1990. Management of Process Hazards, API Recommended Practice 750. American Petroleum Institute, First Edition, Washington, DC, 1990.

BEPTL (Blythe Energy Project Transmission Line Modifications) 2004: Petition for Post-Certification Ammendment [99-AFC-8]. Submitted to the California Energy Commission on October 1, 2004.

EPA (Environmental Protection Agency). 1987. Technical Guidance for Hazards Analysis, U.S. Environmental Protection Agency, Washington, D.C.

FEMA (Federal Emergency Management Agency). 1989. Handbook of Chemical Hazard Analysis Procedures, Federal Emergency Management Agency, Washington, DC, 1989.

Lees, F.P. 1998. Loss Prevention in the Process Industries, Vols. I, II and III. Second Edition, Butterworths.

USOSHA (United States Occupational Safety and Health Administration). 1993. Process Safety Management / Process Safety Management Guidelines for Compliance. U.S. Department of Labor, Washington, DC.

APPENDIX TABLE:

Table 5.11-1 List of Hazardous Materials Typically Used for Transmission Line Construction

2-cycle oil (contains distillates and hydrotreated heavy paraffinic)	Acetylene gas
ABC fire extinguisher	Ammonium hydroxide
Air tool oil	Battery acid (in vehicles and in the meter house of the substations)
Automatic transmission fluid	Insecticide
Canned spray paint	Chain lubricant (contains methylene chloride)
Contact cleaner 2000	Diesel fuel additive
Gasoline	Lubricating grease
Hot stick cleaner (cloth treated with apolydimethylsiloxane)	Methyl alcohol
Insulating oil (inhibited, non-PCB)	Paint thinner
Mastic coating	Antifreeze
Wasp and hornet spray (1,1,1 trichloroethene)	Puncture seal tire inflator
Bottled oxygen	Starter fluid
Petroleum products (gasoline, diesel fuel, jet fuel A, lubricants, brake fluid, hydraulic fluid)	WD-40
Propane	ZIP (1,1,1-Tricholorethane)
Safety fuses	Brake fluid
Sulfur hexaflouride (within the circuit breakers in the substations)	ZEP (safety solvent)

Note: Table 5.11-1 is taken from Proposal for Post Certification Amendment (BEPTL Section 5.11)

LAND USE

Testimony of Amanda Stennick

SUMMARY OF CONCLUSIONS

The Commission's land use staff has reviewed the proposed project in light of the California Environmental Quality Act (CEQA) Guidelines' and the National Environmental Policy Act's (NEPA) criteria for a significant land use impact. The criteria include an assessment of whether a proposed project will conflict with any applicable land use plan. The key land use plan affecting this project is the U.S. Bureau of Land Management's (BLM) California Desert Conservation Area (CDCA) Plan of 1980, which requires that potentially significant impacts in various environmental resource areas be addressed and mitigated.

The project will require a height variance for transmission poles located within the City of Blythe, which staff recommends be approved as part of this Amendment. Staff concludes that the project as conditioned will be in conformance with the applicable Federal, State, and Local laws, ordinances, regulations, and standards (LORS), and is compatible with existing and planned uses.

INTRODUCTION

This Staff Assessment/Draft Environmental Assessment (SA/DEA) land use analysis of the Blythe Energy Project Transmission Line Modification (BEPTL) Petition for Post-Certification Amendment (99 AFC-8C) focuses on the project's consistency with the land use laws, ordinances, regulations standards, plans, and policies and the project's compatibility with existing and planned land uses. In general, a transmission line may be incompatible with existing and planned land uses if it creates unmitigated visual impacts or when it unduly restricts existing or planned future uses. A transmission line may also create a significant impact if it converts prime or unique farmland or farmland of statewide importance to non-agricultural uses.

LAWS, ORDINANCES, REGULATION, AND STANDARDS

The following table contains all applicable land use laws, ordinances, regulations, and standards.

LAND USE Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal Bureau of Land Management	California Desert Conservation Area Plan requires a right-of-way grant for transmission line and Midpoint Substation Code of Federal Regulations Title 40, § 1508.27 Code of Federal Regulations Title 43, §1610.5-3 Federal Land Policy Management Act (1976) California Desert Protection Act (1994)
National Park Service	The National Park Service has requested they be listed as a relevant Federal agency and their applicable Federal laws be included in this table. The National Park Service has not identified their relevant federal LORS for inclusion in this document.
State	There are no state land use LORS for this project
Local Riverside County	Riverside County requires the submittal of a site plan for the Julian Hinds Substation modification
City of Blythe	City of Blythe requires a height variance for transmission line poles

SETTING

The proposed project would be located in eastern Riverside County primarily on undeveloped public lands administered by the BLM and situated within BLM-designated CDCA Utility Corridor K. These corridors are established to encourage joint use of common alignments for various linear utility projects and to avoid sensitive wilderness and cultural resources whenever possible.

BLM uses the land use classification Multiple Use Class (MUC) to administer about ten million acres of the California Desert, including lands within designated Utility Corridors such as Corridor K. MUCs are based on compatible, planned land uses and conservation of sensitive land resources. The proposed project, where situated on BLM lands, is within Class L (Limited Use) and Class M (Moderate Use). According to the CDCA, MUC L protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated Class L are managed to provide lower-intensity, carefully controlled multiple use of resources while ensuring that sensitive values (cultural, scenic, biological resource) are not significantly diminished. MUC M is based upon a controlled balance between higher intensity use and protection of public lands. Class M lands are managed to provide for a wider variety of present and future uses such as mining, livestock grazing, recreation, energy and utilities development, while conserving desert resources and mitigating damages permitted uses may cause.

As stated in Chapter 2: Multiple Use Classes in the California CDCA, all land use actions and resource management activities on public lands within a MUC must meet the guidelines given for that Class. MUC Guidelines for transmission facilities sited on Class L and Class M public lands state that new electric transmission facilities (towers and cables 161 kV or above) are allowed within designated utility corridors only.

Existing electric facilities within designated utility corridors may be maintained, upgraded, and improved in accordance with existing rights-of-way or by amendments to right-of-way grants.

Interstate 10, State Route 78, and State Route 177 are the main highways providing vehicular access throughout this region. The Applicant evaluated the land uses within 0.25 mile on either side of the proposed reference center line, which is the transmission planning staff's best estimate of the line's actual location. Existing land uses within that area include undeveloped open space, desert lands, rights-of-way for interstate and state highways and county and local roads, highway commercial development, and railroads. The only residences within the study area are those for the Southern California Edison (SCE) workers at Julian Hinds substation. Utility uses include telephone lines, pipelines, aqueducts, electrical substations and transmission lines, such as SCE's existing D-PV1 500kV line, and an airstrip near the Julian Hinds Substation. The southeastern boundary of Joshua Tree National Park is less than 0.25 mile north of the Julian Hinds Substation. Other highway commercial development, recreation uses, wilderness, and parks occur outside the 0.25-mile study area.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

Federal/NEPA

Code of Federal Regulations Title 40, § 1508.27.
This Federal regulation requires that potential impacts be evaluated for significance, as defined and used in NEPA, with consideration given to both context and intensity.

Code of Federal Regulations Title 43, § 1610.5.
This Federal regulation requires that the proposed project conform to an approved plan, which in this case is the CDCA.

State/CEQA

Significance criteria are based on the CEQA Guidelines and on performance standards or thresholds adopted by responsible agencies. An impact may be considered significant if the project results in:

- conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect;
- disruption or division of the physical arrangement of the established community;
- conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses.

A project may also have a significant impact on land use if it would create unmitigated noise, dust, public health hazard or nuisance, traffic, or visual impacts, or when it precludes or unduly restricts existing or planned future uses.

DIRECT/INDIRECT IMPACTS AND MITIGATION

City of Blythe

According to the January 24, 2005 letter from Jennifer Wellman, City of Blythe's Planning Director, if the City of Blythe were the permitting agency it would require a major variance for the installation of the transmission poles numbered 1 through 9 (City of Blythe Municipal Code, Chapter 17-Zoning and Section 10.040 - Building Height). The findings required to grant a variance are included in the City of Blythe Municipal Code, Chapter 17.70 and are stated below.

17.70.010 Findings required to grant a variance.
A variance is a modification of a regulation contained in this title which may be granted only when it can be found that:

A. Because of special circumstances applicable to a property, including size, shape, topography, location or surroundings, strict application of a regulation contained in this title deprives such property of privileges enjoyed by other property in the vicinity and under identical zoning classification;

B. The conditions under which the variance is to be granted will assure that the authorized modification of regulations shall not constitute a grant of special privileges inconsistent with the limitations upon other properties in the vicinity and zone in which such property is situated;

C. The variance does not authorize a use or activity which is not otherwise expressly authorized by the zone regulation governing the property.

The Applicant has provided the information shown in **LAND USE Table 2** for those poles requiring a height variance. All parcels are owned by Sun World International, Inc., P.O. Box 80298, Bakersfield, CA. **LAND USE Figure 1** shows the parcels and that portion of the proposed right-of-way within the City of Blythe. The zoning for parcels 824-101-15 and 16 is AG (Agriculture); zoning for parcels 824-102-20, 26, and 27 is IS (Service Industrial). The maximum height allowance for towers or poles in these zones is 75 feet. The parcels are undeveloped, as is the surrounding land.

LAND USE Table 2
Pole Number, Height, APN, and Zoning

Pole number	Pole height (feet)	APN	Zoning
1	96	824-101-16	AG
2	132	824-101-16	AG
3	106	824-101-16	AG
4	136	824-101-15	AG
5	101	824-102-27	IS
6	108	824-102-20	IS
7	108	824-102-26	IS
8	92	824-102-26	IS
9	108	824-102-26	IS

Source: TetraTech 2005

Staff's analysis of the transmission line finds that the additional pole height is required for the project to conform to the California Public Utilities Commission (CPUC) General Order 95: Rules for Overhead Electric Line Construction, specifically, Rule 37, which addresses minimum clearances of wires above railroads, thoroughfares, buildings, etc. Therefore, staff's analysis of the proposed variance finds that:

- technical requirements for the transmission line poles' compliance with CPUC Rule 95 necessitate the need for additional pole height;
- the use of properties for transmission line corridors is not inconsistent with uses in the area;
- the strict application of the height restriction in the AG and IS zones would deprive the properties under consideration of privileges enjoyed by other property in the vicinity with the same zoning classification;
- the conditions under which the variance would be granted will assure that the authorized modification of regulations shall not constitute a grant of special privileges; and
- the variance does not authorize a use or activity which is not otherwise expressly authorized by the zone regulation governing the property.

Staff concludes that the proposed variance would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.

Riverside County

On December 2, 2004, Energy Commission staff sent a letter to the Riverside County Planning Director asking whether the County, were it the permitting agency, would require a use permit and what conditions it would normally attach to this entitlement. At this time, Riverside County has not responded to the letter. In lieu of a written response, staff made other attempts to contact the County and on two occasions, spoke with John Guerin, Riverside County Senior Planner. Based on discussions with Mr. Guerin, the transmission line would not fall under county review[1] (Guerin 2004). However, because of the Natural Assets (NA) zoning, the modification to the Julian Hinds Substation would require the submittal of a plot plan to determine compliance with the parcel setbacks (Guerin 2005).

To help determine the proposed modifications' compliance with the setback requirements, the Applicant provided a map from Metropolitan Water District's (MWD) Survey Mapping Team that shows MWD's land ownership in the vicinity of the Julian Hinds substation. Using this map, staff worked with MWD to determine the location of

[1] In the BEPTL Petition for Post-Certification Amendment (99 AFC-8C), the Applicant stated that land use policies related to the siting of transmission line projects in Riverside County are contained within the Public Facilities and Services Element of the Riverside County General Plan. This citation was taken from the 1989 General Plan. In 2003, the county adopted a new General Plan which no longer contains the Public Facilities and Services Element. The 2003 Riverside County General Plan does not contain any regulatory policies on siting transmission lines.

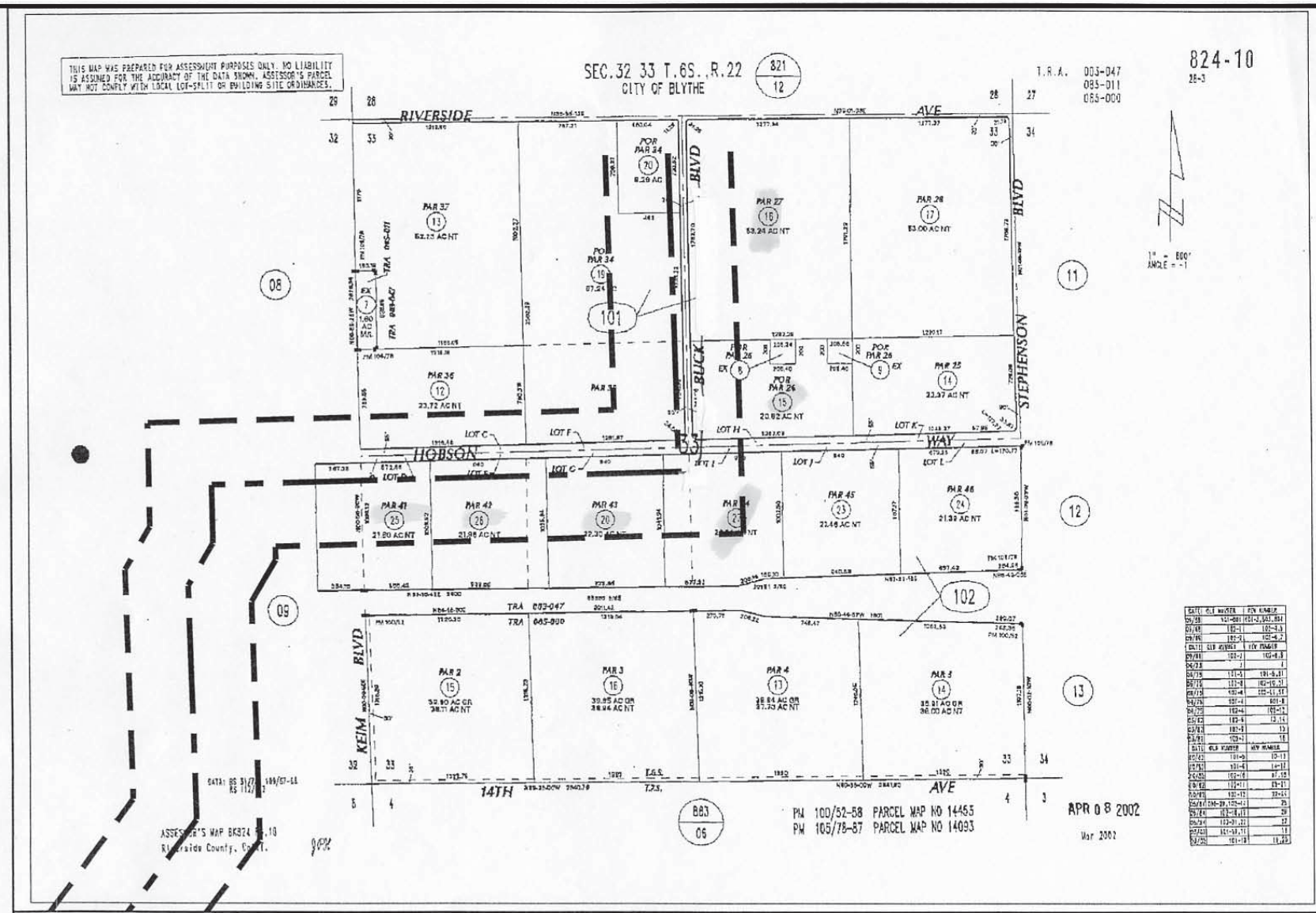
the parcel where the Julian Hinds substation is situated. Based on conversations with MWD staff, Commission staff is confident that the proposed modifications to the Julian Hinds substation will be located outside the 50-foot sideyard setback of the parcel and will comply with Riverside County's NA zoning.

U.S. Bureau of Land Management

In accordance with Title 43, Code of Federal Regulations §1610.5-3, all actions on public lands must be in conformance with applicable BLM land use plans. Any proposals or actions determined not to be in conformance with these plans would require the approval of a land use plan amendment. BLM stated in their April 22, 2005 letter to the Energy Commission that the Applicant's right-of-way application meets the content requirements contained in BLM's right-of-way regulations Title 43, Code of Federal Regulations, § 2802.3. Additionally, BLM found no issues in their initial review that would preclude the proposed project.

LAND USE - FIGURE 1

Blythe Energy Project Transmission Line Amendment - Proposed Route within the City of Blythe



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Tetra Tech 2005 - Riverside County Assessors's Office

Chapter 3 of the CDCA (Energy Production and Utility Corridors Element) discusses criteria used in planning land use corridors.

The Energy Commission's electricity demand forecasts were fundamental in BLM's criteria formulation. Applicable criteria are as follows:

1. Minimize the number of separate rights-of-way by utilizing existing rights-of-way as a basis for planning corridors; and

2. Encourage joint use of corridors for transmission lines, canals, pipelines, and cables.

The following BLM table illustrates the existing authorized uses on public lands and their locations by township, range, and section for the proposed BEPTL amendment route. The columns headed by CACA, CALA, and CARI represent BLM's assignments of case file numbers; the last column indicates the right-of-way grant holder.

LAND USE Table 3
Existing, Authorized Uses on Public Lands

Township	Range	Section	Number of ROW	CACA	CALA	CARI	Notes
6S	13E	8	0				
		9	0				
6S	13E	10	7	004163			DPV1
				016385			ATT
				016386			PacBell
				017905			DPV2
				018888			Sprint
				040177			IID
					0049895		PacBell
6S	13E	11	6	004163			DPV1
				016385			ATT
				016386			PacBell
				017905			DPV2
				040177			IID
					0049895		PacBell
6S	13E	12		004163			DPV1
				017905			DPV2
6S	14E	3	7	004163			DPV1
				017905			DPV2
					0117048		SCG pipe
					0117048A		SCG Cathodic
					0122581		SCG Com Site
						0006701	CalTrans Repeater
						0007181	SCG pipe
6S	14E	4	10	004163			DPV1
				016385			ATT
				016386			PacBell
				017905			DPV2
					0049895		PacBell
					0117048A		SCG Cathodic
					0122581		SCG Com Site
						0006701	CalTrans Repeater
6S	14E	5	0				
6S	14E	6	14	004163			DPV1
				015898			SCE
				016385			ATT
				016386			PacBell
				017765			IID
				017905			DPV2
				018888			Sprint
				021598			IID
				025594			Kaiser Steel Road
					0049895		PacBell
					0110795		SCG
					0121701		Kaiser Steel RR
					0134693		SCG

						0002341	SCG
07S	22E	7	2	008974			IID transmission
				021597			Verizon
07S	22E	18	3	008974			IID transmission
				021597			Verizon
				042662			NBP
07S	21E	13	3	008974			IID transmission
				021597			Verizon
				042662			NBP
07S	21E	24	3	008974			IID transmission
				021597			Verizon
				042662			NBP
07S	21E	26	5	004163			DPV1
				008974			IID transmission
				017905			DPV2
				021597			Verizon
				042662			NBP

Source: BLM 2006

To protect the public interest, BLM must optimize the use of the utility corridor to best accommodate multiple existing and future projects, minimize adverse environmental impacts, and minimize duplication or proliferation of similar facilities. BLM's requirement for minimizing transmission line duplication or proliferation is consistent with the Energy Commission's transmission planning/siting principles. These principles are stated in Transmission System and Right of Way Planning for the 1990s and Beyond (California Energy Commission, March 1992, Pursuant to Senate Bill 2431).

1. The use of existing right-of-way should be encouraged by upgrading existing transmission facilities where technically and economically feasible.

2. Expansion of existing right-of-way should be encouraged whenever construction of new transmission lines is required.

3. New right-of-way should be created when justified by environmental, technical, or economic reasons, as determined by the appropriate licensing agency.

4. Agreement among all interested utilities should be sought on efficient use of new transmission capacity whenever there is need to construct such capacity.

Staff concludes that the proposed project is consistent with BLM and Energy Commission principles, in that it involves an expansion of an existing right-of-way and would be located in an established corridor designated by BLM for this type of use. Based on these conclusions, staff finds that the proposed project is consistent with the CDCA. To ensure compliance with BLM requirements, staff is proposing Condition of Certification **LAND-6.**

Please refer to the **Transmission System Engineering** section of the SA/DEA for a further discussion of Utility Corridor K.

Construction Impacts and Mitigation

The proposed project would cross or be adjacent to other existing utilities and linear facilities including highways, dikes, electrical transmission lines, underground water and gas pipelines, telephone lines, aqueducts, and a railroad. To date, no conflicts have been identified with existing facilities along the proposed project alignment. The BLM, in particular, is responsible for ensuring that a newly proposed facility does not adversely affect the integrity or ability to operate existing facilities and other authorized lands uses on public lands.

Any potential impacts to existing land uses are mitigated at the construction planning phase using standard engineering practices. Mitigation typically includes locating towers to reduce or eliminate any direct effects and maintaining standard electrical conductor height minimums in order to maintain a safe distance above any of these land uses. The presence of overhead 230 kV transmission lines may also impact the use of heavy equipment, such as cranes or boom trucks that would be used to maintain or modify these existing facilities located underneath the proposed project. These impacts, however, can be mitigated using standard construction methods.

In addition, buried water and gas pipelines, co-located with overhead electrical transmission lines, are subject to the influence of electromagnetic fields that may result in safety concerns for people making contact with the pipeline, including pipeline personnel, as well as long-term corrosion damage to the pipeline and to any existing corrosion protection equipment. Determining proper mitigation for placing electrical transmission lines over pipelines requires a detailed site specific analysis. Please refer to the **TRANSMISSION LINE SAFETY AND NUISANCE** section of this document for an analysis and proposed mitigation in these areas.

Implementation of the proposed project would require the acquisition of appropriate rights-of-way from the respective landowners or land management agencies. On private lands, sufficient easements would have to be acquired from the property owners to construct, operate and maintain the facility. The project Applicant would negotiate appropriate compensation for any damages resulting from the facility on these private lands.

The alignment of transmission line power poles numbered 8 through 28 near the Blythe Municipal Airport (as originally presented in the petition) has been revised. At the November 10, 2004 Informational Hearing and Site Visit, the Airport Manager/ Assistant City Manager for the City of Blythe stated that the height and proposed location of the transmission line structures in the vicinity of the airport could potentially create a flight path problem and affect further airport development as described within the Airport Master Plan if the proposed transmission line alignment was not revised. The City of Blythe has suggested an alternative route for the transmission line for poles 8 through 28 to mitigate the potential issues identified by the City. That proposed alternative route was adopted by the Applicant and would parallel the right-of-way for the existing Western Blythe-Knob and IID Blythe-Niland 161 kV transmission lines power lines. This realignment conforms to the guiding principle of expanding the existing right-of-way rather than creating a new right-of-way and results in the nearest pole being 5,300 feet from the end of the runway, as compared to 2,930 feet for the original alignment.

Because of the realignment, some of the citrus trees will need to be removed to accommodate approximately 20 poles. The existing agricultural use will continue under the transmission wires. The irrigated citrus grove is considered Prime Farmland by the California Department of Conservation. However, the amount of land in the citrus grove that will be converted would be less than two acres and is not considered a significant impact.

Near Julian Hinds Substation, the realigned section of the transmission line has land uses that include undeveloped open space, desert lands, and rights-of-way for roads. The proposed realignment passes near the Julian Hinds airstrip and the nearest pole is approximately 1,480 feet from the end of the airstrip. Blythe Energy, LLC (Blythe Energy or Applicant) filed FAA form 7460 to determine whether the realignment would pose a hazard to air navigation; FAA's aeronautical study resulted in a Determination of No Hazard to Air Navigation for both the original and the proposed alternative routes.

The modification to the Julian Hinds Substation will consist of moving the fence line 75 feet to the south to accommodate additional transformers. The setbacks in the NA (Natural Assets) zone are 100 feet for the front and 50 feet for the side and rear yards. Based on parcel and land ownership maps provided by MWD, staff finds that the modification to Julian Hinds Substation will comply with Riverside County's setback requirements for the NA zone.

The modification to the Midpoint Substation consists of moving the substation about 800 feet west of the original proposed location. The Midpoint Substation site is located (and will remain after the modifications) on BLM lands where surrounding land uses are open desert with rights-of-way for transmission lines. Because the substation site is situated on BLM lands, compliance with the standards of the Riverside County zoning ordinance is not required. As modified, the substation is consistent with and will not require an amendment to the CDCA.

CUMULATIVE IMPACTS AND MITIGATION

The proposed line modification from the Buck to Julian Hinds Substations would be constructed and operated within Utility Corridor K, as designated by BLM CDCA Plan (BLM 1980), and would be adjacent to SCE's existing D-PV1 500-kV line. In addition to the proposed line and the existing SCE line there are two other lines proposed within the BLM corridor: the SCE-proposed D-PV 2; and the proposed Desert Southwest line. For further description of the proposed and future transmission lines, see the **Alternatives** section of the SA/DEA.

As stated above, to protect the public interest, BLM must optimize the use of the utility corridor to best accommodate multiple existing and future projects, minimize adverse environmental impacts, and minimize duplication or proliferation of similar facilities. BLM recognized the potential for construction of power plants in the area and therefore designated Corridor K based on the potential need for significant bulk power transmission lines to import generation from Nevada and Arizona (CDCA).
In granting a right-of-way, BLM must consider the principle of "multiple use" in the management, use, development, and protection of public lands within the CDCA. The "Federal Land Policy and Management Act of 1976," Public Law 94–579, codified at 43

USC Section 1702 (c), defines the principle of "multiple use" in terms of striking a balance between various land uses that takes into account long-term management of resource values, including but not limited to recreation, range, watershed, wildlife, and natural scenic, and historical values.

As stated above, the proposed project would cross or be adjacent to other existing utilities and linear facilities. To date, no conflicts have been identified with existing facilities along the proposed project alignment. However, BLM is responsible for ensuring that a newly proposed facility does not adversely affect the integrity or ability to operate existing facilities and other authorized lands uses on public lands. As such, these impacts can be mitigated using standard construction methods that BLM will include as part of their ROW permit.

Staff concurs with BLM that as mitigated, the proposed project would have no significant cumulative land use impacts.

COMPLIANCE WITH LORS

If the conditions are met, the project will comply with applicable LORS.

PROJECT CHANGES TO THE BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATION PETITION

Blythe Energy has provided project changes for the BEPTL amendment for the follow transmission line project components:

1. Transmission line pole realignment near the Blythe City Airport, poles 8 through 28.

2. Transmission line pole realignment near the Julian Hinds Substation, poles 418 through 433.

3. Relocation of the Midpoint Substation.

4. Transmission line pole realignment near Alligator Rock, poles 289 through 305.

Staff concludes that the requested changes to the proposed original BEPTL petition as conditioned will be in conformance with the applicable Federal, State, and Local laws, ordinances, regulations, and standards (LORS), and are compatible with existing and planned uses. The Project Description section of the SA/DEA has complete descriptions and maps of the BEPTL petition changes. (See project description)

RESPONSE TO PUBLIC AND AGENCY COMMENTS

The National Parks Service and the Metropolitan Water District have provided comments on the SA/DEA. Please see Appendix C of this revised SA/DEA document for those comments and staff's response.

CONCLUSIONS

Staff's analysis of the project and the project's compliance with LORS finds that:

- The proposed project does not require any amendment to the CDCA Plan.
- The proposed project conforms to all BLM requirements for location within a designated utility corridor and does not conflict with existing land use plans, policies, or regulations.
- The proposed project does not conflict with current or proposed land uses.
- The proposed project will not prevent reasonable future utility uses of the utility corridor.
- The proposed project would not adversely affect wilderness areas, wilderness study areas, or other areas of special environmental concern.

As stated above, in accordance with Title 43, Code of Federal Regulations §1610.5-3, all actions on public lands must be in conformance with applicable BLM land use plans (CDCA Plan of 1980). To ensure that the project complies with BLM requirements, staff proposes Condition of Certification **LAND-6**.

Should the Commission certify the project, staff recommends that the Commission on behalf of the City of Blythe approve the height variance based on the following findings:

- The additional pole height is required for the project to conform to the California Public Utilities Commission (CPUC) General Order 95: Rules for Overhead Electric Line Construction, specifically, Rule 37, which addresses minimum clearances of wires above railroads, thoroughfares, buildings, etc.
- The use of properties for transmission line corridors is not inconsistent with uses in the area.
- The strict application of the height restriction in the AG and IS zones would deprive the properties under consideration of privileges enjoyed by other property in the vicinity with the same zoning classification.
- The conditions under which the variance would be granted will assure that the authorized modification of regulations shall not constitute a grant of special privileges.
- The variance does not authorize a use or activity which is not otherwise expressly authorized by the zone regulation governing the property.

PROPOSED CONDITIONS OF CERTIFICATION

LAND-6 The project owner shall obtain a right-of-way grant from the Bureau of Land Management (BLM).

Verification: At least 30 days prior to the start of construction, the Project Owner shall provide the CPM with proof of approval of the BLM right-of-way grant.

LAND-7 The project owner shall obtain a right-of-way grant from Metropolitan Water District (Metropolitan) for the protection and operation of its facilities.

Verification: At least 30 days prior to the start of construction, the Project Owner shall provide the CPM with proof of approval of the Metropolitan right-of-way grant.

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NOISE AND VIBRATION

Testimony of Steve Baker

SUMMARY OF CONCLUSIONS

The Blythe Energy Project Transmission Line Modification (BEPTL), if built and operated in conformance with the proposed Conditions of Certification below, would comply with all applicable noise and vibration laws, ordinances, regulations, and standards (LORS), and would produce no significant adverse noise impacts, either direct or cumulative. Blythe Energy, LLC (Blythe Energy or Applicant) has proposed appropriate mitigation, in the form of good design practice and inclusion of necessary project equipment that would avoid any significant adverse impacts.

INTRODUCTION

The construction and operation of any power transmission modification creates noise, or unwanted sound. The character and loudness of this noise, the times of day or night that it is produced, and the proximity of the facilities to sensitive receptors combine to determine whether the facility would meet applicable noise control laws and ordinances, and whether it would cause significant adverse environmental impacts. In some cases, vibration may be produced as a result of transmission line construction practices, such as blasting or pile driving. The ground-borne energy of vibration has the potential to cause structural damage and annoyance.

The purpose of this analysis is to identify and examine the likely noise and vibration impacts from the construction and operation of the BEPTL, and to recommend procedures to ensure that the resulting noise and vibration impacts would be adequately mitigated to comply with applicable LORS. For an explanation of technical terms employed in this section, please refer to **NOISE Appendix A** immediately following this section.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

NOISE Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable LORS	Description
Federal	
Occupational Safety and Health Administration (OSHA), 29 CFR § 1910.95	Designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise exposure levels as a function of the amount of time during which the worker is exposed (see **NOISE Appendix A**, **Table A4** immediately following this section). The regulations further specify a hearing conservation program that involves monitoring the noise to which workers are exposed, assuring that workers are made aware of overexposure to noise, and periodically testing the workers' hearing to detect any degradation.
Federal Transit Administration (FTA)	FTA has published guidelines for assessing the impacts of ground-borne vibration associated with construction of rail projects, which have been applied by other jurisdictions to other types of projects. The FTA measure of the threshold of perception is 65 VdB, which correlates to a peak particle velocity of about 0.002 inches per second (in/sec). The FTA measure of the threshold of architectural damage for conventional sensitive structures is 100 VdB, which correlates to a peak particle velocity of about 0.2 in/sec.
State	
California Government Code § 65302(f)	Requires each local governmental entity to perform noise studies and implement a noise element as part of its General Plan. The Model Community Noise Control Ordinance further recommends that, when a pure tone is present, the applicable noise standard should be lowered (made more stringent) by 5 DBA.
California Occupational Safety and Health Administration (Cal-OSHA), Cal. Code Regs., title 8, §§ 5095-5099	Sets employee noise exposure limits. These standards are equivalent to the Federal OSHA standards (see **NOISE Appendix A**, Table A4).
Local	
Riverside County General Plan Noise Element	The noise level standards for new projects, including non-transportation noise sources, employ the Community Noise Equivalent Level (CNEL) or Day-Night Level (Ldn). The County Noise Element standards for residential land uses are: Normally Acceptable: CNEL or Ldn up to 60 dB; Conditionally Acceptable: up to 70 dB CNEL or Ldn.
Riverside County Code Chapter 15.04	Construction within one-quarter mile of an occupied residence is prohibited between the hours of 6 p.m. and 6 a.m., except as allowed with the written consent of the building official.

SETTING

The proposed project is located almost entirely in areas that have no permanent residents and few activities that generate substantial sustained noise events. The route of the proposed transmission lines would be closest to one isolated residence at 16531 Hobsonway near Blythe (approximately 1,280 feet from the proposed transmission line) and the following residential communities: Nicholls Warm Springs (5,000 feet), Desert Center (2,500 feet), and Hayfield (500 feet). The nearest residence at 16531 Hobsonway is approximately one mile from Buck Substation. At the proposed Midpoint Substation, as well as at the newly proposed alternate location for this substation, there are no residences or sensitive receptors within two miles, and at Julian Hinds Substation the nearest residences in Hayfield are approximately 2,500 feet from the substation and somewhat screened by intervening terrain. The proposed original realignment of the Buck to Julian Hinds component of the line would likewise pass no nearer to residences in Hayfield than the currently analyzed alignment (BLYTHE 2004a, AFC § 5.8.2.2; FPL 2006a). Therefore, the area surrounding the project is a sparsely developed corridor with few sensitive receptors.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that significant environmental impacts be identified, and that such impacts be eliminated or mitigated to the extent feasible. Section XI of Appendix G of CEQA Guidelines (Cal. Code Regs., tit. 14, App. G) sets forth some characteristics that may signify a potentially significant impact. Specifically, a significant effect from noise may exist if a project would result in:

1. Exposure of persons to, or generation of, noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies;

2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

3. Substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or

4. Substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The Energy Commission staff, in applying item 3) above to the analysis of this and other projects, has concluded that a potential for a significant noise impact exists where the noise of the project plus the background exceeds the background by 5 dBA L_{90} or more at the nearest sensitive receptor.

Federal agencies[1] have found that, in quieter environments, such as rural areas, an increase is usually not significant unless it is greater than 5 dBA. Staff thus considers it reasonable to assume that an increase in background noise levels up to 5 dBA in a rural setting is insignificant; an increase of more than 10 dBA is clearly significant. An increase between 5 and 10 dBA should be considered adverse, but may be either significant or insignificant, depending on the particular circumstances of a case.

Factors to be considered in determining the significance of an adverse impact as defined above include:

1. The resulting noise level [2];
2. The duration and frequency of the noise;
3. The number of people affected;
4. The land use designation of the affected receptor sites; and
5. Public concern or controversy as demonstrated at workshops or hearings, or by correspondence.

Noise due to construction activities is usually considered to be insignificant in terms of CEQA compliance if:

- The construction activity is temporary;
- Heavy equipment use and noisy activities are limited to daytime hours; and
- All industry-standard noise abatement measures are implemented for noise-producing equipment.

DIRECT IMPACTS AND MITIGATION

Noise impacts associated with the project can be created by short-term construction activities, and by normal long-term operation of the BEPTL.

Construction Impacts and Mitigation

Construction noise is usually considered a temporary phenomenon. Construction of the BEPTL is expected to last approximately 12 months (BLYTHE 2004a, AFC § 3.2.8, Table 3.2-6).

[1] *Federal Agency Review of Selected Airport Noise Analysis Issues*, Federal Interagency Committee on Noise (FICON), August 1992.

[2] For example, a noise level of 40 dBA would be considered quiet in many locations. A noise limit of 40 dBA would be consistent with the recommendations of the California Model Community Noise Control Ordinance for rural environments, and with industrial noise regulations adopted by European jurisdictions. If the project would create an increase in ambient noise no greater than 10 dBA at nearby sensitive receptors, and the resulting noise level would be 40 dBA or less, the project noise impact would likely be insignificant.

Compliance with LORS

Construction of an industrial facility such as a power plant is typically noisier than permissible under usual noise ordinances. Sensitive receptors near the linear facilities could be affected by noise from these activities. However, construction of linear facilities typically moves along at a rapid pace, thus not subjecting any one receptor to noise impacts for more than two or three days. In order to allow the construction of new facilities, construction noise during certain hours is commonly exempt from enforcement by local ordinances. Riverside County regulates the permissible hours of construction, but does not have any specific noise limits during those hours when construction is permitted.

Chapter 15.04.020 subsection (F)(1) of the County of Riverside General Regulations limits the hours of noisy construction activities to between 6 a.m. and 6 p.m. whenever a construction site is within one-quarter mile of an occupied residence or residences. Exceptions to these standards are allowed only with the written consent of the Building Official.

Blythe Energy has predicted construction noise levels and they are summarized here in **NOISE Table 2**.

NOISE Table 2:
Predicted Construction Noise Levels

Receptor/Distance (feet)	Highest Noise Level (dBA L_{eq})
50	91
100	85
500	71
1,000	65
2,500	57
5,000	51

Source: BLYTHE 2004a, AFC Table 5.8-3

Blythe Energy commits to performing noisy construction work during daytime hours between 7 a.m. and 7 p.m., except for those areas where local conditions or traffic considerations dictate otherwise; in those cases, working hours would be revised to be consistent with local requirements or adopted mitigation measures for the project (BLYTHE 2004a, AFC § 3.2.8). Once noisy construction comes within one-quarter mile of an occupied residence or other sensitive receptor, the daytime work hours must change to 6 a.m. to 6 p.m. to meet local LORS, unless written consent of the Chief Building Official for this alternative schedule is obtained. Staff believes that this work schedule will not cause a potential significant noise impact due to the lack of sensitive receptors in proximity to the project.

These provisions would satisfy the requirement of Chapter 15.04.020 subsection (F)(1). To ensure that these hours are, in fact, adhered to, staff proposes amended Condition of Certification **NOISE-8**.

Blythe Energy has stated that blasting is not anticipated, but it may be required in isolated instances for pole foundations. Blasting that may be necessary during transmission line construction could create a nuisance at sensitive receptors within proximity to such activities. Rocky areas are the most likely location where blasting would occur, most likely on the Buck to Julian Hinds transmission line route. No residential or other sensitive receptors are located in these areas. If it does occur, blasting would be of short duration, probably less than one or two days at any specific location, therefore noise impacts are not expected to be significant. Blasting impacts would be further mitigated by establishing limits on the time of day of blasting and by preparing a blasting plan for review and approval by the Bureau of Land Management (BLM) for the BLM controlled right-of-way (BLYTHE 2004a, AFC § 5.8.2.2). Staff believes that should blasting become necessary, it would be performed in compliance with applicable LORS.

Staff believes that construction of linear facilities typically moves along at a rapid pace, thus not subjecting any one receptor to significant noise impacts for more than two or three days. In the event that actual construction noise should annoy nearby workers or residents, Staff proposes amendments to existing Condition of Certification **NOISE-2**, which establishes a Noise Complaint Process that requires Blythe Energy to resolve any problems caused by construction noise.

Worker Effects

Blythe Energy has acknowledged the need to protect construction workers from overexposure to occupational noise hazards, and will implement a Hearing Conservation Program and Personal Protective Equipment Program to protect construction workers (BLYTHE 2004a, AFC § 5.13.2, Table 5.13-1). To ensure that construction workers are, in fact, adequately protected, Blythe Energy must comply with existing Condition of Certification **NOISE-3**.

Operation Impacts and Mitigation

Operational noise would include noise emitted by project facilities, such as humming and hissing, and noise from activities associated with maintenance. Humming noise from the transmission lines is estimated at approximately 44 dBA directly under a transmission line during inclement weather and about 20 dB during fair weather. These noise levels are very low and would not likely be audible away from the right-of-way (BLYTHE 2004a, AFC § 5.8.2.3). The nearest residences to either alignment are in Hayfield, approximately 500 feet from the proposed transmission line, and operational noise would be inaudible at that distance (BLYTHE 2004a, AFC §5.8.2.2; FPL 2006a). Therefore, Staff considers this impact less than significant.

Operational noise at the Buck Substation and Julian Hinds Substation would not be perceptibly different than current operations. At the proposed Midpoint Substation site, as well as at the newly proposed alternate site, there are no residences or sensitive receptors within two miles. Therefore, no operational noise impacts are expected from the Buck, Julian Hinds, or Midpoint Substations.

CUMULATIVE IMPACTS AND MITIGATION

The only other noise source of which Staff is aware that is near enough to the BEPTL to hold the potential for significant cumulative noise impacts is the Blythe Energy Project Phase II. Since BEPTL noise levels would be very low and would not likely be audible away from the right-of-way, it would be highly unlikely for the noise from these two projects or other transmission lines to combine to produce significant cumulative noise impacts.

Given the sparsely developed nature of the corridor, and no significant direct impacts from the project, staff deems it unlikely that the BEPTL would produce significant cumulative noise impacts.

PROJECT CHANGES TO THE BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATION PETITION

Blythe Energy has provided project changes for the BEPTL for the following project components:

1. Transmission line pole realignment near the Blythe City Airport, poles 8 through 28;
2. Transmission line pole realignment near the Julian Hinds Substation, poles 418 through 433;
3. Relocation of the Midpoint Substation; and
4. Transmission line pole realignment near Alligator Rock, poles 289 through 305.

Since the requested changes to the proposed original BEPTL petition pass no closer to the previously discussed sensitive noise receptors, and since there are no other new sensitive receptors in these areas, staff believes that these alternatives will not create any significant direct or cumulative noise impacts. The Project Description section of the SA/DEA has complete descriptions and maps of the BEPTL petition changes. (See project description.)

RESPONSE TO PUBLIC AND AGENCY COMMENTS

No comments received.

CONCLUSIONS

The BEPTL, if built and operated in conformance with the proposed Conditions of Certification below, would comply with all applicable noise and vibration LORS, and would produce no significant adverse noise impacts, either direct or cumulative.

PROPOSED AMENDED CONDITIONS OF CERTIFICATION

NOISE COMPLAINT PROCESS

NOISE-2 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

- Use the Noise Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- Attempt to contact the person(s) making the noise complaint within 24 hours;
- Conduct an investigation to determine the source of noise related to the complaint;
- If the noise is project related, take all feasible measures to reduce the noise at its source; and
- Submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to the complainant's satisfaction.

Verification: Within ~~30~~five days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form~~, or similar instrument approved by the CPM with the City of Blythe (or applicable Agency), and with the CPM~~ with the local jurisdiction and the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a ~~30~~ five -day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

CONSTRUCTION TIME RESTRICTIONS

NOISE-8 Noisy construction ~~work (that which causes off-site annoyance, as evidenced by the filing of a legitimate noise complaint)~~within one-quarter mile of an occupied residence shall be restricted to the times of day delineated below, except as allowed with the written consent of the Building Official:

~~High-pressure steam blows~~Any day: ~~8~~6 a.m. to ~~5~~6 p.m.
~~Other noisy work: According to City of Blythe Regulations and Riverside County Ordinance 457.90~~

Verification: Prior to ground disturbance, ~~T~~the project owner shall transmit to the CPM ~~in the first Monthly Construction Report~~ a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

EXHIBIT 1 - NOISE COMPLAINT RESOLUTION FORM

Blythe Transmission Line Project
(99-AFC-8c)

NOISE COMPLAINT LOG NUMBER _____

Complainant's name and address:

Phone number: _____

Date complaint received: _____
Time complaint received: _____

Nature of noise complaint:

Definition of problem after investigation by plant personnel:

Date complainant first contacted: _____

Initial noise levels at 3 feet from noise source _____ dBA Date: _____

Initial noise levels at complainant's property: _____ dBA Date: _____

Final noise levels at 3 feet from noise source: _____ dBA Date: _____

Final noise levels at complainant's property: _____ dBA Date: _____

Description of corrective measures taken:

Complainant's signature: _____ Date: _____

Approximate installed cost of corrective measures: $ _____
Date installation completed: _____
Date first letter sent to complainant: _____ (copy attached)
Date final letter sent to complainant: _____ (copy attached)

This information is certified to be correct:

Plant Manager's Signature: _____

(Attach additional pages and supporting documentation, as required).

REFERENCES

Blythe Energy, LLC, Blythe, California. (BLYTHE) 2004a. Petition for post certification amendment. Submitted to the Docket on October 12, 2004.

County of Riverside. Noise Element of the Riverside County General Plan.

County of Riverside. Chapter 15.04 of the Riverside County Code.

FPL Energy, LLC/ G. Palo (FPL) 2006a (tn:37598). Supplemental Information in the Petition for Post Certification Amendment, Response to Prehearing Conference Statements. Dated 8/7/2006. Submitted to Dockets on 8/8/2006.

NOISE APPENDIX A
FUNDAMENTAL CONCEPTS OF COMMUNITY NOISE

To describe noise environments and to assess impacts on noise sensitive areas, a frequency weighting measure, which simulates human perception, is customarily used. It has been found that A-weighting of sound intensities best reflects the human ear's reduced sensitivity to low frequencies and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. Decibels are logarithmic units that conveniently compare the wide range of sound intensities to which the human ear is sensitive. **Noise Table A1** provides definitions of technical terms related to noise.

Noise environments and consequences of human activities are usually well represented by an equivalent A-weighted sound level over a given time period (L_{eq}), or by average day and night A-weighted sound levels with a nighttime weighting of 10 dBA (L_{dn}). Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. Outdoor day-night sound levels can vary over 50 dBA depending on the specific type of land use. Typical L_{dn} values might be 35 dBA for a wilderness area, 50 dBA for a small town or wooded residential area, 65 to 75 dBA for a major metropolis downtown (e.g., San Francisco), and 80 to 85 dBA near a freeway or airport. Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered to be levels of noise adverse to public health.

Various environments can be characterized by noise levels that are generally considered acceptable or unacceptable. Lower levels are expected in rural or suburban areas than in commercial or industrial zones. Nighttime ambient levels in urban environments are about seven decibels lower than the corresponding average daytime levels. The day-to-night difference in rural areas away from roads and other human activity can be considerably less. Areas with full-time human occupation that are subject to nighttime noise, which does not decrease relative to daytime levels, are often considered objectionable. Noise levels above 45 dBA at night can result in the onset of sleep interference effects. At 70 dBA, sleep interference effects become considerable (Effects of Noise on People, U.S. Environmental Protection Agency, December 31, 1971).

In order to help the reader understand the concept of noise in decibels (dBA), **Noise Table A2** has been provided to illustrate common noises and their associated sound levels, in dBA.

Noise Table A1 Definition of Some Technical Terms Related to Noise	
Terms	**Definitions**
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a Sound Level Meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this testimony are A-weighted.
L_{10}, L_{50}, & L_{90}	The A-weighted noise levels that are exceeded 10%, 50%, and 90% of the time, respectively, during the measurement period. L_{90} is generally taken as the background noise level.
Equivalent Noise Level, L_{eq}	The energy average A-weighted noise level during the Noise Level measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 4.8 decibels to levels in the evening from 7 p.m. to 10 p.m., and after addition of 10 decibels to sound levels in the night between 10 p.m. and 7 a.m.
Day-Night Level, L_{dn} or DNL	The Average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10 p.m. and 7 a.m.
Ambient Noise Level	The composite of noise from all sources, near and far. The normal or existing level of environmental noise at a given location.
Intrusive Noise	That noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude level, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Pure Tone	A pure tone is defined by the Model Community Noise Control Ordinance as existing if the one-third octave band sound pressure level in the band with the tone exceeds the arithmetic average of the two contiguous bands by 5 decibels (dB) for center frequencies of 500 Hz and above, or by 8 dB for center frequencies between 160 Hz and 400 Hz, or by 15 dB for center frequencies less than or equal to 125 Hz.

Source: Guidelines for the Preparation and Content of Noise Elements of the General Plan, Model Community Noise Control Ordinance, California Department of Health Services 1976, 1977.

Noise Table A2 Typical Environmental and Industry Sound Levels			
Noise Source (at distance)	A-Weighted Sound Level in Decibels (dBA)	Noise Environment	Subjective Impression
Civil Defense Siren (100')	140-130		Pain Threshold
Jet Takeoff (200')	120		Very Loud
Very Loud Music	110	Rock Music Concert	
Pile Driver (50')	100		
Ambulance Siren (100')	90	Boiler Room	
Freight Cars (50')	85		
Pneumatic Drill (50')	80	Printing Press Kitchen with Garbage Disposal Running	Loud
Freeway (100')	70		Moderately Loud
Vacuum Cleaner (100')	60	Data Processing Center Department Store/Office	
Light Traffic (100')	50	Private Business Office	
Large Transformer (200')	40		Quiet
Soft Whisper (5')	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing

Source: Handbook of Noise Measurement, Arnold P.G. Peterson, 1980

Subjective Response to Noise

The adverse effects of noise on people can be classified into three general categories:

- Subjective effects of annoyance, nuisance, dissatisfaction.
- Interference with activities such as speech, sleep, and learning.
- Physiological effects such as anxiety or hearing loss.

The sound levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Workers in industrial plants can experience noise effects in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction, primarily because of the wide variation in individual tolerance of noise.

One way to determine a person's subjective reaction to a new noise is to compare the level of the existing (background) noise, to which one has become accustomed, with the level of the new noise. In general, the more the level or the tonal variations of a new

noise exceed the previously existing ambient noise level or tonal quality, the less acceptable the new noise will be, as judged by the exposed individual.
With regard to increases in A-weighted noise levels, knowledge of the following relationships can be helpful in understanding the significance of human exposure to noise.

1. Except under special conditions, a change in sound level of one dB cannot be perceived.

2. Outside of the laboratory, a three dB change is considered a barely noticeable difference.

3. A change in level of at least five dB is required before any noticeable change in community response would be expected.

4. A ten dB change is subjectively heard as an approximate doubling in loudness and almost always causes an adverse community response. (Kryter, Karl D., The Effects of Noise on Man, 1970)

Combination of Sound Levels

People perceive both the level and frequency of sound in a non-linear way. A doubling of sound energy (for instance, from two identical automobiles passing simultaneously) creates a three dB increase (i.e., the resultant sound level is the sound level from a single passing automobile plus three dB). The rules for decibel addition used in community noise prediction are:

Noise Table A3
Addition of Decibel Values

When two decibel values differ by:	Add the following amount to the larger value
0 to 1 dB	3 dB
2 to 3 dB	2 dB
4 to 9 dB	1 dB
10 dB or more	0
Figures in this table are accurate to ± 1 dB.	

Source: Architectural Acoustics, M. David Egan, 1988

Sound and Distance

Doubling the distance from a noise source reduces the sound pressure level by six dB.

Increasing the distance from a noise source 10 times reduces the sound pressure level by 20 dB.

Worker Protection

OSHA noise regulations are designed to protect workers against the effects of noise exposure, and list permissible noise level exposure as a function of the amount of time to which the worker is exposed:

Noise Table A4
OSHA Worker Noise Exposure Standards

Duration of Noise (Hrs/day)	A-Weighted Noise Level (dBA)
8.0	90
6.0	92
4.0	95
3.0	97
2.0	100
1.5	102
1.0	105
0.5	110
0.25	115

Source: 29 C.F.R. § 1910.95

SOCIOECONOMICS

Testimony of Joseph Diamond

SUMMARY OF CONCLUSIONS

The Blythe Energy Project Transmission Line Modification (BEPTL) will require a short construction period of 12 to 18 months. It uses largely local labor and will not create any significant negative socioeconomic impacts on the area's schools, housing, law enforcement, emergency services, hospitals, or utilities. Gross direct public benefits from the construction of the BEPTL include construction payroll, value of purchased materials and supplies, and sales and property taxes.

INTRODUCTION

In this California Energy Commission (Energy Commission) socioeconomic impact analysis, staff evaluated the project-induced changes on community services and/or infrastructure and related community issues such as environmental justice (EJ). Staff discusses the estimated impacts of the construction and operation of the BEPTL on local communities, community resources, and public services.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

California Government Code, Sections 65996-65997

These sections include provisions for school district levies against development projects. As amended by SB 50 (Stats. 1998, ch. 407, sec. 23), these sections state that public agencies may not impose additional fees, charges, or other financial requirements to offset the cost for school facilities.

SETTING

The BEPTL would be located in eastern Riverside County in Southern California. Affected communities include Hayfield, Desert Center, Mesa Verde and Blythe. The study area is Riverside County since impacts were assessed at that geographic level.

ASSESSMENT OF IMPACTS

Staff reviewed the BEPTL Petition for Post Certification Amendment, Socioeconomic section and socioeconomic data responses (BLYTHE 2004a, BLYTHE 2004e, and BLYTHE 2005a). Staff used the socioeconomic data provided and referenced from governmental agencies, trade associations and staff's independent analysis, and Blythe Energy, LLC's (Blythe Energy or Applicant) socioeconomic analysis.

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

In this analysis staff uses fixed percentage criteria for housing and environmental justice in evaluating potential impacts. For housing, staff considers a vacancy rate of five percent or less of permanent available housing as an indicator of a tight housing market with higher prices and possible overcrowding. For environmental justice, staff uses a threshold of greater than 50 percent for minority/low-income population of the total population in the affected area. Criteria for subject areas such as fire protection, water supply and wastewater disposal are analyzed in other sections of this SA/DEA. Educational impacts are subjectively determined but are moot, as described later. Impacts on medical services, law enforcement, community cohesion, and cumulative impacts are based on subjective judgments or input from local and state agencies. Typically, substantial non-local employment has the potential to result in significant impacts to the study area.

DIRECT IMPACTS AND MITIGATION

Population and Employment

The proposed BEPTL will require twelve months for construction, average 60 workers on-site, and require a maximum of 162 workers during the peak month of construction (BLYTHE 2004a., AFC page 1-8). The proposed BEPTL construction workforce is small compared to Riverside County's workforce of 52,500 in 2001. This workforce is expected to grow to 79,100 in 2008, a 50.7 percent increase (California Employment Development Division 2004).

Constructing the BEPTL will require the following types of workers: carpenters, electricians, steel and cement workers, laborers, equipment operators, pipe fitters and others. Table 1- Available Labor By Skill in Riverside County, provides an indication of the Riverside County labor pool. It shows the local labor in Riverside County relative to the small size of the proposed BEPTL which has an average workforce of 60 workers. Hence, very few workers are expected to relocate to the BEPTL area since staff has observed that construction workers will typically commute as much as two hours one-way to work. Those workers that do relocate during construction will probably not bring their families. The Blythe Energy and staff agree that most construction workers will come from Riverside County. No population is expected to be displaced by the BEPTL. Finally, the proposed BEPTL will not affect the operations workforce for the Blythe Energy Project (BEP) power plant (BLYTHE 2004a., AFC page 5.7-6).

SOCIOECONOMICS Table 1
Available Labor by Skill in Riverside County

Occupational Title	2004
Carpenters	11,130
Masons and Related Workers	2,130
Painters and Related Workers	1,540
Sheet Metal Workers	2,180
Electricians	3,110
Welders	1,270
Industrial Truck Operator	3,010
Construction Operating Engineers	1,860
Construction Labors	5,560
Pipe fitters, Plumbers	1,860
Mechanical Engineers	430
Electrical Engineers	260
Civil Engineers	800

Source: California Employment Development Department (2004).

Housing

According to Federal standards, permanent housing is considered to be in short supply if the vacancy rate is less than five percent (Cleary 1989). Staff does not expect any housing to be displaced (moved) as a result of this project. Sufficient vacant housing exists to accommodate any workers that elect to temporarily relocate to the project area. As of January 1, 2004, there were approximately 659,795 total housing units in Riverside County, with a vacancy rate of 13.3 percent. For the city of Blythe, there were 5,171 total housing units with a vacancy rate of 16.1 percent (California Department of Finance 2004). The Blythe area has approximately 23 motels with 1,100 rooms, 300 mobile home spaces, over 600 RV spaces, and additional apartments and condominiums (BLYTHE 2004a., AFC page 5.7-3). Again, most of the construction workforce is expected to come from Riverside County residents. There is adequate supply of motel space to accommodate those workers who may relocate (most likely on a week-to-week basis).

Fiscal and Non-Fiscal

Some fiscal impacts of the BEPTL are:

- Annual property taxes: $550,000 to $650,000 per year for a minimum of thirty years.
- Construction sales tax: $3.0 to $3.5 million associated with the initial purchase of the equipment and materials for transmission line components commencing in the 2007-2008 tax year.
- Operation sales tax: Negligible

Non-fiscal impacts include:

- The total value of the project is estimated to be $50 million (2004 dollars).
- The construction payroll is $15 to $20 million over twelve months beginning July 2006 through June 2007 (2006 dollars).

- The value of construction and operation equipment and materials is $40 to $45 million (2006 dollars) (BLYTHE 2004e., Data Responses, Data Response 63 and 64 and BLYTHE 2005a., Data Response, Data Response 63).

Public Services

Education

There will likely be a small number of in-migration construction workers taking temporary housing and they are not likely to bring their families. Most construction workers will commute. Operation of the substations and transmission lines will not require any addition to the current workforce, so the Palo Verde Unified School District will not likely experience any increase in enrollment due to construction and operation of the project. The Palo Verde Unified School District levies an impact fee of $0.31 per square foot per new construction of commercial/industrial buildings. There is no school impact fee associated with the proposed project since there are no new commercial or industrial buildings associated with the BEPTL (BLYTHE 2004a., AFC page 5.7-7).

Education Code section 17620 states that public agencies may not impose fees, charges or other financial requirements to offset the cost for "school facilities." School facilities are defined as "any school-related consideration relating to a school district's ability to accommodate enrollment." Local and state agencies are precluded from imposing (additional) fees or other required payments on development projects for the purpose of mitigating possible enrollment impacts to schools.

Law Enforcement

The Blythe Police Department Station, which has 25 law enforcement officers, is five miles from the BEP power plant and Buck BEPTL Substation. The Blythe Police Department estimates that emergency response to the Buck Substation would be three minutes and seven minutes for non-emergency response (BLYTHE 2004a., AFC page 5.7-4).

Cooperative agreements by the City of Blythe with other law enforcement agencies exist. There is an agreement with the Riverside County Sheriff's Department in Blythe, about five miles from the site, which has 18 sworn officers with emergency capability in the general Palo Verde Valley. The response time to the Buck Substation site would be ten minutes. Finally, the California Highway Patrol station in Blythe is about five miles from the Buck Substation (BLYTHE 2004a., AFC page 5.7-4).

Construction and operation of the BEPTL would not result in significant demands on law enforcement.

Public Utilities

This project is to provide transmission access for the BEP, which is owned by Florida Power and Light as a merchant plant. The power carried on the BEPTL will be sold on the wholesale market. BEPTL may eventually be owned by Southern California Edison, Western Area Power Administration (WAPA), or another entity. The BEPTL will not require any public services such as water or waste disposal; therefore these services will not be affected by the BEPTL.

Medical Services

The Blythe Ambulance Service would provide emergency medical service. Ambulance response time to the Buck Substation site would be from seven to ten minutes. Longer response times would occur to reach other parts of the proposed transmission line. The nearest hospital is Palo Verde Hospital in Blythe which is about five miles from the Buck Substation.

Helicopter Emergency Service (EMS) can be activated using the appropriate protocol by the Blythe Ambulance Service or AMR Ambulance Service (fifty miles west). Patients are sent to Palm Springs Desert Hospital (Watkins ROC 2004).

DEMOGRAPHIC SCREENING

The purpose of an environmental justice screening analysis is to determine whether a low-income and/or minority population exists within the potentially affected area of the proposed site. Staff conducts screening analyses in accordance with the "Final Guidance for Incorporating Environmental Justice Concerns in [the Environmental Protection Agency's] EPA's [National Environmental Policy Act] NEPA Compliance Analysis," Guidance Document (EPA 1998). Minority populations, as defined by this Guidance Document, are identified where either:

- the minority population of the local area is greater than 50 percent of the affected area's general population; or
- the minority population percentage of the area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis; or
- one or more census blocks in the local area have a minority population greater than 50 percent.

In 1997, the President's Council on Environmental Quality issued Environmental Justice Guidance that defines minorities as individuals who are members of the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander; Black not of Hispanic origin; or Hispanic. Low-income populations are identified with the annual statistical poverty thresholds from the Bureau of the Census's Current Population Reports, Series P-60 on Income and Poverty (OMB 1978).

Because of the linear nature of the proposed 67.4-mile transmission line addition to the BEP, and the low density of residential housing along the proposed route, staff chose to do its demographic screening in a different manner than is done for power plants. Staff conducted a windshield survey along the route to identify any housing within 0.25-mile of the proposed transmission line. Based on that information, Census Block information is provided for the only area along the route that contains a cluster of houses within the 0.25-mile range. For transmission lines, staff has established a 0.25–mile distance on each side as the area to review for demographic screening. In general, staff believes that this distance puts residents outside the range of potential adverse impacts from transmission lines.

On October 19, 2004, Energy Commission staff members Eric Knight and David Flores conducted a windshield survey of residences within 0.25-mile of the proposed 67.4-mile transmission line project. This survey determined the following:

- The community of Hayfield, located adjacent to the Julian Hinds Substation has approximately eight homes and various recreational structures. An existing transmission line is approximately 1,000 feet north of the existing community, and the proposed transmission line will be placed within a proposed 100-foot dedicated right-of-way adjacent to the existing transmission corridor, closer to the residences. The community of Hayfield was established for the workforce that is employed to maintain a State Water Project pumping station, and those workers' families.
- There is also one residence located approximately 0.25-mile west of the proposed transmission line in the vicinity of the community of Blythe. This residence is approximately 0.5-mile west of the existing Blythe power plant site.

Based on 2000 Census data, the community of Hayfield is within three Census Blocks (5305, 5306 and 5307) which have the following population breakdown:

White, Not Hispanic:	17
Total Population:	22
Percent Minority:	22.7 percent

Staff also reviewed Census Block Group data (the smallest unit to collect poverty data) and found the poverty status individuals are 51 of 546 or 9 percent of the population. By Census Tract, the individuals in the below poverty status category are 503 of 2,345 or 21 percent of the population.

The nine residences described above are the only population within 0.25-mile of the proposed transmission line. Staff has determined that the population potentially affected by the proposed transmission line project is not greater than 50 percent for minority or low-income. The proposed BEPTL does not result in any significant adverse socioeconomic impacts, and it does not break-up any communities.

CUMULATIVE IMPACT

Cumulative impacts might occur when more than one project has an overlapping construction schedule that creates a demand for workers that can not be met by local labor, resulting in an influx of non-local workers and their dependents.

Again, the BEPTL will average 60 workers per month and 162 during the peak month with yet to be determined starting and ending dates, for twelve months.

Other projects planned in Riverside County in addition to BEPTL are:

- an ongoing capital improvement project at the City of Riverside Waste Water Treatment Plant
- the Riverside Energy Resource Center (RERC). This is a nine-month construction project with an average workforce of 41 and 53 workers during the sixth (peak) month of construction. The project was approved at the Commission Business Meeting on December 15, 2004 and is currently under construction.
- Inland Empire Project (670 megawatts (MW), Riverside County). Project approved by the Energy Commission December 17, 2003 but the construction start date is unknown. Inland Empire Modification (130 MWs, Riverside County) Amendment was filed on March 11, 2005. This is a change to the 670 MW Inland Empire Project. The construction term will not change, but the construction start date is unknown.

Overall, the Riverside County construction labor market is sufficiently large (52,500 in 2001 and estimated at 79,100 in 2008) to absorb a large part of the needed manpower for the BEPTL construction in addition to other identified Riverside County projects which may be under construction at or near the same time. Therefore, staff does not foresee any significant adverse socioeconomic cumulative impacts.

PROJECT CHANGES TO THE BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATION PETITION

Blythe Energy has provided changes for the BEPTL amendment for the following transmission line components:

1. Transmission line pole realignment near the Blythe Municipal Airport, poles 8 through 28. This would involve the removal of two acres of citrus trees for which the landowner would be compensated.

2. Transmission line pole realignment fear the Julian Hinds Substation, poles 418 through 433.

3. Realignment of the Midpoint Substation.

4. Transmission line pole realignment near Alligator Rock, poles 289 through 305.

The requested changes to the proposed BEPTL petition would not create any socioeconomic issues or significant impacts. The Project Description section of the SA/DEA has complete descriptions and maps of the BEPTL petition changes. (Please see the Project Description.)

NOTEWORTHY PUBLIC BENEFITS

Important gross direct public benefits discussed under the fiscal and non-fiscal section are: annual property taxes, construction sales tax, construction payroll, and the value of construction and operation equipment and materials.

RESPONSE TO PUBLIC AND AGENCY COMMENTS

No comments were received.

CONCLUSIONS

Estimated gross direct public benefits from the BEPTL include increases in sales taxes, employment, and income for Riverside County. For example, there are estimated to be 60 average direct project-related construction jobs for the twelve to eighteen months of construction. The total value of the project is estimated to be $50 million (2004 dollars). The estimated total sales tax during construction and operation is $3.0 to $3.5 million commencing in the 2007-2008 fiscal tax year, construction payroll of $15 to $20 million over twelve months beginning July 2006 through June 2007 (2006 dollars), property taxes at $550,000 to $650,000 per year for a minimum of 30 years of the BEPTL life, and the value of construction and operation equipment and materials at $40 to $45 million (2006 dollars).

Staff concludes that the BEPTL will not cause a direct or cumulative significant adverse socioeconomic impact on the study area's housing, schools, law enforcement, emergency services, hospitals, and utilities.

Table 2 that follows is a summary of the socioeconomic data presented in this analysis.

PROPOSED CONDITIONS OF CERTIFICATION

None.

SOCIOECONOMICS- Table 2[1]

Project Capital Costs	$50 million (2004 dollars)
Estimate of Locally Purchased Equipment and Materials	
Construction and Operation	$40 to $45 million (2006 dollars)
Estimated Annual Property Taxes	$550,000 to $650,000 per year for a minimum of 30 years.
Estimated School Impact Fees	N/A
Direct Employment	
Construction (average)	60 jobs
Operation	N/A
Secondary Employment	
Construction	N/A
Operation	N/A
Direct Income	
Construction	N/A
Operation	N/A
Secondary Income	
Construction	N/A
Operation	N/A
Payroll	
Construction	$15 to $20 million (2006 dollars) beginning July 2006 through June 2007.
Estimated Sales Taxes	
Construction	$3.0 to $3.5 million for 2007 to 2008 fiscal year.
Operation	Negligible
Existing /Projected Unemployment Rates	Existing – 6.1 percent in September 2004 (preliminary), not seasonally adjusted for Riverside County. Projected - Not available.
Percent Minority Population (6 mile radius)	N/A But based on the 2000 Census the community of Hayfield is within three Census Blocks (5305, 5306 and 5307) and has 22.7 percent.
Percent Poverty Population (6 mile radius)	N/A But Census Block Group (06 065 0458.00 5) has 9 percent of the population and Census Tract (06 065 0458.00) has 21 percent of the population.

[1] Construction is for twelve months and BEPTL life is planned for 50 years. Economic (non-fiscal and fiscal) impacts, unemployment, and population information are for Riverside County, the study area.

REFERENCES

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SOIL AND WATER RESOURCES

Testimony of John Kessler

SUMMARY OF CONCLUSIONS

Staff concludes there will not be any significant adverse impacts to soil and water resources as a result of the proposed Blythe Energy Project Transmission Line (BEPTL). The BEPTL project would comply with all applicable LORS. Staff's conclusions are based on the adequacy of the Applicant's response to issues identified in their draft Drainage, Erosion and Sedimentation Control / Stormwater Pollution Prevention Plan (DESC/SWPPP). Where actual or potential impacts are identified, staff has recommended either elimination of the impact or mitigation measures to reduce the significance of the impact and, as appropriate, has recommended conditions of certification.

INTRODUCTION

In this section staff analyzes the potential effects of the BEPTL on soil and water resources. The analysis specifically focuses on the potential for the project to:

- Accelerate wind or water erosion and sedimentation;
- Exacerbate flood conditions in the vicinity of the project;
- Adversely affect surface or groundwater supplies;
- Degrade surface or groundwater quality; and
- Comply with all applicable laws, ordinances, regulations and standards.

The primary issue identified by staff in this analysis is the sufficiency of Best Management Practices (BMPs) for preventing erosion and sediment transport/deposition of soils characterized as having a high potential for erosion. Although the project area does not receive much precipitation, many of the transmission towers will be located in ephemeral drainages, which are normally dry washes but can become channels with high volumes of flowing water during periods of intense precipitation. Both water and wind establish a mechanism for erosion and sediment transport. During construction, the affected soils are more vulnerable to erosion due to removal of vegetation and topsoil, and grading and excavation activities. The proper application of various temporary BMPs, coordinated progressively with each step of construction for both the transmission line and substation components, is essential to avoid significant adverse impacts to soil and water resources. Upon completion of construction, the proper application of various permanent BMPs to all project components is essential to avoid significant adverse impacts to soil and water resources during project operation.

Staff believes the Applicant is working diligently to identify site-specific drainage, erosion and sediment transport/deposition issues within the project area, and to plan the application of proper temporary BMPs during construction and permanent BMPs during project operation. The Applicant has established its initial plans by preparing a draft

DESC/SWPPP for the transmission line and substation components. Staff has reviewed the draft DESC/SWPPP and a subsequent update to the DESC/SWPPP as filed on May 19, 2005, in its Supplemental Response to Data Requests - Soil and Water Data Request #65 (BEPTL 2005), and believes its specific concerns have been reasonably addressed at this time. Staff is confident that any remaining issues associated with the DESC/SWPPP can be addressed during Applicant's preparation and implementation of final plans in accordance with the recommended conditions of certification.

LAWS, ORDINANCES, REGULATION, AND STANDARDS

SOIL AND WATER Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Federal LORS	
Clean Water Act (33 U.S.C. Section 1257 et seq.)	The Clean Water Act (33 USC § 1257 et seq.) requires states to set standards to protect water quality, which includes regulation of storm water discharges during construction and operation of a facility. These are normally addressed through a general National Pollutant Discharge Elimination System (NPDES) permit. For the BEPTL, regulation of water quality is administered by the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB).
Section 404 Permit to Place or Discharge Dredged or Fill Material	Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including rivers, streams and wetlands. The Army Corps of Engineers (ACOE) issues site-specific or general (nationwide) permits for such discharges.
Section 401 Water Quality Certification	Section 401 of the Clean Water Act provides for state certification that Federal permits allowing discharge of dredged or fill material into waters of the United States will not violate Federal and state water quality standards. These certifications are issued by the RWQCBs. Proposed linear facilities can also cross ephemeral drainages that are considered waters of the United States.
Resource Conservation and Recovery Act	The Resource Conservation Recovery Act (RCRA) of 1976 (40 CFR Part 260 et seq.) seeks to prevent surface and groundwater contamination, sets guidelines for determining hazardous wastes, and identifies proper methods for handling and disposing of those wastes.
Federal Lands Prolicy Management Act	The Bureau of Land Management (BLM) requires the Applicant to prepare an Access Road Use Plan to address use of existing roads and adjacent construction areas on BLM managed lands and mitigate any potential impacts.
State LORS	
The Porter-Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq.	Requires the State Water Resources Control Board (SWRCB) and the nine RWQCBs to adopt water quality criteria to protect state waters. In addition, discharges to land for the protection of surface and groundwater are regulated under Title 23, California Code of Regulations, Chapter 15, Division 3. These regulations require that the RWQCB issue Waste Discharge Requirements specifying conditions for protection of water quality as applicable.

Local LORS	
Riverside County	General Plan Water Quality Objective Number 1 maintains jurisdiction over nonpoint sources of water pollution including runoff from developed or urban areas, grading, construction, and agricultural activities.
Riverside County	Has adopted ordinances, goals, and objectives through the Riverside County General Plan related to development in productive agricultural areas. Agricultural objectives are intended to encourage agriculturally productive lands to remain in agriculture and to discourage incompatible urban development adjacent to agricultural lands.
Riverside County	Grading Ordinance 457 regulates grading and trenching to minimize soil erosion and ensure soil conservation.
Riverside County	Environmental Hazards and Resources goals encourage the preservation and growth of agriculture while allowing agricultural land to phase into other land uses.
City of Blythe	The City has adopted a number of policies and goals related to water resources in the City's General Plan. Water resources goals and policies are intended to promote wise utilization of the Palo Verde Valley's domestic, agricultural, and potable water sources and to encourage water conserving designs and technology to protect the Valley's vital water resources.
City of Blythe	The City has also adopted water resources policies intended to protect the quality of the Valley's water resources from potential sources of contamination, as well as requiring mitigation for significant impacts to water quality and quantity.
City of Blythe	The City requires developments on the Mesa to submit an erosion control plan for review and approval by City.
Guidance Provided by State Constitution, Acts, Policies and Orders	
California Water Code Section 13146	Requires that state offices, departments and boards in carrying out activities which affect water quality, shall comply with state policy for water quality control unless otherwise directed or authorized by statute, in which case they shall indicate to the SWRCB in writing their authority for not complying with such policy.
California Water Code Section 13247	Requires that state offices, departments, and boards, in carrying out activities which may affect water quality, shall comply with water quality control plans (i.e., Basin Plans) approved or adopted by the SWRCB unless otherwise directed or authorized by statute, in which case they shall indicate to the appropriate RWQCB in writing their authority for not complying with such plans.
SWRCB Water Quality Order 92-08	Requires the SWRCB to regulate industrial stormwater discharge from construction projects affecting areas greater than 1 acre to protect state waters. Under Order 92-08 the Colorado River Basin RWQCB will issue NPDES permits for construction activities based upon an acceptable Storm Water Pollution Prevention Plan (SWPPP) submitted by the Applicant.

SETTING

The Setting and Environment are discussed in context with the construction and operation activities associated with the proposed BEPTL. Therefore, a brief description of the proposed construction and operation activities is first summarized below. See the Project Description for more detail.

PROJECT DESIGN, CONSTRUCTION, AND OPERATION

Construction Activities

The BEPTL Modification and expansion activities will involve the following general components:

- Preparation of staging and laydown areas.
- Access road and spur road construction and improvement.
- Clearing and grading of pole sites.
- Foundation preparation and installation of poles.
- Conductor installation.
- Cleanup and site reclamation.

ENVIRONMENT

Climate, Topography, and Precipitation

The site is located entirely within the Mojave Desert where mountainous areas typically have steep slopes and shallow soils, the desert washes (drainages), streambeds and floodplains are subject to high flows, flash floods, and significant erosion during intense rainfall events. Furthermore, there are several sensitive environmental areas traversed by the transmission line project(s).

The region is characterized by hot summers, mild winters, infrequent rainfall, variable winds, and very low humidity. The average maximum temperatures vary from 109°F in the summer to 67°F in the winter, with temperatures below freezing infrequent.

The Mojave Desert is a transitional zone between the hot Sonoran Desert to the south and the cooler and higher Great Basin Desert to the north, and has an area greater than 25,000 square miles. Precipitation in this area is low and ranges from about 2.5 to 5.5 inches per year. There are two rainy periods consisting of October through March, and the monsoon season of late July through September, with over half the precipitation falling between November and February. During the late spring, summer, and early fall months dry, hot weather predominates with occasional heavy thunderstorms between July and September. Monsoon associated rainfall can be intense and may result in flash flood events.

Mountainous areas receive the greatest precipitation, with the steep slopes and shallow soils resulting in rapid runoff into the drainages and valleys. The valleys contain thick alluvial deposits washed down from the mountains, where surface flows infiltrate and provide minor recharge to groundwater basins (BEPTL 2004).

Soils

Soils crossed by the proposed project include sandy loams, silty clay loams, silty clays, gravelly loamy sands, gravelly sands, sand, and dune soils. In the Palo Verde Valley the

soils are primarily formed in sediments deposited by the Colorado River. These soils are highly productive and are ideal for agricultural use due to their mineral content. The Natural Resources Conservation Service (NRCS) classifies the following soil types in the area as prime farmland:

- Aco gravelly loamy sand
- Aco sandy loam
- Orita gravelly fine sandy loam
- Rositas fine sand on zero to 2 percent slopes

Soil related issues in the project area include a high potential for wind and water erosion, compaction, and shallow depth to bedrock. While soils with high compaction potentials will not be crossed in the project area, there is a high potential for wind and water erosion.

Land Disturbance

The construction and permanent disturbance area for all project features is provided in **SOIL AND WATER Table 2**.

The Desert Center Laydown Area is not included as a disturbed area in **SOIL AND WATER Table 2** because it is presently used for heavy equipment storage and parking, and the proposed BEPTL will not require any site preparation or change the existing use (BEPTL 2004c). Staff acknowledges that the Applicant provided updated land disturbance data in Table DR#65-1, but found there were several inconsistencies in the data (BEPTL 2005). The revised data appears to indicate that the overall land disturbance as a result of constructing the transmission lines may be less than previously estimated on the order of about 30 acres, which will reduce the total project land disturbance from about 250 to 220 acres. This minor change does not have an effect on staff's evaluation. However, considering the inconsistencies and the lack of detail showing how areas were calculated in the new data, staff is presenting the amount of land disturbance as originally provided by the Applicant. The Bureau of Land Management (BLM) requires the Applicant to prepare an Access Road Use Plan to address use of existing roads and adjacent construction areas on BLM managed lands and mitigate any potential impacts. The plan is intended to include reviewing the need for installation of culverts and other road improvements if necessary on a site-specific basis to address construction impacts.

SOIL AND WATER Table 2
Land Disturbance for All Project Features

Feature	Quantity	Disturbance Area	Construction Disturbance (acres)	Permanent Disturbance (acres)	Total
Crossing Structures	14	95'x100'	3.05	0.0	3.05
Crane Pad, Spur Road & Turning Radius (Poles 1-57)	57	25' x 25'	0.82	0.0	0.82
Pole Pad Construction Area	438	50'x50'*	25.14	0.24	25.37
Crane Pad for Tower Erection	381	23' x 165'	33.19	0.0	33.19
Truck Turning Radius (390 Poles)	390	0.1 acre	39.0	0.0	39.0
Pull Stringing Setups	36	50' x 140'*	5.79	0.0	5.79
Splicing Setups	23	95' x 200'*	10.03	0.0	10.03
New Access Roads	0	14' wide	N/A	1.14	1.14
Access Road Improvement (MP 3.5 – 7.0)		2' widening	N/A	0.85	0.85
Access Road Improvement (MP 7.0 – 67.4)		4' widening	N/A	30.98	30.98
Spur Roads	381	173' x 12'	N/A	18.16	18.16
Radius from access road to spur road	0	4315 sq ft	N/A	39.0	39.0
Midpoint Substation	1	41.3 acres	0.00	41.3	41.3
Julian Hinds Substation Laydown	1	150' x 150'	0.50	0.0	0.50
Julian Hinds Substation Expansion	1	75' x 240'	N/A	0.41	0.41
Total Estimated			117.52	132.08	249.60

Source: Table 2-2, BEPTL 2004a

*The Applicant, in consultation with Western Area Power Administration (Western), BLM, U.S. Fish & Wildlife Service and California Department of Fish & Game, revised the land disturbance estimates from those shown above for the Biological Evaluation and Biological Assessment. However, the revised disturbance estimates provided to staff do not provide the detail for each type of construction activity, as the original estimates do as shown above. These disturbance estimates are still preliminary and subject to further change based on agency comments to the Biological Evaluation and Assessment (BEPTL 2005). Therefore, the actual disturbance may be higher or lower than presented at this time. A final accounting of the actual disturbance will be based on aerial photo interpretation and verification. See the **Biological Resources Section** of the Final SA/DRAFT EA.

Water Resources

The primary water sources for domestic and agricultural beneficial uses in the Palo Verde area are derived from the Colorado River through surface diversions and groundwater pumping. Surface diversions are used primarily to supply water for agricultural use in the valley. Groundwater pumping is used for local water supply by the City of Blythe, the Mesa Verde Community, and by individual property owners, particularly on the Mesa where the surface-water delivery infrastructure is limited (BEPTL 2004).

Surface Water

With the exception of drainages that discharge into the Colorado River, the other drainages in the area are internal and terminate in closed basins. The low precipitation, high evaporation rate, and typically highly permeable soils in the local washes preclude the existence of perennial streams in the area. Flow in the dry washes (ephemeral drainages) can be substantial during rainfall events, may result in flashflooding in the streambeds and floodplains, and have the potential to cause significant erosion (BEPTL 2004).

The proposed project will cross the Colorado, Chuckwalla, and Hayfield hydrologic basins and span dry desert washes. These washes are generally identified in AFC Figure 5.4-2 (BEPTL 2004).

Groundwater

A groundwater basin is defined as an area underlain by impermeable materials capable of furnishing a significant supply of groundwater to wells or storing a significant amount of water. The basins in the proposed project area are filled above bedrock with Quaternary alluvial deposits mostly consisting of sand and gravel, with lesser amounts of silt and clay prevalent near the center of a basin. Alluvial basins in this area are normally hundreds to thousands of feet thick in these central areas, and gradually decrease to zero thickness where they meet the surrounding bedrock at the surface. Such sedimentary deposits have high porosities and store substantial volumes of groundwater. Deposits near the mountain flanks are generally more coarse, angular, steeper, and less well sorted relative to those in the basin center (BEPTL 2004).

The principal groundwater basins underlying the project and the depth below ground surface (bgs) to groundwater are as follows (BEPTL 2004):

- Palo Verde Mesa Basin — 70 to 30 feet bgs
- Buck Substation — 89 feet bgs
- Chuckwalla Basin — 50 to 200 feet bgs
- Hayfield Valley Basin — not provided, but said to be “deep”

The Applicant states that because the depth to groundwater is deep relative to the construction activities it is unlikely that groundwater will be encountered or affected by the construction or operation of the project. However, the depth below ground surface is not provided for all project components.

Construction and Operation Water Use

Nearly all water use for the BEPTL project will occur during construction and be primarily for control of fugitive dust emissions and mixing concrete.

Approximate anticipated water use is as follows:

- Transmission Line Construction: 128,000 gallons per day.
- Buck Substation Construction: 16,000 gallons per day
- Midpoint Substation Construction 64,000 gallons per day
- Julian Hinds Substation Construction: 16,000 gallons per day

The eastern portion of the project will likely be served by Palo Verde Irrigation District (PVID), which will support construction at Buck and Midpoint Substations and the transmission line from approximately Milepost 0 to 28. PVID's water will likely be drawn from two locations: 1) Hobson Way and CO-3 Canal (about 1.5 miles east of BEP); and 2) 22nd Ave. at CO-3-11-4 Canal (about 1 mile east of Midpoint Substation) (BEPTL 2004b). The western portion of the project will likely be served by the Kaiser Eagle Mountain mining operation ~~Metropolitan Water District (MWD)~~, which will support construction at Julian Hinds Substation and of the transmission line from approximately Milepost 28 to 67.4. Water from Kaiser Eagle Mountain ~~MWD~~ will be drawn from the mining operation located near Desert Center (BEPTL 2006) ~~Colorado River Aqueduct near the Julian Hinds Substation (BEPTL 2004b)~~.

During project operation, the Midpoint Substation would rely on bottled water for potable needs. There would not be any change in existing water use for operations at the Buck and Julian Hinds Substations.

Wastewater

Wastewater could be generated during construction in the event dewatering is necessary during excavation or augering of the transmission tower foundations. Overall, dewatering efforts are not expected during construction, except possibly for a few transmission foundations between Mileposts 1.0 to 3.0, located adjacent to irrigated lands in agricultural production. Operation of the BEPTL would not generate any sanitary wastewater, since no new sewer facilities are proposed for the transmission line or substation features.

Stormwater

Buck Substation

The minimum grade for the Buck substation is 1 percent slope and all drainage is directed away from structures within the site. Part of the on-site drainage is captured in an ephemeral stream channel and discharged offsite. The storage capacity of the existing stormwater retention basins/evaporation ponds already includes the runoff from the area of the proposed substation modifications.

Julian Hinds Substation

The Julian Hinds substation modifications include a permanent expansion of approximately 0.4 acres and a temporary use of an additional 0.5 acres for construction staging/laydown. Minimum grade for the modified substation area will be 1 percent, and all drainage will be directed away from structures within the footprint and discharged to a dry wash to the south. The topography is generally level. The area was graded when the substation was originally constructed, and no additional grading is required.

Midpoint Substation

For the Midpoint Substation, an area of about 41 acres will be needed in total for construction laydown and permanent equipment. The natural topography varies from about elevation 380 feet to 385 feet above mean sea level (AMSL). Proposed earthwork would primarily consist of excavation of foundations for the transformers and small control building. The existing gentle slope will be retained and extensive site grading will not be required, as the substation grade will be at an average elevation of approximately 383 feet AMSL. Any excess soil from foundation excavations will be retained onsite and spread over the roadway sections to elevate them before paving. The area will be covered with concrete for the equipment pads and foundations, with gravel covering the ground in areas adjacent to the switchgear. A perimeter road will encircle the switchgear and gravel area, and natural vegetation will grow on soil between the perimeter and fenced boundary. The flow of stormwater will ultimately follow the existing drainage pattern towards the northeast corner of the site. The site will be graded to gently slope from the center of the site towards the outside. Perimeter swales will collect and convey storm water to the northeast corner, where it would be discharged outside the Midpoint Substation boundary and would follow natural drainage paths outside the boundary.

Transmission Lines

The transmission line crosses many dry washes and could be constructed in areas prone to flash flooding that could easily erode disturbed areas during or following construction, or potentially erode around the tower footing structures. Erosion from storm water runoff is also prone to areas with steeper slopes, even outside the dry washes. The steeper slopes along the transmission line route include: a) between Mileposts 43 to 45, where slopes are generally 2-5% except for two poles on a slope of 8%; b) between Mileposts 49 to 55 where slopes are generally less than 6%, except for 3 poles on slopes ranging from 11 to 17%; and c) in the area near Julian Hinds Substation between Mileposts 66 to 67.4, where slopes are generally 6%, except for two poles to be located on slopes of 23% and 28% respectively (BEPTL 2004c).

Excavation of soils for pole foundations will produce approximately 13 cubic yards per pole, resulting in a project total of approximately 5,700 cubic yards. Excavated soils from construction of the pole foundations will be disposed of in the local Blythe Sanitary Landfill or used as fill in access road construction/maintenance. Potential impacts without proper application of BMPs could be significant. The reduction in vegetative cover resulting from construction of the towers, and related access road improvements, would likely cause some increase in water and wind erosion.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

The methods used to analyze impacts and determine thresholds of significance for any impact are in many cases particular to the situation, and reflect a site-specific approach for each project component and each impact. While all projects will likely have impacts, the goal is to limit any impacts to an insignificant or acceptable level, or to avoid them, if possible. Such a determination will rely on science, technology, expert opinion, and best professional judgment to determine what the level of change to the baseline or pre-existing conditions should be allowed.

The available scientific, technical, or other appropriate literature will be considered in the analysis and determination of significant impacts. Other individuals such as scientists and engineers with expert knowledge or expertise in a particular aspect of the project will also be consulted as necessary and their expert opinion or analysis considered as appropriate. It may also be necessary to obtain project-specific studies or assessments in order to establish thresholds, adequately estimate the project's impacts, and develop appropriate mitigation. An example is runoff calculations to estimate if the proposed stormwater system is adequately designed and sized to prevent significant drainage, erosion, and sedimentation impacts.

Responsible or co-lead (CEQA/NEPA) agencies (or those with an advisory or trustee capacity), particularly those with discretionary approval over various aspects of the project will be consulted as required. Such agencies as Western and the BLM in this case, have extensive expertise and LORS responsibility for issues under their jurisdiction. Where it is necessary for the project to conform to legally enforceable LORS or other regulatory requirements whose purpose is to define an allowable level of impact or activity, such requirements may be used if they are determined to be adequate as thresholds of significance.

The principal threshold criteria for determination of significant impacts is related to the performance of the stormwater and erosion control BMPs. Stormwater and erosion events must be adequately controlled by construction and operational practices and BMPs such that stormwater and sediments remain within designated areas and do not move outside of these areas as described by the DESCP. Appropriate BMPs must be in place at the start of construction activities, must be monitored for effectiveness during construction, and must be immediately upgraded and/or replaced if determined to be ineffective at controlling stormwater and sedimentation within designated areas. Effective construction BMPs and operational practices are necessary to prevent or mitigate stormwater and erosion related impacts to less than significant.

Stormwater related drainage, erosion, and sedimentation control issues with the BEPTL for construction and operational Best Management Practices (BMPs) and procedures are being evaluated. The need to develop, implement, monitor, maintain, and modify or change as appropriate construction and operational plans, procedures, and BMPs to prevent the occurrence of significant impacts will be considered in a manner similar to a threshold of significance, i.e., if not for effective BMPs, significant impacts would likely occur. Requiring appropriate and effective BMPs is analogous to using performance

criteria rather than prescriptive measures to ensure impacts remain less than significant. However, staff will recommend and propose conditions of certification specifically prescribing BMPs and procedures where necessary.

DIRECT/INDIRECT IMPACTS AND MITIGATION

The direct and indirect impacts of the project in the Soil and Water Resources technical area are primarily related to drainage, erosion, and sedimentation control during both the construction and operational phases of the project. Most of the potential impacts are expected to occur during construction, with a lower potential of occurring during the operation and maintenance phase of activities. These are discussed as follows.

Soils

Soil related issues in the project area include a high potential for wind and water erosion, especially while soils are disturbed during construction, lacking their normal, although limited, natural vegetative cover. Water erosion can also erode the soil around the tower footings for those towers that will be placed within an ephemeral drainage. While the water erosion around the pole footings is not expected to compromise its structural integrity considering that the pole will be founded 20 feet below ground, the freshly disturbed area will be more likely to erode and transport/deposit sediment downstream within the ephemeral drainage, which would result in a significant adverse impact. To avoid a significant impact the Applicant proposes to dispose of excavated soils from the pole foundations at the Blythe Sanitary Landfill or to use the fill in access road construction/maintenance. At the proposed Julian Hinds and Midpoint Substation project features, all excavated soil would be retained and placed onsite, with minimal grading needed. In addition, the Applicant has established some general approaches for erosion and sediment control which include the following:

- Minimizing initial land disturbance and clearing within the working area;
- Segregating topsoil, stockpiling and replacing;
- Applying temporary and permanent erosion control measures; and
- Restoration of disturbed areas.

In its draft DESC/SWPPP, the Applicant has proposed a range of temporary BMPs applicable during construction, and permanent BMPs to be maintained during operation. In the process of clearing and grading, vegetation will be lost. The Applicant proposes to use natural seed stock in the topsoil to germinate and re-establish vegetation, without planting of additional seed or more mature vegetation. Staff was initially concerned that the re-establishment of vegetation would occur slowly and in a very limited manner, and would not be adequate to protect newly disturbed soils for the first several years after construction causing a significant adverse impact. In response to staff's concern as listed among others in the draft SA/EA, Commission staff published a Preliminary Staff Assessment (PSA) and also conveyed a summary of concerns in a letter from staff to the Applicant dated January 20, 2005 (CEC 2005). The Applicant has demonstrated that its proposed treatment appears to be consistent with other previously proven and successful practices in the area (BEPTL 2005). The Applicant has provided photo documentation of revegetation results from the North Baja Pipeline Project, which indicates a sufficient level of vegetative ground cover was established within two years

following construction of the pipeline between March 2003 and March 2005. The proposed revegetation methods for BEPTL appear adequate as would be applicable for Midpoint Substation, the transmission tower construction sites, and possibly the access roads. Following construction, permanent BMPs for erosion protection are not a concern at either Julian Hinds Substation because it would be covered with gravel, or Buck Boulevard Substation, as it is not being disturbed significantly from existing conditions.

Mitigation measures have been designed to reduce any soil erosion impacts to less than significant levels. Condition of Certification **SOIL AND WATER-1** requires the project owner to comply with all of the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity. At this time, the Applicant is preparing a combined DESC/SWPPP, which will serve both the CEC's and RWQCB's purposes. Condition of Certification **SOIL AND WATER-2** requires the project owner to obtain the Commission Compliance Project Manager's (CPM) approval for a site-specific final Drainage, Erosion and Sedimentation Control Plan (DESCP) that addresses all project elements and ensures protection of water and soil resources for both the construction and operational phases of the project. Condition of Certification **SOIL AND WATER-3** requires the project owner to comply with all requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity. The project owner is to develop and implement a Storm Water Pollution Prevention Plan for the operation of Midpoint Substation.

The BLM requires the Applicant to prepare an Access Road Use Plan under the Federal Lands Protection Management Act to address use of existing roads and adjacent construction areas on BLM managed lands and mitigate any potential impacts. The plan is intended to include reviewing the need for installation of culverts and other road improvements if necessary on a site-specific basis to address construction impacts. Condition of Certification **SOIL AND WATER-12** requires the Applicant to prepare and submit the Access Road Use Plan to BLM for review and approval, and to the CPM with evidence that BLM has approved the plan prior to construction. Staff also may receive additional input from BLM as to recommendations for permanent BMPs including initial revegetation practices to disturbed soils and/or performance monitoring that could lead to subsequent erosion control treatment associated with the project that would be specified in the Final DESC/SWPPP and BLM's Access Road Use Plan to be approved by the CPM during the compliance phase of the project.

Water Resources

Surface Water

There are no permanent water bodies or perennial streams along the proposed Buck to Julian Hinds transmission line route, or near the Buck or Julian Hinds substations. There are a large number of desert washes (ephemeral drainages) that could potentially be impacted by construction, particularly along the transmission line route. During construction, vegetation will be removed from soil surfaces resulting in disturbed areas (see **SOIL AND WATER Table 2**). Grading, road construction, tower footing excavation, and other construction activities will expose soils and create an increased potential for erosion and sediment discharge into watercourses and washes, particularly during periods of rainfall. Such impacts would be significant if left unmitigated (BEPTL 2004).

All surface features crossed by the BEPTL are dry washes. Wherever possible, the transmission poles would be placed outside of these areas. Most of the transmission line route has existing access roads. Some new access roads and spur roads would be necessary, as summarized in **SOIL AND WATER Table 2**.

None of the project substation components would be located within a 100-year floodplain, and thus will not exacerbate flood conditions. About 130 ephemeral drainages exist and cross under the proposed transmission routes. Most of these drainages would be crossed with the transmission line conductor spanning over the drainages, and no structures constructed within the bed and banks of the drainage. However, in some cases it would be necessary to locate the structure within the drainage itself, which would subject the structure to high flows within a100-year floodplain. Although the drainages range in width from 4 to100 feet, the necessity to construct a transmission tower within the bed and banks of a drainage would tend to occur in the wider drainages. For these wider drainages, the relatively narrow 5-foot diameter base of the vertical transmission towers will not have a significant effect in diminishing the capacity of the drainages, and thus would not exacerbate flood conditions.

In conjunction with the installation of the transmission line structures in ephemeral drainages, the Applicant will be required to consult with the Army Corps of Engineers, Regional Water Quality Control Board and California Department of Fish and Game to identify jurisdictional waters and relevant permit requirements. It is likely that the major washes will be considered jurisdictional waters of the U.S. and may require a 404 permit from the ACOE, a Water Quality Certification from the RWQCB, and a Streambed Alteration Permit from the CDFG. Condition of Certification **BIO 14** requires the Applicant to implement all measures in these permits, and include them in the Biological Resources Mitigation Implementation and Monitoring Plan.

Groundwater

It appears unlikely that groundwater will be encountered or affected by the construction or operation of the project. However, the depth below ground surface for groundwater is not provided for all project components, and it is possible that a few transmission foundations, particularly those located adjacent to irrigated lands may encounter localized shallow groundwater. In the event dewatering should be required, it must be done in a manner consistent with applicable LORS. Any water obtained in this manner could be used for dust suppression if the quality is determined to be acceptable. The RWQCB and other responsible agencies should be consulted on the quality of any water recovered from construction dewatering before reuse to verify its quality and if it may be used for construction purposes without compromising worker and public safety and avoid degradation to soil and water resources.

In response to staff's concern that the Applicant address dewatering methods in the DESC/SWPPP, the Applicant has noted that it would propose to use straw bales for which an installation detail already exists in the draft DESC/SWPPP referred to as BMP – Straw Bale Dewatering Structure (BEPTL 2005). Staff will also recommend that the Applicant include appropriate text describing dewatering methods in Section 4 of the final DESC/SWPPP so that the dewatering plan is clearly recognized by construction

personnel and implemented if needed to avoid erosion and impacts to water quality, and to possibly utilize the water for a construction-related use.

Construction could pass near areas with springs or wells, and contamination of such features would be considered a significant impact. The Applicant has stated that they will avoid the use or storage of hazardous materials or the fueling or lubrication of construction equipment within 200 feet of a well or spring. Such a measure has been incorporated into the DESC/SWPPP as required under **SOIL AND WATER 2** and will reduce impacts to less than significant if implemented.

Construction and Operation Water Use

The proposed project's potential for significant impacts to the local or regional water supply is considered to be low since the project's estimated daily water use appears reasonable for the nature of activities proposed and is short-term ~~(approximately 12 months); significant impacts to the water supply have not been identified and are not expected~~. Water use during construction could total about 0.68 acre-feet/day combined from both water sources assuming all elements of the project are being constructed concurrently. Considering the construction could occur over a period up to 18 months, the total volume of water needed for construction will likely not exceed about 367 acre-feet. As a one-time consumption of water in support of construction, the proposed water use is not considered to cause a significant impact to the environment and other users of Colorado River water supply. Operation of the BEPTL would not have significant impacts to water supplies since no permanent water or sewer facilities are proposed, nor is water needed for operation.

Wastewater

Wastewater could be generated during construction in the event dewatering is necessary during excavation of the transmission tower foundations. Overall, dewatering efforts are not likely to be needed during construction, except possibly for a few transmission foundations located adjacent to irrigated lands in agricultural production. Groundwater in the Palo Verde Mesa Basin normally ranges from 30 to 70 feet bgs, but can be shallower in localized areas where lands are irrigated. The transmission towers will be buried to a depth of 20 feet, and if groundwater were encountered at say 10 feet, installation could require dewatering before backfill. Although the Applicant has indicated that it would implement a Straw Bale Dewatering Structure (BEPTL 2005), staff is recommending that the Applicant include appropriate text describing dewatering methods in Section 4 of the final DESC/SWPPP so that the dewatering plan is clearly recognized by construction personnel and implemented if needed to avoid erosion and impacts to water quality, and to possibly utilize the water for a construction-related use. This issue is noted in the Stormwater Section and the Verification to **SOIL AND WATER 2.**

Operation of the BEPTL will not generate any sanitary wastewater, since no new sewer facilities are proposed for the transmission line or substation features.

Stormwater

Staff requested and obtained from BEPTL a draft DESCP, and an update to the plan, which the Applicant has combined with the SWPPP for both efficiency and

comprehensiveness, to allow for the evaluation of construction activities at the substation sites and all facilities associated with the transmission line project components. The purpose of the draft plan is to provide staff with a document of sufficient detail that clearly identifies all potential impacts and mitigation measures, ensures only the minimum area necessary is disturbed, protects disturbed and sensitive areas, retains and controls sediment on-site, and minimizes off-site effects of water and wind erosion. The project must comply with all applicable LORS and incorporate all related requirements of other responsible agencies, to include Western, the BLM, the State Water Resources Control Board/Regional Water Quality Control Board (SWRCB/RWQCB), CA Department of Fish and Game, Riverside County, and the City of Blythe.

Additionally, the draft of the DESC/SWPPP was required to specifically address all issues raised by Western in their data request and as referred to in Western's comments to the Applicant's data responses dated December 8, 2004 (Western 2004a). The Applicant was specifically asked in the first round of staff's data requests (Data Request Number 65) to include certain elements in their draft DESC/SWPPP. After reviewing the initial draft of the DESC/SWPPP, the Applicant was requested in a subsequent letter from the CEC dated January 20, 2005 to more fully address certain issues in the DESC/SWPPP in reference to the original issues listed in Data Request Number 65 (CEC 2005). Staff has had the benefit of reviewing the Applicant's Supplemental Response to Data Request Number 65 for purposes of this final SA/DRAFT EA (BEPTL 2005). For the purpose of staff's evaluation of project impacts under CEQA, and based on the original and updated information provided by the Applicant in support of its draft DESC/SWPPP, the proposed BMPs and implementation plans appear generally adequate to demonstrate significant drainage and erosion impacts can be avoided or mitigated.

Staff also expects to see the BLM's input on the plan and such comments incorporated into the Final DESC/SWPPP and the Access Road Use Plan. Site-specific conditions and environmental effects are evaluated as follows:

Buck Substation

For the Buck substation the storage capacity of the existing stormwater retention basins/evaporation ponds already includes the runoff from the area of the proposed substation modifications. The modification activities are not expected to significantly change the amount of runoff from the substation area, and the area to be modified has been graded and covered with gravel.

Julian Hinds Substation

For the Julian Hinds substation expansion, an area of about 0.50 acres will be needed for construction laydown, and about 0.41 acres will be needed for the permanent equipment. The area was graded when the substation was originally constructed and no additional grading will be required. During construction, silt fencing will be placed along the east and south sides of the expansion area and the southern boundary of the laydown area. Permanent BMPs will include gravel surfacing in the expanded substation area similar to the existing substation. Considering both the laydown and expanded substation areas will continue to be permeable for draining stormwater similar

to the pre-developed condition, and the BMPs currently proposed appear adequate, no impacts to soil and water resources are expected.

Midpoint Substation

For the Midpoint Substation, an area of about 41 acres would be needed in total for construction laydown and permanent equipment. The natural topography varies from about elevation 380 feet to 385 feet above mean sea level (AMSL). The area would be cut and filled using all existing material to create a plant grade of average elevation of approximately 383 feet AMSL. The area would be covered with concrete for the equipment pads and foundations, with gravel covering the ground in adjacent areas to the switchgear. A perimeter road would encircle the switchgear and gravel area, and natural vegetation would grow on soil between the perimeter and fenced boundary. The flow of stormwater would generally follow the existing drainage pattern towards the northeast corner of the site. The site would be graded to gently slope from the center of the site towards the outside. Perimeter swales would collect and convey storm water to the northeast corner, where it would be discharged outside the Midpoint Substation boundary and would follow natural drainage paths outside the boundary.

The Applicant has included in the draft DESC/SWPPP a Hydrology Report for design of the storm water system. The runoff calculations include an additional 4.0 acres, for a total of 45 acres to account for run-on drainage onto the Midpoint Substation site that flows in from the southwest corner. Peak stormwater flowrates resulting from precipitation have been estimated for both pre- and post-development conditions. The pre-developed condition assumes natural permeability conditions in the ground with almost all native soil. The post-developed conditions represent the effects of adding less-permeable surfacing in the substation as a result of road paving and equipment pads, combined with the mitigating effects of storage developed in the perimeter channels and a reduction in runoff area where secondary containment is proposed for the transformers. The results of the runoff calculations demonstrate the post-development stormwater discharge would not exceed the pre-development stormwater flowrates consistent with Riverside County's regulations, as they are essentially equivalent. The estimated flowrates are as follows:

SOIL AND WATER Table 3
Midpoint Substation Peak Stormwater Flowrates (cubic-feet per second - cfs)

Return Period (24-hour Storm)	Pre-Development Stormwater Flowrates	Post-Development Stormwater Flowrates	Post-Development Stormwater Discharge
2-Year	7.4	7.4	7.4
10-Year	16.0	16.0	16.0
25-Year	22.3	22.3	22.3
100-Year	34.2	34.2	34.2

Source: (BEPTL 2005)

The Applicant proposes to design the substation facilities according to the Riverside County Hydrology Manual (Riverside 2005). Based on the Applicant's analysis, the Midpoint Substation is being designed to manage stormwater as follows:

1. During construction activities, the stormwater system will be capable of collecting and conveying runoff resulting from the 10-Year, 24-hour storm.

2. During operations, the stormwater system will avoid flooding of the site and will be capable of collecting and conveying runoff resulting from the 25-Year, 24-hour storm.

3. During operations, the site will be protected from major flood damage resulting from the 100-Year, 24-hour storm.

Although at the time staff had prepared the PSA, the Applicant had not provided all of the stormwater flowrate estimates for **SOIL & WATER Table 3**, staff has since received the results of the analysis and considers them reasonable. The surface drainage system will be designed to prevent flooding of the plant facilities and to avoid soil and water resource impacts from drainage discharging offsite from Midpoint Substation. A cobble energy dissipater/sediment berm is proposed in the northeast corner of the site where storm water will be discharged as overland sheet flow (BEPTL 2005). Staff's remaining issues are to review the calculations supporting the Applicant's stormwater flowrate estimates, and to recommend the Applicant reconsider the need for erosion control fabric or other lining of the perimeter channels due to the erodible nature of the soils. These will be reviewed during compliance in accordance with Condition of Certification **SOIL AND WATER 2** during review of the final DESC/SWPPP.

Transmission Lines

The transmission line crosses many dry washes and several steep slopes. Some of the structures will be constructed in areas that are more vulnerable to erosion during and following construction due to soil disturbance and loss of vegetation. The dry washes are prone to flash flooding that could also erode the tower footing structures. The project proposes mitigation that includes locating structures outside of the identified watercourses or washes whenever possible, and designing the pole foundations to resist damage from flash floods. Construction of new access roads and removal of vegetation cover will likely cause a short-term increase in water and wind erosion. Mitigation measures have been designed to reduce any impacts to less than significant levels.

Hazardous materials, pollutants, and contaminants used during construction include hydrocarbons (gasoline, diesel, oil, lubricants, etc.) paint, and solvents among others. The potential for discharge of these into a watercourse or drainage would be considered a significant impact if left unmitigated (BEPTL 2004). These issues have been addressed in the DESC/SWPPP (BEPTL, 2004a).

In conjunction with the installation of the transmission line structures in ephemeral drainages, the Applicant will be required to consult with the Army Corps of Engineers, Regional Water Quality Control Board and California Department of Fish and Game to identify jurisdictional waters and relevant permit requirements. It is likely that the major washes will be considered jurisdictional waters of the U.S. and may require a 404 permit from the ACOE, a Water Quality Certification from the RWQCB, and a Streambed Alteration Permit from the CDFG. Condition of Certification **BIO 10** requires the

Applicant to implement all measures in these permits, and include them in the Biological Resources Mitigation Implementation and Monitoring Plan.

The Soil and Water Conditions of Certification recommending stormwater BMPs and to ensure compliance with LORS are as follows:

1. Condition of Certification **SOIL AND WATER 1** requires the Applicant/project owner to comply with all of the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity. At this time, the Applicant is preparing a combined DESC/SWPPP, which will serve both the CEC's and RWQCB's purposes.

2. Condition of Certification **SOIL AND WATER 2** requires the Applicant/project owner to obtain CPM approval for a site-specific final Drainage, Erosion and Sedimentation Control Plan (DESCP) that addresses all project elements and ensures protection of water and soil resources for both the construction and operational phases of the project. Staff is recommending the Applicant provide certain clarifications and details in the final DESC/SWPPP, in order to assure the project will avoid significant adverse impacts to soil and water resources. The additional information has been listed here and in **SOIL AND WATER 2**.

   a) Identification of Permanent and Temporary BMPs

      (1) Reconsider the need for erosion control in the perimeter drainage channels at Midpoint Substation where none is proposed currently.

      (2) Incorporate BLM's recommendations for permanent BMPs and/or performance monitoring to determine if additional erosion control treatment is needed over time.

   b) Agency Consultation & Permitting

      Summarize the results of consultations with the Army Corps of Engineers, Regional Water Quality Control Board and CA Department of Fish and Game to identify relevant permit requirements for installation of transmission structures in the ephemeral drainages.

   c) Clearing & Grading

      Incorporate a description of plans for disposing of the approximately 5,700 cubic yards of soil resulting from the project transmission structure excavations at either the Blythe Sanitary Landfill or for construction/maintenance of access roads.

   d) Project Scheduling

      Provide a schedule for installation and removal of temporary construction BMPs in coordination, and in sequence with detailed construction activities for each project element.

e) Stormwater for Midpoint Substation

Provide stormwater flowrate and discharge calculations in support of the results provided in Soil & Water Resources Table 3.

f) Dewatering methods

Include a text description for implementing dewatering methods in reference to the BMP Illustration – Straw Bale Dewatering Structure.

3. Condition of Certification **SOIL AND WATER 3** requires the Applicant/project owner to comply with all requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity. The Applicant/project owner is to develop and implement a Storm Water Pollution Prevention Plan for the operation of Midpoint Substation.

4. Condition of Certification **SOIL AND WATER 12** requires the Applicant/project owner to prepare and submit the Access Road Use Plan to BLM for review and approval, and to provide the CPM with evidence that BLM has approved the plan prior to construction.

Significant impacts to soil and water resources as related to effects from stormwater runoff are not expected with proper implementation of the DESC/SWPPP. Staff recognizes the significant effort by the Applicant to prepare the initial draft of the DESC/SWPPP and subsequent update as provided in May 2005 (BEPTL 2005), which has provided staff the basis to conclude all potentially significant impacts to soil and water resources will be mitigated with implementation of the recommended conditions of certification. Condition of Certification **SOIL AND WATER 2** will provide the Applicant further flexibility to continue developing its plans for drainage and erosion control under the DESC/SWPPP in response to staff's comments provided above. The final DESC/SWPPP is to be reviewed by responsible agencies, such as Western and BLM, and approved by the CPM prior to construction.

CUMULATIVE IMPACTS AND MITIGATION

There are two other projects proposed in the area in addition to the BEPTL project to be considered with regard to cumulative impacts. They are the Southern California Edison (SCE) Devers-Palo Verde 2 transmission line (DPV2), and the Desert Southwest Transmission Tine (DSWTP). The details of the orientation and proximity of these projects to the BEPTL project are discussed in greater detail in the BEPTL Amendment Petition in section 5.4.4 (BEPTL 2004).

All three projects will each have their own poles and other structures adjacent to the existing SCE transmission line Devers-Palo Verde 1 transmission line (DPV1). Spur roads will be perpendicular to the existing access road, and if all of the projects were actually built they would share portions of the spur roads during construction, which would reduce cumulative impacts.

Any significant impacts would be related to the combined disturbance of the three projects together. Those impacts associated with the DPV2 line appear to be minimal

since no new spur roads would be built. The spur roads for the BEPTL Buck to Julian Hinds line would be used for DPV2.

The BEPTL Buck to Julian Hinds line spur roads would also be used to some extent for the DSWTP line, and would simply be extended. Any cumulative impact would be related to these spur road extensions.

The impacts for the four proposed projects would be similar, and the projects would be evaluated for the potential to:

- Accelerate wind or water erosion and sedimentation;
- Exacerbate flood conditions in the vicinity of the project;
- Adversely affect surface or groundwater supplies;
- Degrade surface or groundwater quality; and
- Comply with all applicable laws, ordinances, regulations and standards.

The planning involved in co-locating the four projects within essentially the same corridor will result in fewer impacts cumulatively. Mitigation for those remaining potential impacts is proposed in the DESCP/SWPPP. The BEPTL project's contribution to potentially significant cumulative impacts is expected to be insignificant with proper implementation of the DESCP/SWPPP.

COMPLIANCE WITH LORS

The project as proposed is expected to comply with all applicable LORS in the Soil and Water Resources technical area. Staff has proposed Conditions of Certification that will require BEPTL to be in compliance with the requirement for a SWPPP from the SWRCB/RWQCB for both construction and operation. Staff has requested the Applicant to provide clarification and additional details in its final DESCP/SWPPP for BEPTL that will address drainage, erosion, and sedimentation impacts. The draft DESCP/SWPPP will be reviewed during the amendment approval process and if the proposed project is approved, the final DESC/SWPPP would be reviewed prior to the construction and operation phases of the project, by agencies including Riverside County, the City of Blythe, Western, and the BLM. Based on information provided at the time this final SA/Draft EA was prepared, BEPTL will comply with all applicable LORS.

SWRCB GENERAL PERMIT FOR CONSTRUCTION

Staff believes construction and operational impacts would be reduced to less than significant by adequate mitigation measures, inclusive of proper procedures and Best Management Practices (BMPs) during construction. These procedures and BMPs would be contained in the construction Storm Water Pollution Prevention Plan (SWPPP) under a General Permit administered by the State Water Resources Control Board/Regional Water Quality Control Board (SWRCB/RWQCB). Staff is proposing Condition of Certification **SOIL AND WATER 1** requiring the Applicant to meet the requirements of the SWRCB/RWQCB General Permit for a construction SWPPP prior to the start of site

mobilization activities. The Applicant has prepared a draft combined DESC/SWPPP, which ultimately should satisfy both the CEC, SWRCB/RWQCB, and other responsible agencies such as Western and the BLM.

The SWRCB's current requirements for a SWPPP can be found at the following website (http://www.swrcb.ca.gov/stormwtr/construction.html):

RESPONSE TO AGENCY AND PUBLIC COMMENTS

Comments were received from Bureau of Land Management, Western Area Power Authority, on the Preliminary Staff Assessment (PSA) and were addressed in the SA/DEA publication. Metropolitan Water District (MWD) provided comments on the SA/DEA document. MWD's comments are discussed in Appendix C of this document. Where appropriate issues identified in the comments have been addressed in this revised SA/DEA analysis.

CONCLUSIONS

With implementation of the recommended Conditions of Certification, staff concludes there would not be any significant adverse impacts to soil and water resources as a result of the proposed Blythe Energy Project Transmission Line (BEPTL) and that the BEPTL project would comply with all applicable LORS. Staff's conclusions are based on the Applicant's response to issues identified in their draft Drainage, Erosion and Sedimentation Control /Stormwater Pollution Prevention Plan (DESC/SWPPP), and the opportunity to remedy any outstanding issues during compliance. Where actual or potential impacts are identified, staff has recommended either elimination of the impact or mitigation measures to reduce the significance of the impact and, as appropriate, has recommended conditions of certification.

Staff has reviewed the draft DESC/SWPPP and subsequent update filed in May 2005, and has recommended specific areas where additional clarification or details would serve to make the final DESC/SWPPP complete during the compliance phase of the project and to assure no significant adverse impacts occur to soil and water resources. These issues are identified under the Stormwater Section, and listed under Condition of Certification **SOIL AND WATER 2.**

PROPOSED CONDITIONS OF CERTIFICATION

Staff recommends that the BEPTL Amendment be approved subject to the following conditions. Additions to the original Blythe Energy Project I conditions are shown with an underline and removed text is shown with a ~~strikethrough~~.

SOIL AND WATER 1: ~~Prior to beginning any clearing, grading or excavation activities associated with construction of any project element, the project owner shall obtain Energy Commission staff approval for a Storm Water Pollution Prevention Plan (SWPPP) as required under the General Stormwater Construction Activity Permit for the project.~~ The project owner shall comply with the requirements of the General National Pollution Discharge Elimination

System (NPDES) Permit for Discharges of Storm Water Associated with Construction Activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan for the construction of the entire project (Construction SWPPP) that meets the State Water Resources Control Board (SWRCB) requirements.

Verification: ~~Thirty (30) days prior to the start of any clearing, grading or excavation activities associated with the construction of any project element, the project owner will submit a copy of the Storm Water Pollution Prevention Plan (SWPPP) to the Energy Commission Compliance Project Manager (CPM) for review and approval. Approval of the plan by the Energy Commission CPM must be received prior to the initiation of any clearing, grading or excavation activities associated with construction of any project element.~~ The project owner shall submit copies to the CPM of all correspondence between the project owner and the SWRCB/ Regional Water Quality Control Board (RWQCB) related to the General NPDES permit for the Discharge of Storm Water Associated with Construction Activity within 10 days of its receipt (when the project owner receives correspondence from the SWRCB/RWQCB) or within 10 days of its mailing (when the project owner sends correspondence to the SWRCB/RWQCB). This information shall include copies of the Notice of Intent, receipt of Waste Discharge Identification (WDID) number from the SWRCB/RWQCB, Notice of Termination for the project, and all notices of violations or other enforcement actions.

SOIL AND WATER 2: ~~Prior to beginning any clearing, grading or excavation activities associated with construction of any project element, the project owner shall obtain staff approval for a final erosion control and revegetation plan that addresses all project elements. The final plan to be submitted for staff s approval shall contain all the elements of the draft plan with changes made to address any staff comments and the final design of the project~~. Prior to site mobilization, the project owner shall obtain CPM approval for a site-specific final Drainage, Erosion and Sedimentation Control Plan (DESCP) that addresses all project elements and ensures protection of water and soil resources for both the construction and operation phases of the project. This plan shall address appropriate methods and actions, both temporary and permanent, for the protection of water quality and soil resources, demonstrate no increase in off-site flooding potential, meet local requirements, include legible drawings, details and complete narrative and identify all monitoring and maintenance activities. The final DESC/SWPPP shall address issues still remaining such as:

a) Identification of Permanent and Temporary BMPs

(1) Reconsider the need for erosion control in the perimeter drainage channels at Midpoint Substation where none is proposed currently.

(2) Incorporate BLM's recommendations for permanent BMPs and/or performance monitoring to determine if additional erosion control treatment is needed over time.

b) Agency Consultation & Permitting

Summarize the results of consultations with the Army Corps of Engineers, Regional Water Quality Control Board and CA Department of Fish and Game to identify relevant permit requirements for installation of transmission towers in the ephemeral drainages.

c) Clearing & Grading

Incorporate a description of plans for disposing of the approximately 5,700 cubic yards of soil resulting from the project transmission tower excavations at either the Blythe Sanitary Landfill or for construction/maintenance of access roads.

d) Project Scheduling

Provide a schedule for installation and removal of temporary construction BMPs in coordination, and in sequence with detailed construction activities for each project element.

e) Stormwater for Midpoint Substation

Provide stormwater flowrate and discharge calculations in support of the results provided in Soil & Water Resources Table 3.

f) Dewatering methods

Include a text description for implementing dewatering methods in reference to the BMP Illustration – Straw Bale Dewatering Structure.

The plan shall be consistent with the grading and drainage plan as required by Condition of Certification CIVIL-1 and may incorporate by reference any SWPPP developed in conjunction with any SWRCB/RWQCB NPDES stormwater permit.

Verification: ~~The erosion control and revegetation plan shall be submitted to the Energy Commission CPM no later than thirty days prior to the scheduled construction start date. Approval of the final plan by the Energy Commission CPM must be received prior to the initiation of any clearing, grading or excavation activities associated with construction of any project element.~~ No later than 60 days prior to the start of any site mobilization for any project element, the project owner shall submit the DESCP to Riverside County, the City of Blythe, the Western Area Power Administration, the Metropolitan Water District, and the Bureau of Land Management requesting review and comment within 30-days. Comments shall be directed to both the BEPTL and the Energy Commission CPM. The DESCP must be approved by the CPM prior to any site mobilization. During construction, the project owner shall provide a summary in the monthly compliance report on the effectiveness of the drainage, erosion and sediment control activities and the results of monitoring and maintenance activities. Once operational, the project owner shall provide in the annual compliance report information on the results of monitoring and maintenance activities for the life of the project.

SOIL AND WATER 3: ~~No later than sixty days prior to commercial operation, the project owner, as required under the General Industrial Activity Storm Water Permit, will develop and implement a Storm Water Pollution Prevention Plan (SWPPP). Approval for the final Industrial Activities SWPPP must be obtained from Energy Commission staff prior to commercial operation of the power plant.~~ The project owner shall comply with all of the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan for the operation of any project component (Operational SWPPP).

Verification: ~~Two weeks prior to the start of commercial operation, the project owner will submit to the Energy Commission CPM a copy of the Storm Water Pollution Prevention Plan (SWPPP) prepared under requirements of the General Industrial Activity Storm Water Permit. The final plan shall contain all the elements of the draft plan with changes made to address staff comments and the final design of the project.~~ The project owner shall submit copies to the CPM of the Operational SWPPP for Midpoint Substation 60 days prior to commercial operation. The project owner shall submit all correspondence between the project owner and the RWQCB related to the General NPDES permit for Discharge of Storm Water Associated with Industrial Activity within 10 days of its receipt (when the project owner receives correspondence from the RWQCB) or within 10 days of its mailing (when the project owner sends correspondence to the RWQCB). This information shall include a copy of the Notice of Intent and Notice of Termination.

SOIL AND WATER 12: (Applies only to the BEPTL project component.) Prior to construction, the project owner shall submit an Access Road Use Plan to BLM for its approval that addresses all BLM lands traversed by the project. The Access Road Use Plan and evidence of BLM's approval shall be submitted to the CPM.

Verification: At least 90 days prior to initiating construction, the project owner shall submit the Access Road Use Plan to BLM for review and approval. The Access Road Use Plan and evidence of BLM's approval shall be submitted to the CPM prior to initiating site mobilization for construction.

SOIL AND WATER 13: (Applies only to the BEPTL project component.) The project owner shall provide two copies to the CPM of each of the executed Water Supply Service Agreement(s) issued by the water purveyors/entities supplying water for purposes of supporting project construction. The project shall not begin delivery or use of water without the final Service Agreement(s) in place. The project owner shall provide the CPM with copies of metering data summarizing daily and monthly water use and any other reports as required by the Service Agreement(s), as well as any changes made to the Service Agreement(s) related to the supply of water during construction. The CPM shall be notified of any violations of the Service Agreement requirements, limits or amounts.

Verification: No later than sixty (60) days prior to initiating construction, the project owner shall submit copies of the final Service Agreement(s) to the CPM. All copies of Service Agreement changes must be submitted to the CPM within ten (10) days of their execution with the water purveyor/entity. The project owner shall submit to the CPM copies of metering data summarizing daily and monthly water use and any other reports as required in the annual compliance reports. The project owner shall submit any notice of violations from the water purveyor/entity to the CPM within 10 days of receipt and fully explain the corrective actions taken in the next monthly compliance report or annual compliance report.

REFERENCES

BEPTL 2004. Blythe Energy Project Transmission Line Modifications: Petition for Post-Certification Amendment (99-AFC-8), Blythe Energy, LLC, October 2004.

BEPTL 2004a. Blythe Energy Transmission Line Modifications. Draft Drainage, Erosion and Sedimentation Control Plan/Stormwater Pollution Prevention Plan (Draft DESC/SWPPP), Response to Staff Data Request Number 65. Blythe Energy, LLC, December 2004.

BEPTL 2004b. Blythe Energy Transmission Line Modifications. Response to Staff Data Request Number 67. Blythe Energy, LLC, December 2004.

BEPTL 2004c. Blythe Energy Transmission Line Modifications. Response to Data Requests & Comments from Western Area Power Administration. Blythe Energy, LLC, December 2004.

BEPTL 2005. Blythe Energy Transmission Line Modifications. Supplemental Response to Data Requests (Soil & Water Data Request #65) dated April 2005 and docketed May 19, 2005. Blythe Energy, LLC.

BEPTL 2006. Blythe Energy Transmission Line Modifications. Supplemental Analysis – DSWTP Midpoint Substation Option and Alignments for Milepost 65.5 – 67.4 Near Julian Hinds dated August 2006. Blythe Energy, LLC.

CEC 2005. California Energy Commission. Letter from Jack Caswell – CEC to Gary Palo – FPL Energy Requesting Supplemental Data to Staff's Original Soil & Water Data Request #65 Associated with the DESC/SWPPP. January 20, 2005.

Riverside 2005. Riverside County Hydrology Manual

SWRCB 2005. State Water Resources Control Board. Requirements for a SWPPP Associated with Construction Activity (http://www.swrcb.ca.gov/stormwtr/construction.html).

Western 2004a. Western Comments on Blythe Energy Transmission Line Amendment Data Responses, dated December 8, 2004.

TRAFFIC AND TRANSPORTATION

Testimony of David Flores

SUMMARY OF CONCLUSIONS

With implementation of the additional recommended conditions and the conditions now in place for the Blythe Energy Project (BEP), the Blythe Energy Project Transmission Line Modifications (BEPTL) would be consistent with the Circulation Element of the County of Riverside General Plan and all other relevant laws, ordinances, regulations and standards (LORS). The proposed project would not have a significant impact on the local and regional road/highway network. During the construction phase, local roadway and highway demand resulting from the daily movement of workers and materials would not increase beyond significance thresholds established by Riverside County and the City of Blythe.

Therefore, the proposed BEPTL would not cause a significant impact to traffic or air navigation in the area. During the operational phase, increased roadway demand resulting from the daily movement of workers and materials would be minimal.

INTRODUCTION

This Traffic and Transportation section addresses the extent to which the proposed BEPTL may impact the transportation system in the local area. This analysis includes the identification of: the roads and routings proposed for project construction and operation; potential traffic-related problems associated with the use of those routes; the anticipated encroachment upon public rights-of-way during the construction of the proposed project and associated facilities; and the possible effect of the proposed transmission line and structures on local airport flight traffic.

The influx of large numbers of construction workers can, over the course of the construction phase, increase roadway congestion and also affect traffic flow. In addition, the transportation of large pieces of equipment and facility components can affect roadway congestion and safety. The relevant LORS are listed below, followed by discussion of the potential impacts related to traffic operations and safety hazards resulting from the construction and operation of the proposed transmission line.

Traffic and Transportation Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal	
Title 49, Code of Federal Regulations, Sections 350-399, and Appendices A-G	Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways. Section 353 defines hazardous materials.
Part 77, Federal Aviation Administration (FAA) Regulations	Establishes standards for determining obstructions in navigable airspace and sets forth requirements for notification to the FAA of proposed construction. Notification is also required if the structure or obstruction is more than a specified height and falls within any restricted airspace in the approach to airports.
State	
California Street and Highways Code (S&HC), Sections 660, 670, 1450, 1460 et seq., 1470, and 1480.	Regulates right-of-way encroachment and granting of permits for encroachments on state, city and county roads.
California State Planning Law, Government Code Section 65302 a&b	Requires cities and counties to adopt a general plan to guide development, including a mandatory circulation element.
S&HC, Sections 117 and 660-711, and California Vehicle Code (CVC), Section 35780 et seq.,	Require permits to transport oversized loads on county roads. California S&HC Sections 117 and 660 to 711 require permits for any construction, maintenance, or repair involving encroachment on state highway rights-of-way. CVC Section 35780 requires approval of a permit to transport oversized or excessive loads over state highways.
California Department of Transportation (Caltrans)	Weight and load limitations for state highways apply to all state and local roadways. The weight and load limitations are specified in the CVC Sections 35550 to 35559. All construction in public rights-of-way needs to comply with the “Manual of Traffic Controls for Construction and Maintenance of Work Zones”.
County	
County of Riverside Regional Transportation Plan	The 2001 Riverside County Regional Transportation Plan is a comprehensive long-range transportation-planning document that serves as a blueprint to guide public policy decisions regarding transportation expenditures and financing (Riverside County 2001).
General Plan Circulation Element	The Circulation Element of the Riverside County General Plan establishes LOS C as a Countywide target on all County-maintained roads and conventional State Highways, except that LOS D could be allowed in urban areas only at intersections of any combination of Major Streets, Arterials, Expressways, or conventional State Highways within one mile of a freeway interchange and at freeway ramp intersections in instances where LOS C is deemed to be impractical (Riverside County, p. 216).
Desert Center Area Plan	Circulation facilities within this area are limited due to the remoteness and lack of community development land uses. Interstate 10 passes through the southern portion of the area plan. State Route 177 and Kaiser Road extend north from I-10 near Desert Center, and provide access to local roadway systems serving Eagle Mountain, Lake Tamarisk, and Desert Center Airport. I-10 from its junction with State Route 62 to the Colorado River, is identified as a candidate route that should be included in the California State Scenic Highway Program, but has yet to be designated as an eligible or official scenic highway.
City	
City of Blythe General Plan Circulation Element	Policy 11: Provide and maintain roadway intersection operations at Level of Service (LOS) D or better at peak traffic volumes for all segments of the City's circulation system.

SETTING

The BEPTL is primarily situated in the desert area of Riverside County with the Buck Substation site and a small portion of the transmission line components located in the City of Blythe. The remainder of the transmission line and other substations would be located in the unincorporated areas of Riverside County. **Traffic and Transportation Figure 1, Regional Transportation Setting** shows the surrounding region with major roads, highways, and railways in the vicinity of the proposed modifications.

Project construction workers will be able to reach the proposed substation locations and transmission line route by using the existing paved and dirt roadways in the region. The regional and local roadways in the area that will be most affected by the project are shown in **Traffic and Transportation Figure 2, Existing Access Roads-Buck to Julian Hinds.** The critical roads and highways in the area of the project site are:

Interstate 10 (I-10)

I-10 is a divided freeway providing two lanes of traffic in each direction. It is a major east-west transportation route between southern California, Arizona, and New Mexico. In addition, I-10 is a major commerce route used by tractor- trailer cargo trucks.

State Route 177 (SR-177)

State Route 177 begins at Desert Center from Interstate 10 and continues in a northeasterly direction for approximately 27 miles before connecting with SR-62. SR-177 provides one lane of traffic in each direction, and is considered a minor arterial highway.

Mesa Drive

Mesa Drive is a two-lane county rural roadway which is approximately 2.5 miles west of the Buck Substation.

Wiley Well Road

Wiley Well Road is approximately 17 miles west of Blythe and is a county two-lane roadway that provides access to the Chuckwalla Valley State Prison and the surrounding trails within BLM's Bradshaw Trail National Back Country Byway.

Chuckwalla Valley Road

Chuckwalla Valley Road is a two-lane county rural roadway that provides access to the Chuckwalla Mountain Wilderness.

Eagle Mountain Road

Eagle Mountain Road is a private rural roadway owned by Metropolitan Water District and is approximately three miles west of Desert Center and provides access to the BLM recreational area.

Red Cloud Mine Road

Red Cloud Mine Road is a county two lane southerly roadway from I-10 which provides access to the BLM's Red Cloud Mine Recreational Area.

Hayfield Road

Hayfield Road is a two-lane private rural roadway owned by Metropolitan Water District, and provides access up to the Joshua Tree National Park boundary.

Traffic and Transportation Table 1 gives the Level of Service (LOS) definitions used by the California Department of Transportation (Caltrans) to analyze traffic impacts by peak hour intersection capacity and operations. Intersection level of service is identified with letters of designation, from LOS A for least congested to LOS F for most congested.

Traffic and Transportation Table 1
Level of Service (LOS) Criteria for Signalized Intersections

Level of Service	Average Vehicle /Capacity Ratio	Traffic Flow Characteristics
A	0.0 – 0.59	Free flow; insignificant delays
B	0.6 – 0.69	Stable operation; minimal delays
C	0.7 – 0.79	Stable operation; acceptable delays
D	0.8 – 0.89	Approaching unstable; queues develop rapidly but no excessive delays
E	> 0.9 – 0.99	Unstable operation; significant delays
F	N/A	Forced flow; jammed conditions

Source: BEPTL pg. 5.10-10

Traffic and Transportation Table 2 provides LOS information for existing conditions for roadways in the project area.

Traffic and Transportation Table 2
Traffic Volumes and Capacities of Primary Roadways within the Proposed Modifications Area

Highway Segment	Classification	No. of Lanes	Average Daily Volume	Hourly Design Capacity	P.M. Peak Hour Volume	Peak Hour LOS
I-10 At Hayfield Exit	Freeway	4	48,300	8,800	4,800	A
At Route 177	Freeway	4	46,000	8,800	4,600	A
At Mesa Drive Exit	Freeway	4	43,400	8,800	4,700	A
At Route 78	Freeway	4	44,700	8,800	4,700	A
SR-177 N of Desert Center	2-lane Rural Hwy	2	6,050	3,000	680	A

Note:
a. Estimated number of Vehicles per day from Caltrans (2004a) .
b. Maximum number of vehicles per hour in both directions.
c. Peak hour number of vehicles per hour from Caltrans (2004a)
Source: BEPTL, p. 5.10-4

Table 2 demonstrates that these roadways experience relatively low traffic volumes, and all have a rating of LOS A. Although LOS levels were not available for rural roadways identified under the Setting Section of the analysis, staff has assumed that LOS levels would be consistent with the levels identified in **Traffic and Transportation Table 2**.

Airport

The Blythe Municipal Airport is located approximately 1.2 miles west of the Buck Substation. Regional access to the airport is from I-10 at the Mesa Drive interchange. The airport is operated as a municipal general aviation facility and provides regional air services under the Essential Airports Service Subsidy Program. There are two operating runways at Blythe Airport. Runway 8-26 (oriented east-west) is the primary runway and is 6,562 feet long, and 150 feet wide. Runway 17-35 (oriented north-south) is 5,820 feet long, and 100 feet wide.

The transmission line monopole structures would be 110 feet high, and would be 2,930 feet from the nearest runway at the Blythe Municipal Airport. The City of Blythe has expressed a concern that the proposed new transmission line could conflict with airport operations. This potential issue is also discussed in the land use section of this analysis. Blythe Energy, LLC (Blythe Energy or Applicant) submitted a FAA Form 7460 “Notice of Proposed Construction or Alteration” for the project.

On April 1, 2005, the Energy Commission staff received FAA’s written determination on Blythe Energy’s filing of a FAA Form 7460. The FAA reviewed both the original route and the new route suggested by the City of Blythe (described in detail below in the PROJECT CHANGES TO THE BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATION PETITION subsection) for a determination of potential hazard to air navigation. FAA determined that neither route poses a hazard to air navigation and that no markings or lighting are required for air navigation safety.

Public Transportation

Local bus service in the greater Blythe area is provided by the Palo Verde Valley Transit Agency. Greyhound Bus Lines provides bus service outside of the region. The remainder of the project area is not directly served by either local or regional bus service.

Railways

There are two railways in the vicinity of the proposed BEPTL. The Arizona & California Railroad is located near the center of the City of Blythe, approximately 4.5 miles east of the Buck substation. It will not be crossed by either of the proposed transmission lines.

The Eagle Mountain Railroad starts from the community of Fontana, crosses I-10 near Desert Center, and terminates at the proposed Eagle Mountain Landfill and town site. The proposed Buck to Julian Hinds transmission line would cross the Eagle Mountain Railroad approximately 4.5 miles southwest of the Julian Hinds Substation. This rail line is currently inactive, but is proposed to be used if the Eagle Mountain Landfill proposal is approved. This area is within a sensitive biological area; environmental groups have filed lawsuits against the operation of the landfill, which are pending. Therefore, staff

has assumed that the railroad will remain inactive during the project's planned construction period.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a proposed project may have a significant effect on traffic and transportation if the project would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity; or
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

In the Construction Impacts section of this analysis, staff discusses the above items. Although not specified in Appendix G, staff also discusses the potential traffic and transportation impacts of oversize and overweight loads. Emergency access and parking capacity are discussed primarily in the Construction Impacts section since potential impacts in those areas are most applicable to the Construction phases. Hazards to the public or the environment through the routine transportation of hazardous material are discussed in the Operations section since potential impacts in those areas more commonly occur when the BEP generating facility is operating.

DIRECT/INDIRECT IMPACTS AND MITIGATION

Construction Impacts and Mitigation (Buck to Julian Hinds Component followed by Buck to Devers-Palo Verde Component)

As reflected in this analysis, I-10 and SR-177 are the primary project traffic carriers. LOS levels provided by Caltrans were used in the following tables to determine roadway impacts. The traffic analysis focuses on the project's two segments:

- Buck to Julian Hinds
- Buck to Devers-Palo Verde (DPV)

The following discussion identifies potential traffic impacts associated with the construction of the BEPTL, and provides an explanation of the impact conclusion.

The amendment application provides an analysis of expected year 2005 traffic conditions and expected 2005 traffic conditions with the addition of project construction traffic trips. Proposed project construction would be completed in 12 to 18 months, with the project's two segments likely to be built sequentially. The average number of construction workers would be approximately 60, while the peak workforce would consist of approximately 162 workers (during construction of both substations). The transmission line construction workers and delivery vehicles will handle a section at a time along the approximately 67.4-mile transmission line route.

Construction Traffic and Level of Service

Construction Workforce Traffic

Staff concurs with Applicant's assumption that the construction workforce would have an average automobile occupancy (AAO) of 1.5 persons per vehicle for commuting. Tables 3 and 4 present summaries of the round trip generation for the sequential construction phases of the project. The proposed project will generate an estimated average of 59 vehicle round trips per day on an average construction day and approximately 149 vehicle round trips during peak construction.

Construction Truck Traffic

Construction of the transmission line poles would require the use and installation of heavy equipment and associated systems and structures. Heavy equipment that would be used throughout the construction period includes cranes, cement mixers and drilling equipment. Transmission line construction workers and delivery vehicles will be dispersed along the approximately 67.4-mile transmission line route.

Applicant stated that it expects that construction workers and delivery trucks would commute equally from the west to the proposed sites from the greater Riverside area, and from the east from the greater Blythe area, using I-10 as the primary traveled route. It is unlikely that construction workers would commute via SR 177. This route is a junction to I-10 at Desert Center and is used as a reference roadway in this analysis, to indicate traffic levels on a highway in the vicinity of I-10.

Traffic and Transportation Table 3 provides data on project construction worker and truck trip generation, for the Buck to Julian Hinds segment, and Table 4 provides similar data for the Buck to Devers-Palo Verde segment. As shown in Table 3, a slight increase in workers will occur due to installation of a double circuit on the transmission line section from Buck to the Midpoint substation.

Traffic and Transportation Table 3 Construction Trip Generation Phase (Buck to Julian Hinds)				
Traffic Source	Daily Round Trips at Non-Peak Hours		Peak Hour Round Trips[3]	
	Average Months	Peak Period Months[1]	Average Months	Peak Period Months[1]
Transmission Line Construction Worker Vehicles[2]	13	36	10	29
Delivery Truck	8	16	1	2
Buck Substation Construction Worker Vehicles[2]	13	36	10	29
Delivery Trucks	6	16	1	2
Julian Hinds Substation Construction Worker Vehicles[2]	13	36	10	29
Delivery Trucks	6	9	1	1
Total	**59**	**149**	**33**	**92**

Source: BEPTL, p. 5.10-11
1. Peak refers to scheduled peak months of construction activity
2. Assumes 1/3 of workers carpool (1.5 persons per vehicles).
3. Assumes 80% of workers and 10% of deliveries arrive or depart during peak traffic hour.

Traffic and Transportation Table 4 Construction Trip Generation Phase (Buck to Devers-Palo Verde)				
Traffic Source	Daily Round Trips at Non-Peak Hours		Peak Hour Round Trips[3]	
	Average Months	Peak Period Months[1]	Average Months	Peak Period Months[1]
Transmission Line Construction Worker Vehicles[2]	13	36	10	28
Delivery Truck	4	10	1	1
Buck Substation Construction Worker Vehicles[2]	13	35	10	28
Delivery Trucks	6	16	1	2
Midpoint Substation Construction Worker Vehicles[2]	13	33	10	26
Delivery Trucks	5	10	1	1
Total	**54**	**129**	**33**	**81**

Source: BEPTL, p. 5.10-11
1. Peak refers to scheduled peak months of construction activity
2. Assumes 1/3 of workers carpool (1.5 persons per vehicles).
3. Assumes 80% of workers and 10% of deliveries arrive or depart during peak traffic hour.

Traffic and Transportation Table 5 provides data on the combination of existing traffic, plus expected levels of traffic associated with the proposed project for the Buck to Julian Hinds segment, and Table 6 provides similar data for the Buck to Devers-Palo Verde segment. For a worst case estimate, all construction traffic was added to each of the intersections. Actual traffic would be less because there are nine I-10 exits that could be used for access to the transmission line route and substation sites.

Traffic and Transportation Table 5
Construction Phase- Existing Project-Generated Traffic During Peak Construction Month (Buck to Julian Hinds)

Road or Highway	Existing Plus Project Traffic[1]		Capacities		Vehicle Capacity (LOS)	
	AADT	Peak Hour Traffic	AADT	Peak Hour Traffic	AADT	Peak Hour Traffic
I-10 At Hayfield	48,359	4,892	80,000	8,800	0.60 (A)	0.56 (A)
At Route 177	46,059	4,692	80,000	8,800	0.57 (A)	0.56 (A)
At Mesa Drive	43,459	4,792	80,000	8,800	0.54 (A)	0.53 (A)
At Route 78	44,759	4,792	80,000	8,000	0.56 (A)	0.53 (A)
SR-177 North of Desert Center	6,109	772	12,000	3,000	0.50 (A)	0.04 (A)

(1) Existing traffic from Table 2

Traffic and Transportation Table 6
Construction Phase- Existing Project-Generated Traffic During Peak Construction Month (Buck to Devers-Palo Verde)

Road or Highway	Existing Plus Project Traffic[1]		Capacities		Vehicle Capacity (LOS)	
	AADT	Peak Hour Traffic	AADT	Peak Hour Traffic	AADT	Peak Hour Traffic
I-10 At Hayfield	43,455	4,789	80,000	8,800	0.56 (A)	0.56 (A)
At Highway 78	44,755	4,789	80,000	8,800	0.55 (A)	0.53 (A)

[1] Existing traffic from Table 2

Traffic and Transportation Tables 5 and 6 demonstrate that project construction worker traffic would not change LOS levels during peak periods at the above listed intersections.

Construction Phase Transport of Hazardous Materials and Waste

Deliveries would include small quantities of hazardous materials such as petroleum products and hydraulic fluids to be used during project construction, and during the preconstruction period contamination solids from cleanup operations would be removed. Blythe Energy has stated that the deliveries of hazardous materials to and from the various sites would be conducted in accordance with Federal and State laws.

Oversize and Overweight Loads

Transportation of equipment that would exceed the load size and limits of certain roadways would require special permits from Caltrans. California Streets and Highways Code, Sections 117 and 660-72, and California Vehicle Code 35780 et seq., require permits for the transportation of oversized loads on State and county roads. By law, Energy Commission certification takes the place of all necessary State, local and regional permits. However, staff typically requires Applicants to get permits from Caltrans for oversized loads, encroachment and activities within road right-of-ways. Condition of Certification **TRANS-2** in the original certification for the BEP requires that the Applicant secure necessary encroachment permits from local and state agencies for encroachment rights within their right-of-way. The BEPTL project will continue to comply with this condition.

There are no height/weight restrictions or maximum street capacities for Riverside County roadways and highways in the project construction truck route. Condition of Certification **TRANS-1** in the original application for the BEP requires Applicant to comply with county and Caltrans vehicle size and weight requirements. The BEPTL project will continue to comply with this condition. Proposed Condition of Certification **TRANS-8** in this analysis requires a road mitigation plan for any roads damaged by oversize or overweight vehicles.

Emergency Service Access

The local roads in the vicinity of the transmission line access points have minimal traffic congestion levels, with LOS expected to remain at C or above. Staff concludes that the proposed project's construction, including construction workforce commuting activity and truck traffic, would not affect emergency services access along the transmission line corridors.

For emergency response, a County of Riverside fire station (Station 45) is located on Hobsonway Way in Blythe, California, about six miles west of the BEP site. The nearest hospital is the Palo Verde Hospital, a 55-bed Acute Care Facility also located on North First Street, and approximately seven miles west of where the project will begin, which is near the Blythe Power Plant site.

Increase of Hazards due to Road Design Features

The delivery of materials and traffic routes by construction workers will be along I-10, State Route 177, and local roadways identified earlier in this analysis. All design features of the highways, local roads and intersections are to current Caltrans design standards and are not considered a hazard for construction workers driving to the transmission line construction sites or the delivery of materials. Access points from the local roadway to the transmission line for right-of-ways will be designed in accordance with Riverside County Public Works standards.

PROJECT CHANGES TO THE BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATION PETITION

Blythe Energy has provided project changes for the BEPTL amendment for the follow transmission line project components:

1. Transmission line pole realignment near the Blythe City Airport, poles 8 through 28.

2. Transmission line pole realignment near the Julian Hinds Substation, poles 418 through 433.

3. Relocation of the Midpoint Substation.

4. Transmission line pole realignment near Alligator Rock, poles 289 through 305.

The requested changes to the proposed original BEPTL petition would not create any traffic and transportation issues or significant impacts, as the current dirt access roads in the area will continue to be used. The Project Description section of the SA/DEA has complete descriptions and maps of the BEPTL petition changes. (see project description)

Operation Impacts and Mitigation

Employee and Truck Traffic

Operation of the substations and occasional maintenance of the transmission lines will not require any additional labor force. Other project-related trips (i.e., delivery trucks to the substation sites), are expected to be minor additions to surrounding local streets and highways and would not significantly affect the LOS levels of these roads.

Transport of Hazardous Materials and Waste

The transportation and handling of hazardous substances associated with the proposed project could increase roadway hazard potential. Impacts associated with hazardous material transport to the substations can be mitigated to a level of insignificance by compliance with existing Federal and State standards established to regulate the transportation of Hazardous Substances. Condition of Certification **TRANS-3** in the original BEP decision requires compliance with Federal and State regulations for hazardous materials transport. The BEPTL project will continue to comply with this condition.

The project would generate hazardous wastes which are typically used during the construction of transmission line projects, including propane, antifreeze lubricating grease, insulating oils, and various cleaners. Blythe Energy has stated that these trips would generally occur on a daily basis during the construction period, and proper implementation of procedures designed to ensure safe transportation of hazardous materials would be in accordance with Federal and state LORS discussed earlier in this analysis.

The handling and disposal of hazardous substances are also addressed in the **WASTE MANAGEMENT, WORKER SAFETY AND FIRE PROTECTION** and **HAZARDOUS MATERIALS** sections of this report.

Airport Operations

In early November 2004, Blythe Energy filed the FAA Form 7460. This is to comply with Federal law which applies to virtually every construction project from grading terrain to erecting buildings or towers which extend 200 feet or greater above natural terrain or are located within five miles of an airport. The law requires that each project developer file a notice with FAA regarding the proposed height of any structures. Since the Blythe Municipal Airport is located within the five mile radius of the proposed transmission poles, the filing of the FAA Form 7460 is required. No structures proposed for the BEPTL project will be above the 200-foot criteria. Staff reviewed the information contained in the FAA application and found the application to be consistent with Federal rules regarding physical obstruction of navigable air space.

Energy Commission staff received the FAA's written determination on Blythe Energy's filing of an FAA Form 7460. The FAA reviewed both the original route and the new route suggested by the City of Blythe for a determination of potential hazard to air navigation. The FAA determined that neither of the proposed routes poses a hazard to air navigation, and no markings or lighting are required for air navigation safety.

CUMULATIVE IMPACTS AND MITIGATION

The analysis of the available capacity of the regional highways and local roads described in this section shows that the regional transportation system serving the BEPTL area (along the potentially affected highways) is operating at very efficient levels of service with significant reserve capacity. The two primary highways and the primary local roadways operate at LOS A.

The only other significant potential development proposed for the BEP area is the Blythe Airport Industrial Park site located 3.5 miles west of the Buck Substation. No definite time frame for the development of the Blythe Airport Industrial Park has been established by either Riverside County or the City of Blythe. This project is expected to be defined within the Blythe Airport Master Plan Update which is currently underway.

RESPONSE TO PUBLIC AND AGENCY COMMENTS

Comments were received from the National Park Service (NPS) and Metropolitan Water District (MWD). Please see Appendix C of this document for the details of the

comments and our response. A minor change to Settings section and TRANS-8 has been made in response to NPS and MWD's comments.

COMPLIANCE WITH LORS

The Blythe Energy has stated its intention to comply with all applicable LORS. With adoption of the recommended conditions, staff has concluded that the project will comply with relevant LORS.

CONCLUSIONS

With implementation of the additional recommended condition and continued compliance with conditions now in place for the BEP, the BEPTL would be consistent with the Circulation Element of the County of Riverside General Plan and all other applicable LORS. The project would not have a significant impact on the local and regional road/highway network. During the construction phase, local roadway and highway demand resulting from the daily movement of workers and materials would not increase beyond significance thresholds established by Riverside County and the City of Blythe.

On May 31, 2005, Caltrans by letter indicated that the project will require a Caltrans Encroachment Permit. The Blythe Energy will submit the necessary county, city, Federal, and state permits as required under the original certified Blythe Energy Project.

The FAA reviewed both the original route and the new route suggested by the City of Blythe for a determination of potential hazard to air navigation. FAA determined that neither route poses a hazard to air navigation, and that no markings or lighting are required for air navigation safety. Therefore, the proposed BEPTL will not cause a significant impact to traffic in the area. During the operational phase, increased roadway demand resulting from the daily movement of workers and materials would be minimal.

If the Energy Commission certifies the BEPTL, staff recommends that the Commission adopt staff's proposed additional condition of certification.

PROPOSED AMENDED CONDITIONS OF CERTIFICATION

TRANS-8 Following completion of substation and transmission line construction, the project owner shall repair any damage to incurred during construction of the project to pre-project construction conditions. Prior to start of construction, the project owner shall photograph, videotape or digitally record images of roadways (with the exception of construction access roads leading to the T-Line sites) that would be impacted by the transmission line and substation construction traffic. The project owner shall provide the CPM, the County of Riverside, the City of Blythe, the Metropolitan Water District, and Caltrans (as necessary) with a copy of the images for their respective roadway system.

Verification: Within 30 days after completion of the BEPTL construction, the project owner shall meet with the CPM, the City of Blythe, the County of Riverside, the

Metropolitan Water District, and Caltrans (as needed) to determine the actions necessary and schedule to complete the repair of identified sections of public roadways to original or as near original condition as possible. Following completion of any regional road repair, the project owner shall provide to the CPM a letter from the City of Blythe, County of Riverside, the Metropolitan Water District and Caltrans stating their satisfaction with the repairs to their roadways.

REFERENCES

BEPTL (Blythe Energy Project Transmission Line Modification) 2004a: Petition for Post-Certification Amendment. October, 2004.

BEPTL (Blythe Energy Project Transmission Line Modification) 2004b: Blythe Energy's Data Responses. November 29, 2004.

Blythe Energy, LLC, Blythe, California. (BLYTHE) 2005c. Supplemental Analysis – Proposed Route Realignments for Poles #280 – 305 and New Midpoint Substation Location. July 12, 2005.

Blythe Municipal Airport, Comprehensive Land Use Plan. 1998.

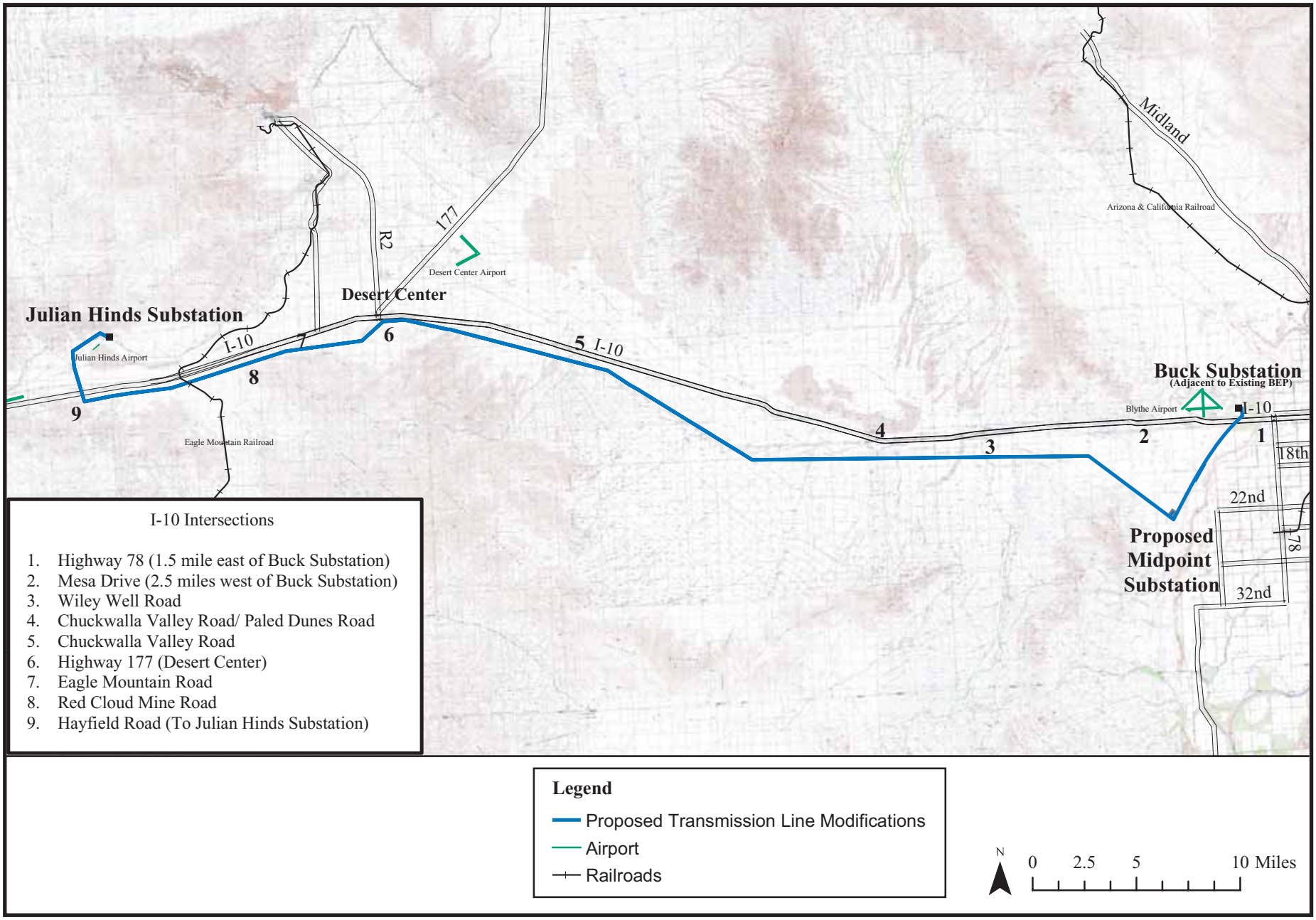
California Department of Transportation (Caltrans) Letter dated May 31, 2005.

Riverside County Regional Transportation Plan 2001.

Riverside County Transportation and Land Management Agency. 2003

TRAFFIC AND TRANSPORTATION - FIGURE 1

Blythe Energy Transmission Line Project - Regional Transportation Setting

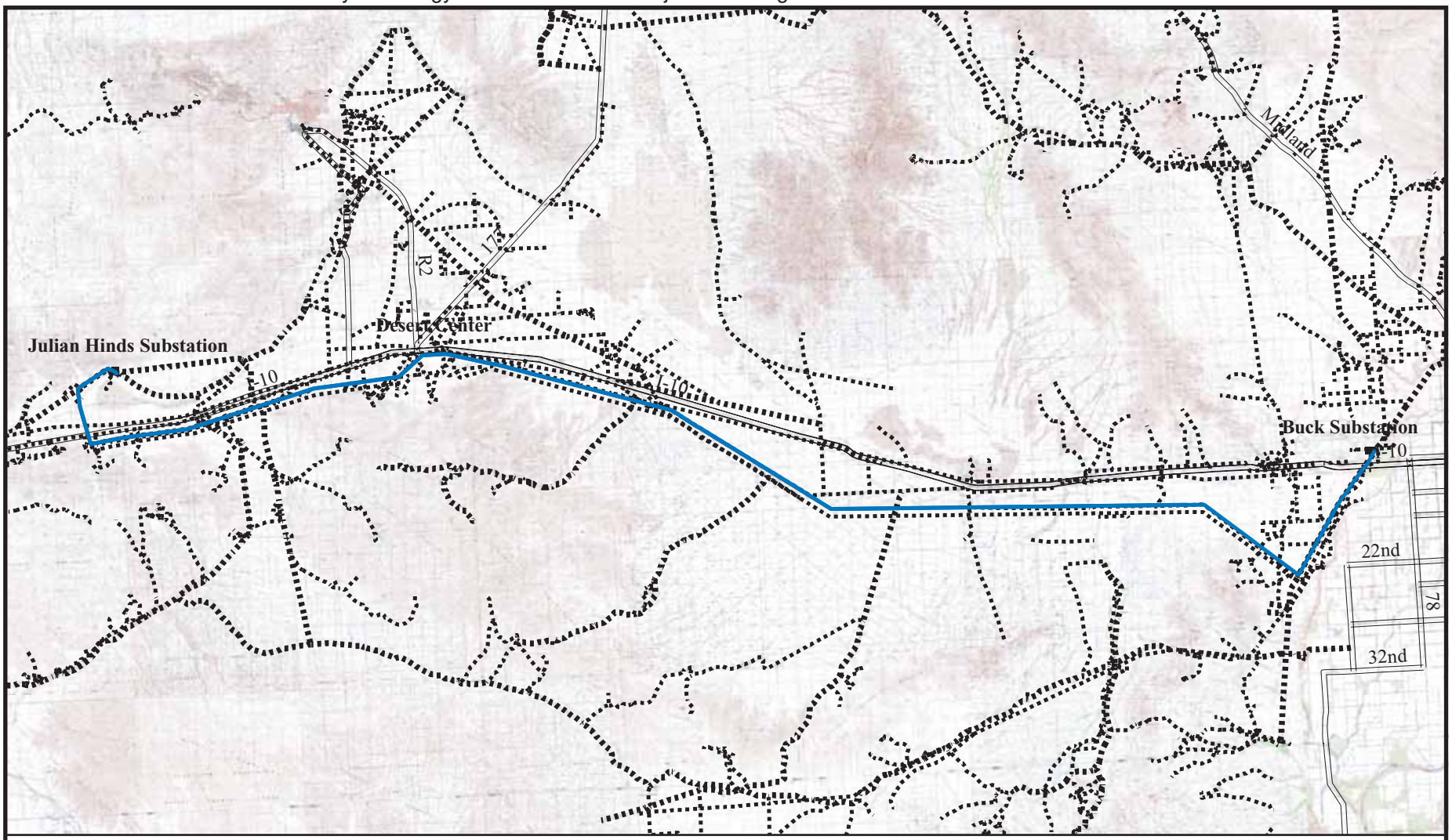


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC October, 2004, Figure 5.10-1

TRAFFIC AND TRANSPORTATION - FIGURE 2

Blythe Energy Transmission Line Project - Existing Access Roads-Buck to Julian Hinds

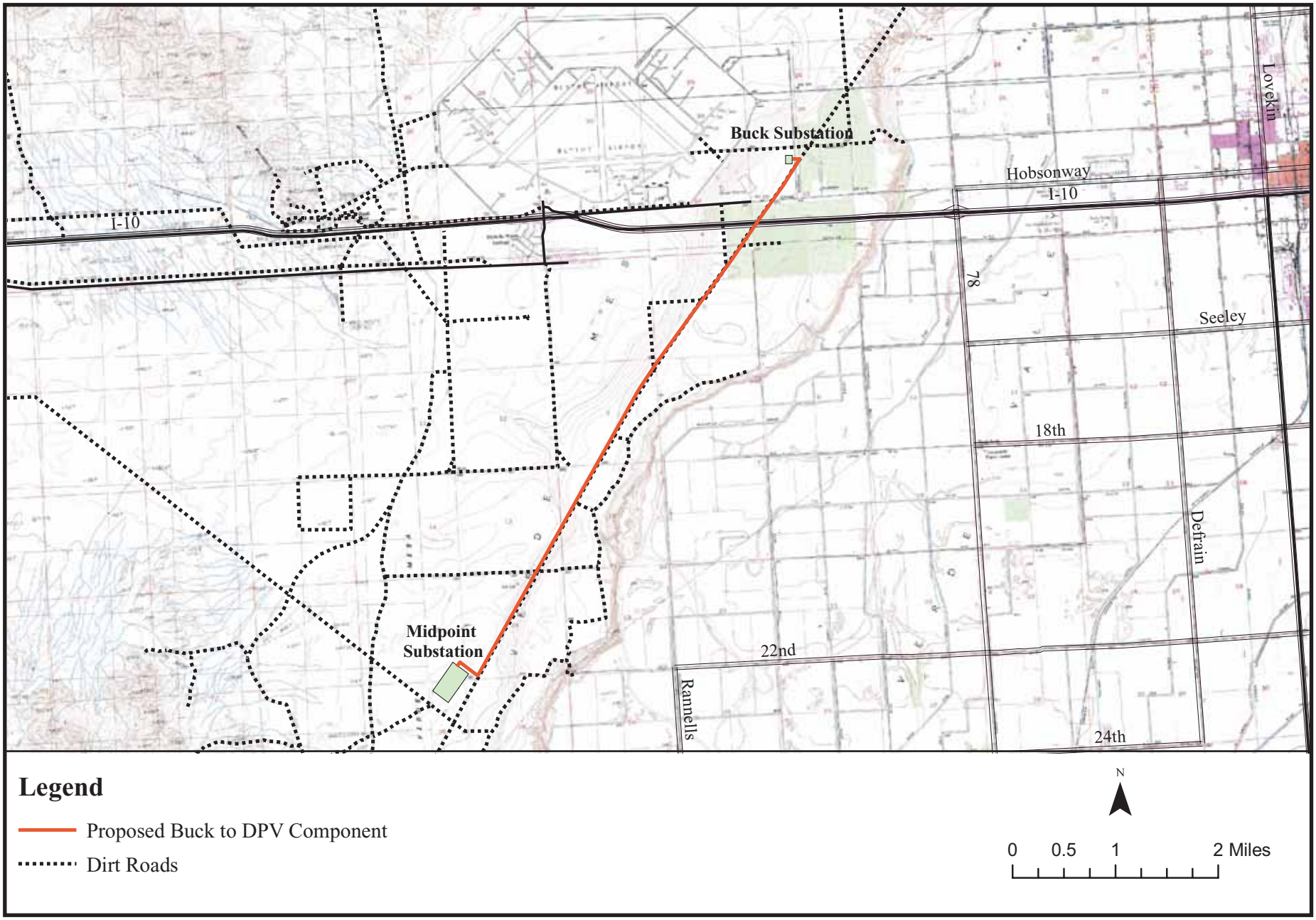


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC October, 2004, Figure 5.10-2

TRAFFIC AND TRANSPORTATION - FIGURE 3

Blythe Energy Transmission Line Project - Existing Access Roads-Buck to Devers-Palo Verde



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC October, 2004, Figure 5.10-3

TRANSMISSION LINE SAFETY AND NUISANCE

Testimony of Obed Odoemelam, Ph.D.

SUMMARY OF CONCLUSIONS

The design and operational plan for the proposed Blythe Energy Project Transmission Line Modifications (BEPTL) would be adequate to ensure that the generated electric and magnetic fields are managed to an extent the California Public Utilities Commission (CPUC) considers appropriate in light of the available health effects information. The long-term magnetic field exposure of particular health concern would be insignificant given the general absence of residences along the proposed route. On-site worker or public exposure would be short-term and at levels expected for Western and Southern California Edison (SCE) lines of similar designs and current-carrying capacity. Since the proposed design would be adequate to minimize the safety and nuisance impacts of specific concern to staff, and the line would be located along a route with no nearby residences, staff does not recommend further mitigation and recommends approval of the proposed design and operational plan. Staff recommends specific conditions of certification to ensure implementation of the mitigation measures proposed by the Applicant along with the field strength measurements needed to verify the effectiveness of these measures

INTRODUCTION

The purpose of this final Staff Assessment /Draft Environmental Assessment (SA/DEA) is to assess the proposed line's construction and operational plan for incorporation of measures necessary to minimize the related field and non-field impacts whose reduction remains the focus of current laws, ordinances regulations and standards (LORS). If the proposed plan is found adequate, staff recommends approval with respect to the issues of concern in this analysis; if not, staff recommends appropriate revisions. Staff's analysis focuses on the following issues as related primarily to the physical presence of the lines and related facilities, or secondarily, to the physical interactions of their electric and magnetic fields:

- aviation safety,
- interference with radio-frequency communication,
- audible noise,
- fire hazards,
- hazardous shocks,
- nuisance shocks, and
- electric and magnetic field (EMF) exposure.

TRANSMISSION LINE SAFETY AND NUISANCE TABLE 1
Laws, Ordinances, Regulations and Standards (LORS)

Applicable LORS	Description
Aviation Safety	
Federal	
Title 14, Part 77 of the Code of Federal Regulations (CFR),"Objects Affecting the Navigable Space"	Describes the criteria used to determine the need for a Federal Aviation Administration (FAA) "Notice of Proposed Construction or Alteration" in cases of potential obstruction hazards.
FAA Advisory Circular No. 70/7460-2H, " Proposed Construction and/or Alteration of Objects that May Affect the Navigation Space"	Addresses the need to file the "Notice of Proposed Construction or Alteration" (Form 7640) with the FAA in cases of potential for an obstruction hazard.
FAA Advisory Circular 70/460-1G, "Obstruction Marking and Lighting"	Describes the FAA standards for marking and lighting objects that may pose a navigation hazard as established using the criteria in Title 14, Part 77 of the CFR.
Interference with Radio Frequency Communication	
Federal	
Title 47, CFR, Section 15.2524, Federal Communications Communication (FCC)	Prohibits operation of devices that can interfere with radio-frequency communication.
State	
California Public utilities Commission (CPUC) General Order 52 (GO 52)	Governs the construction, and operation of power and communications lines to prevent or mitigate interference.
Audible Noise	Not to exceed applicable local noise ordinances – (no design-specific Federal or state regulations for noise from transmission lines).
Hazardous and Nuisance Shocks	
State	
CPUC GO-95, "Rules for Overhead Electric Line Construction"	Governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and maintenance and inspection requirements.
Title 8, California Code of regulations (CCR) Section 2700 et seq, "High Voltage Safety Orders"	Specifies requirements and minimum standards for safely installing, operating, working around, and maintaining electrical installations and equipment.

Applicable LORS	Description
National Electrical Safety Code	Specifies grounding procedures to limit nuisance shocks Also specifies minimum conductor ground clearances.
Industry Standards	
Institute of Electrical and Electronics Engineers (IEEE) 1119, “IEEE Guide for Fence Safety Clearances in Electric-Supply Stations”	Specifies the Guidelines for grounding-related practices within the right-of-way and substations.
Electric and Magnetic Fields	
State	
GO-131-D, CPUC ”Rules for Planning, and Construction of Electric Generation Line and Substation Facilities in California”	Specifies application and noticing requirements for new line construction including EMF reduction.
CPUC Decision 93-11-013	Specifies CPUC requirements for reducing power frequency electric and magnetic fields.
Industry Standards	
American national Standards Institute (ANSI/IEE) 644-1944 Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines	Specifies standard procedures for measuring electric and magnetic fields from an operating electric line.
Fire Hazards	
State	
14 CCR Sections 1250-1258, “Fire Prevention Standards for Electric Utilities”	Provides specific exemptions from electric pole and tower firebreak and conductor clearance standards and specifies when and where standards apply.
GO-95, CPUC, “Rules for Overhead Electric Line Construction,” Section 35	Covers all aspects of design, construction, operation, and maintenance of electrical transmission line and fire hazards.

SETTING

According to information from the project owner Blythe Energy, LLC (Blythe Energy or Applicant), (Blythe Energy 2004a, pages 3-1 through 3-19, 5.6-1 through 5.6-7, and 5.14-1), the Buck Substation to Julian Hinds Substation (Buck to Julian Hinds) segment of the proposed transmission lines would be routed through sparsely populated desert and mountainous areas with no residences in the immediate vicinity. The Buck Substation to Southern California Edison’s (SCE’s) 500-kV Devers to Palo Verde line would similarly be routed through sparsely populated desert and mountainous areas with no nearby residences. The point of connection to the SCE line would be a new

facility, the Midway Substation. The nearest residence to the entire proposed project is in Hayfield where one residence would be approximately 500 feet away from the right-of-way. The lack of residences along the 67.4-mile length of the Buck to Julian Hinds and 6.7-mile length of the Buck to Midpoint Substation segments would minimize the potential for the residential EMF exposure at the root of present health concerns. The only project-related exposures of potential significance would be the short-term exposures to plant workers, regulatory inspectors, maintenance personnel, visitors, or individuals in transit under the transmission lines. These types of exposures are short-term and well understood as not significantly related to present health concerns.

As more fully noted in the **Project Description** section, the proposed line modifications project would consist of the segments listed below:

- The Buck to Julian Hinds segment, which would be an overhead 230-kV line extending 67.4 miles from Western Area Power Administration's (Western's) Buck Substation located adjacent to the Blythe Energy Project, to Metropolitan Water District's Julian Hinds Substation to the west;
- Project-related upgrades to Buck Substation and Julian Hinds Substation; and
- The 230-kV overhead line, initially operated at 161-kV, and extending southwestwards over the 6.7 miles from the Buck Substation to the interconnection point (the new Midpoint Substation) for the SCE's 500-kV Devers to Palo Verde transmission line.

The basic configuration of the proposed lines would derive from Western and SCE safety and field-reducing design guidelines as applied to their respective 230-kV lines of a similar current-carrying capacity. For the Buck to Julian Hinds segment, a minimum ground clearance of approximately 27 feet would be maintained. The width of the right-of-way would vary between 95 feet and 100 feet according to conditions. The support structure would be a single-pole concrete or concrete/steel hybrid structure whose height would mostly vary between 75 feet and 125 feet depending on the terrain. Approximately 433 of these structures would be used, with each placed approximately 820 feet apart.

The structures for the Buck to the Midpoint Substation line would be concrete poles that would also carry the Buck to Julian Hinds line. Blythe Energy has provided dimensioned drawings of all proposed structures, and safety, reliability, and field strength reduction information (Blythe Energy 2004a, pages 3-9 and 3-10). The Buck to Midpoint Substation segment would be routed adjacent to an existing Imperial Irrigation District (IID) 161-kV line consolidating transmission line corridors in accordance with present state policy. The Buck to Julian Hinds line would similarly be located adjacent to an existing line, the SCE DPV-1 500-kV line, for most of its length (Blythe Energy 2004a, page 3-2).

Since the proposed transmission lines would be designed and operated according to standard Western and SCE practices, their design-driven electric and magnetic field strengths (and, therefore, potential contribution to existing area field levels) should be at the same level as other Western and SCE lines of the same voltage and current-carrying capacity. EMF levels would thus be in conformance with present CPUC policy.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

The potential magnitude of EMF impacts depends on compliance with the listed LORS whose related mitigation measures have been established as adequate to maintain such impacts below levels of potential significance. Thus, if staff determines that the project would comply with applicable LORS, we would conclude that any transmission line safety and nuisance impacts would be less than significant thus, insuring the safety of the public. The nature of these individual impacts is discussed below together with the potential for compliance with the LORS that apply.

DIRECT IMPACTS AND MITIGATION

Aviation Safety

A potential hazard to area aircraft from potential collisions with structures in the navigable air space may require the filing of a “Notice of Proposed Construction or Alteration” (Form 7640) with the FAA as noted in the LORS section above. The need for such a notice depends on factors related to the height of the structure, the slope of an imaginary surface from the end of nearby runways to the top of the structure, and the length of the runway involved. FAA notification is required for all structures over 200 feet, and may be required for structures under 200 feet in restricted airspace near airports. The dimensions of the restricted airspace are specified according to the lengths of the specific runways involved. For airports with runways of longer than 3,200 feet, the restricted airspace would extend to 20,000 feet from the runway. For airports with runways of 3,200 feet or less, the restricted air space would be reduced to 10, 000 feet. For heliports, the restricted air space would be 5,000 feet.

As noted by Blythe Energy (Blythe Energy 2004a, pages 5.6-9 and 5.6-10 and 5-9 and 5.10-8), the height of the structuresfor the proposed project lines would (at a general maximum of 125 feet) be significantly below the 200 feet FAA notification threshold for aviation safety for all area airports. However, FAA notification may be triggered for below-threshold heights by the slope and distance-related factors that also bear on aircraft safety. Upon notification, the FAA would conduct its safety assessment and issue a related permit as appropriate. Such an assessment has been made and a determination of no conflict was issued for this project. The proposed transmission lines will generally be routed alongside existing lines of higher or similar voltage. The nearest airport to the proposed project lines and related facilities is an airstrip, the Julian Hinds Pumping Plant Airstrip, located 0.5 miles to the southwest of the Julian Hinds Substation and without a notification-triggering runway length. The Blythe Airport is located at least 1.2 miles away from the Buck Substation and the proposed line routes. However, it has two notification-triggering runways (Runway 8/26 at 6, 562 feet in length and Runway 17/35 at 5,820 feet in length), the closer of which is 2,930 feet from the nearest transmission line structures. The Airport’s Master plan considers extending Runway 8/26 to 7,000 feet to the west to accommodate larger aircraft. Given the potential safety concerns for these runways, the City of Blythe suggested routing structures 9 through 17 along an alternative route that would parallel an existing transmission right-of-way in a citrus grove. Since this alignment would further remove

the proposed line section from the Blythe Airport runways even without a significant collision potential on the basis of height alone, staff supported this proposal. In response to this concern, Blythe Energy (Blythe Energy 2005a pages 1 through 10) has proposed related modifications to the two sections in the vicinity of the Blythe Airport and the approach to the Julian Hinds Substation. As more fully discussed in Blythe Energy 2005a, pages 3 through 5, the new route for structures 11 through 28) would run adjacent to the right-of-way of the existing Western Blythe-Knob and IID Blythe-Niland 161 kV lines. This would place the nearest pole to the runway at 5,300 feet instead of the original 2,930 feet.

The two runways of the Desert Center Airport are located three miles to the north of the nearest point of the proposed Buck to Julian Hinds line. Given (a) the orientation of their respective runways in relation to the line and (b) the maximum height of the proposed project structures would be below the 200-foot height, staff considers the proposed transmission lines and related facilities as unlikely to pose a significant aviation hazard to aircraft utilizing the Desert Center Airport under current FAA criteria. Therefore, no FAA “Notice of Construction or Alteration” would be required with respect to this airport.

Interference with Radio-Frequency Communication

Radio-frequency interference is one of the indirect effects of transmission line operation. Such interference is due to the action of the electric fields on the surface of the energized conductor. The process involved is known as corona discharge, but is referred to as spark gap electric discharge when it occurs within gaps between the conductor and insulators or metal fittings. When generated, such noise manifests itself as perceivable interference with AM radio or television signal reception or interference with other forms of radio communication. Since the level of interference depends on factors such as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration and weather conditions, maximum interference levels are not specified as design criteria for modern transmission lines. The level of any such interference usually depends on the magnitude of the electric fields involved and the distance from the line. Just as important, and maybe more so, is the specific cause of the interference. Loose hardware or other physical problems can cause the largest amount of interference, and are easily corrected by tightening or replacing the hardware causing the issue. The potential for such impacts is, therefore, minimized by reducing electric fields, locating the line away from inhabited areas, and by proper maintenance and responding promptly to any complaints – normally a complaint will lead to a correctable hardware issue. Since corona discharge increases line losses, utilities have a vested interest in correcting these situations.

The proposed lines would be built and maintained according to standard Western and SCE practices that minimize surface irregularities and discontinuities. Moreover, the potential for such corona-related interference is usually of concern for lines of 345-kV and above, not the proposed 230-kV lines. Low-corona designs would be used as with Western and SCE lines of similar voltage rating. Since these existing lines do not currently produce the corona-related complaints in these sparsely populated areas, staff does not expect any corona-related radio-frequency interference or related complaints in the general project area.

Audible Noise

Designs that reduce electric field intensity are not specifically mandated by Federal or state regulations for limiting audible noise. As with radio noise, audible noise is limited instead through design, construction or maintenance practices established from industry research and experience. Audible noise usually results from the action of the electric field at the surface of the line conductor and could be perceived as a characteristic crackling, frying, or hissing sound or hum, especially in wet weather. Since the audible noise level depends on the strength of the line electric field, the potential for perception can be assessed from estimates of the field strengths expected during operation. Such noise is usually generated during rainfall, but mainly from overhead lines of 345 kV or higher. It is, therefore, not generally expected at significant levels from lines of less than 345 kV as proposed for this modification project. Research by the Electric Power Research Institute (EPRI 1982) has validated this position by showing the fair-weather audible noise from modern transmission lines to be generally indistinguishable from background noise at the edge of a 100-ft right-of-way.

The low-corona design to be used for the proposed lines are the same that are used for similar Western and SCE transmission lines to minimize the potential for corona-related audible noise. This means, as reflected by electric field strengths (Blythe Energy 2004a, pages 5.14-8 through 5.14-10), that the proposed line operation would be unlikely to add significantly to current background noise levels in the project area. For an assessment of the noise from the proposed transmission lines and related facilities, please refer to staff's analysis in the **Noise and Vibration** section.

Fire Hazards

The fire hazards addressed through the above-referenced LORS are those that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and nearby trees and other combustible objects.

Standard fire prevention and suppression measures for all Western and SCE lines would be implemented respectively for the proposed transmission lines (Blythe Energy 2004a, pages 5.14-6, 5.14-7 and 5.14-14 and 5.14-15). Blythe Energy's intention to ensure compliance with the clearance-related aspects of GO-95 would be an important part of this compliance approach. Moreover, the transmission lines would be located in a mostly desert area without the trees that could pose a fire hazard from line contact.

Hazardous Shocks

Hazardous shocks are those that could result from direct or indirect contact between an individual and the energized line. Such shocks are capable of serious physiological harm or death and remain a driving force in the design and operation of transmission and other high-voltage lines.

No design-specific Federal regulations have been established to prevent hazardous shocks from overhead power lines. Safety is assured within the industry from compliance with the requirements specifying the minimum national safe operating clearances applicable in areas where the line might be accessible to the public.

Applicant's stated intention to implement the GO-95 measures against direct contact with the energized line (Blythe Energy 2004a, pages 5.14-14 and 5.14-15) would serve to minimize the risk of hazardous shocks. Staff's recommended amendment to condition of certification **TLSN-1** would be adequate to ensure implementation of the necessary mitigation measures.

Nuisance Shocks

Nuisance shocks are caused by current flow at levels generally incapable of causing significant physiological harm. They result mostly from direct contact with metal objects electrically charged by fields from energized transmission lines. Such electric charges are induced in different ways by the line electric and magnetic fields.

There are no design-specific Federal or state regulations to limit nuisance shocks in the transmission line environment. For modern overhead high-voltage lines, such shocks are effectively minimized through grounding procedures specified in the National Electrical Safety Code (NESC) and the joint guidelines of the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). Applicant will be responsible for ensuring compliance with these grounding-related practices within the right-of-way.

The potential for nuisance shocks around the proposed line would be minimized through standard industry grounding practices (Blythe Energy 2004a, page 5.14-14). Moreover, there are very few metal objects near the proposed lines that could be charged by an induced current, unlike other areas that have fences and other metal objects close to the line.

Electric and Magnetic Field Exposure

The possibility of deleterious health effects from EMF exposure has increased public concern in recent years about living near high-voltage lines. Both fields occur together whenever electricity flows, hence the general practice of describing exposure to them together as EMF exposure. The available evidence as evaluated by CPUC, other regulatory agencies, and staff, has not established that such fields pose a significant health hazard to exposed humans. There are no health-based Federal regulations or industry codes specifying environmental limits on the strengths of fields from power lines. Most regulatory agencies believe, as does staff, that health-based limits are inappropriate at this time. They also believe that the present knowledge of the issue does not justify any retrofit of existing lines.

Staff considers it important, as does the CPUC, to note that while such a hazard has not been established from the available evidence, the same evidence does not serve as proof of a definite lack of a hazard. Staff, therefore, considers it appropriate in light of present uncertainty, to recommend reduction of such fields as feasible without affecting safety, efficiency, reliability and maintainability.

While there is considerable uncertainty about EMF health effects, the following facts have been established from the available information and have been used to establish existing policies:

- Any exposure-related health risk to the exposed individual will likely be small.
- The most biologically significant types of exposures have not been established.
- Most health concerns are about the magnetic field.
- The measures employed for such field reduction can affect line safety, reliability, efficiency, and maintainability, depending on the type and extent of such measures.

State

The CPUC, which regulates the installation and operation of high-voltage lines in California, has determined that only no-cost or low-cost measures are presently justified in any effort to reduce power line fields beyond levels existing before the present health concern arose. The CPUC has further determined that such reduction should be made only in connection with new or modified lines. It requires each utility within its jurisdiction to establish EMF-reducing measures and incorporate such measures into the designs for all new or upgraded power lines and related facilities within their respective service areas. The CPUC further established specific limits on the resources to be used in each case for field reduction. Such limitations were intended by the CPUC to apply to the cost of any redesign to reduce field strength or relocation to reduce exposure. Publicly owned utilities, which are not within the jurisdiction of the CPUC, voluntarily comply with these CPUC requirements. This CPUC policy resulted from assessments made to implement CPUC Decision 93-11-013.

In keeping with this CPUC policy, staff requires a showing that each proposed overhead line would be designed according to the EMF-reducing design guidelines applicable to the utility service area involved. These field-reducing measures can impact line operation if applied without appropriate regard for environmental and other local factors bearing on safety, reliability, efficiency, and maintainability. Therefore, it is up to each Applicant to ensure that such measures are applied in ways that prevent significant impacts on line operation and safety. The extent of such applications would be reflected by ground-level field strengths as measured during operation. When estimated or measured for lines of similar voltage and current-carrying capacity, such field strength values can be used by staff and other regulatory agencies to assess the effectiveness of the applied reduction measures. These field strengths can be calculated for any given design using established mathematical formulae. Estimates are specified for a height of one meter above the ground, in units of kilovolts per meter (kV/m), for the electric field, and milligauss (mG) for the companion magnetic field. Their magnitude depends on line voltage (in the case of electric fields), the geometry of the support structures, degree of cancellation from nearby conductors, distance between conductors and, in the case of magnetic fields, amount of current in the line.

Since each new line in California is currently required by the CPUC to be designed according to the EMF-reducing guidelines of the electric utility in the service area involved, its fields are required under this CPUC policy to be similar to fields from similar lines in that service area. Designing the proposed modification project lines according to existing Western and SCE field strength-reducing guidelines would constitute compliance with the CPUC requirements for line field management.

Industrial Standards

The present focus is on magnetic fields because they can penetrate soil, vegetation, buildings and other materials. As one focuses on the magnetic fields from the more visible overhead transmission and other high-voltage power lines, staff considers it important, for perspective, to note that an individual in a home could be exposed to much stronger fields while using some common household appliances (National Institute of Environmental Health Services and the U.S Department of Energy, 1995). The difference between these types of field exposures is that the higher-level, appliance-related exposures are short-term, while the exposure from power lines is lower level, but long-term. Scientists have not established if either of these types of exposures are biologically meaningful in the individual. Staff notes such exposure differences only to show that high-level magnetic field exposures regularly occur in areas other than around high-voltage power lines.

Specific field strength-reducing measures would be incorporated into the design of the proposed transmission lines to ensure the field strength minimization currently required by the CPUC. The field reduction measures to be applied include the following:

1. Increasing the distance between the conductors and the ground;

2. Reducing the spacing between the conductors;

3. Minimizing the current in the line; and

4. Arranging current flow to maximize the cancellation effects from interacting of conductor fields.

Blythe Energy (Blythe Energy 2004a, pages 5.14-7 through 5.14-13) calculated the expected maximum electric and magnetic field intensities of the proposed transmission lines at three specific locations, both with and without the contribution from existing area lines (Locations 1, 2, and 3) (Blythe Energy 2004a, pages 5.14-3, 5.14-7, and 5.14-4). These existing lines are the Imperial Irrigation District's 161-kV Blythe to Eagle Mountain Line and SCE's 500 kV Devers to Palo Verde line. As more fully discussed by Blythe Energy (Blythe Energy 2004a, pages 5.14-7 through 5.14-14), the maximum electric field strength from the proposed project line would be 3.9 kV/m at the centerline, diminishing to 0.25 kV/m 150 feet from the centerline and thereby reflecting the field reduction efficiency expected for SCE and Western lines of the same voltage. The maximum electric field contribution by these project lines at the existing point of maximum field strength was calculated as 0.004 kV/m, which staff considers insignificant.

The magnetic field strength at the point of maximum impact (Location 1 with the existing 161-kV IID line) was estimated as approximately 240 mG and would increase to a maximum of 287 mg from the introduction of the project lines. This would decrease to approximately 120 mG at one edge of a combined 300-ft right-of-way, and less than 50 mG at the other to reflect the interactions between the project and IID lines involved. These field intensities are within ranges that staff would expect for Western or SCE lines of the same voltage and current-carrying capacity. These estimates would be compared with the operational phase measurements required by proposed Condition of

Certification **TLSN-2**. These edge of right-of-way field strengths are much lower than the 150- to 250-mG established (depending on voltage level) for the edges of the rights-of-way by the few states with regulatory limits on magnetic fields.

Since optimum field-reducing measures would be incorporated into the proposed line design, staff considers further mitigation to be unnecessary, but would seek to validate Applicant's assumed efficiency of EMF field strength reductions.

CUMULATIVE IMPACTS AND MITIGATION

Since the proposed transmission lines would be designed according to applicable field-reducing Western and SCE guidelines (as currently required by the CPUC for effective field management), staff expects the resulting fields to be similar in intensity to fields from Western and SCE lines of the similar voltage and current-carrying capacity. Any contribution to cumulative area exposures would be at similar levels. It is this similarity in intensity that constitutes compliance with current CPUC requirements on EMF management. The actual field strengths and contribution levels for the proposed line design would be assessed from the results of the field strength measurements specified in Condition of Certification **TLSN-2**.

COMPLIANCE WITH LORS

As previously noted, current CPUC policy on safe EMF management requires that any high-voltage line within a given area be designed to incorporate the field strength-reducing guidelines of the main area utility lines to which the line is interconnected. The respective utilities in this case are Western and SCE. Since the proposed project lines and related substations would be designed according to the respective requirements of GO 95, GO 52, GO-131-D, and Title 8, Section 2700 et seq. of the California Code of Regulations and operated and maintained according to current Western and SCE guidelines on line safety and field strength management, staff considers the presented design and operational plan to be in compliance with the LORS identified in this analysis. The actual contribution to the area's field exposure levels would be assessed from results of the field strength measurements required in Condition of Certification **TLSN-2**.

RESPONSE TO PUBLIC AND AGENCY COMMENTS

No comments were received.

CONCLUSIONS

Since electric or magnetic field health effects have neither been established nor ruled out for proposed modification project and similar transmission lines, the public health significance of any related field exposures cannot be characterized with certainty. The only conclusion to be reached with certainty is that the proposed line design and operational plan would be adequate to ensure that the generated electric and magnetic fields are managed to an extent CPUC considers appropriate in light of the available health effects information. Long-term, mostly residential magnetic field exposure at the

root of health concerns would be insignificant for the proposed lines given the absence of residences along the proposed routes. On-site worker or public exposure would be short term and at levels expected for Western and SCE lines of similar designs and current-carrying capacity. Such exposure is well understood and has not been established as posing a significant human health hazard.

The potential for nuisance shocks would be minimized through grounding and other field-reducing measures to be implemented in keeping with current Western and SCE guidelines (reflecting standard industry practices). These field-reducing measures would maintain the generated fields within levels not associated with radio-frequency interference or audible noise. The potential for hazardous shocks would be minimized through compliance with the height and clearance requirements of General Order 95. Compliance with Title 14, California Code of Regulations, Section 1250, would minimize fire hazards. Because the proposed lines would be in undeveloped areas, there are few metal objects near or in the ROW to pick up any currents. Nuisance and hazardous shocks are much more of an issue in developed areas where there are fences, irrigation pipe, and people in close proximity to a line. The undeveloped nature of the project area is a major factor reducing the risk of shocks. Except for Blythe Airport, the proposed lines and related facilities are not near enough to any airport to pose an aviation hazard according to current FAA criteria; therefore, staff does not consider it necessary to recommend location changes on the basis of a potential hazard to area aviation. The proposed re-routing in the vicinity of Blythe Airport should serve to minimize the collision risk of concern to the city.

The use of low-corona line design, together with appropriate corona-minimizing construction practices, would minimize the potential for corona noise and its related interference with radio-frequency communication in the area around the proposed route. Moreover, the lack of TV or AM radio receivers in the area near the line would minimize this issue.

Since the proposed transmission lines would be designed to minimize the safety and nuisance impacts of specific concern to staff, and located mostly along the routes of existing lines in areas with no nearby residences, staff does not recommend further mitigation and recommends approval of the proposed design and operational plan. If such approval were granted, staff would recommend that the Energy Commission adopt the amended conditions of certification specified below to ensure implementation of the measures necessary to achieve the field reduction and line safety specified by the Applicant.

PROPOSED CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall construct the proposed transmission lines according to the requirements of CPUC's GO-95, GO-52, GO-131-D, Title 8, Group 2., High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Western's and SCE's EMF-reduction guidelines.

Verification: At least 30 days before starting construction of the transmission line or related structures and facilities, the project owner shall submit to the Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer

affirming that the lines will be constructed according to the requirements stated in the condition.

TLSN-3 The project owner shall engage a qualified consultant to measure the strengths of the line electric and magnetic fields from the line before and after they are energized. Measurements should be made at representative points (a) along the proposed routes at locations 1, 2, and 3 for which specific field strengths were provided and (b) at similar locations, respectively for Western and SCE lines of the same voltage and similar current-carrying capacities. These measurements shall be completed not later than 6 months after the start of operations.

Verification: The project owner shall file copies of the pre-and postenergization measurements and measurement of a representative Western line, with the CPM within 60 days after completion of the measurements.

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VISUAL RESOURCES

Testimony of David Flores

SUMMARY OF CONCLUSIONS

Energy Commission staff analyzed both the potential visual impacts of the proposed Blythe Energy Project Transmission Line Modifications (BEPTL) in accordance with the California Environmental Quality Act (CEQA), and the National Environmental Policy Act (NEPA), and the project's compliance with applicable laws, ordinances, regulations, and standards (LORS) pertaining to visual resources. Staff concludes that the proposed project would not cause significant visual impacts. Effective implementation of the Applicant's proposed mitigation measures and staff's recommended conditions of certification would reduce visual impacts from the project to a less than significant level, and ensure that the project complies with applicable LORS regarding visual resources.

INTRODUCTION

Visual resources are the natural and man-made features of the environment that can be viewed. This analysis focuses on whether construction and operation of the BEPTL would cause visual impact(s) under CEQA and NEPA, and whether the project would be in compliance with applicable LORS.

This section presents an assessment of potential visual resource impacts of the proposed project and alternatives. The impact assessment methodology is discussed, and potential impacts of the proposed project and alternatives are identified in this analysis.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Staff has identified in **VISUAL RESOURCES Table 1** a preliminary listing of applicable LORS that staff has evaluated to determine the proposed project's compliance.

VISUAL RESOURCES Table 1
Laws, Ordinances, Regulations, and Standards

Jurisdiction & Applicable LORS	LORS Description
U.S Department of Transportation, State Scenic Highways 2002	Interstate 10, from its junction with State Route 62 to the Colorado River, is identified as a candidate route that should be included in the California State Scenic Highway Program, but has yet to be designated as an eligible or official scenic highway. Regardless of its designation, it is consistent with Riverside County's vision to protect the scenic value of this route.
Local	
County of Riverside General Plan	This plan serves as a guide for future development patterns in the Eastern Coachella Valley. The following sections of the Plan are applicable to the proposed project:
Light Element	As development continues to encroach from established urban cores into both rural and open space areas, the effect of nighttime lighting on stargazing and open space areas will become more pronounced. Wildlife habitat areas can also be negatively impacted by artificial lighting.
Scenic Highway	To conserve significant scenic resources along scenic highways for future generations, and to manage development along scenic highways and corridors so that it will not detract from the area's natural characteristics.
Light Pollution	As development continues to encroach into rural and open space areas, the effect of nighttime lighting on star-gazing and open space areas will become more pronounced. The intent is to limit light leakage and spillage that may obstruct or hinder the night sky view.
Slope	The Chuckwalla, Eagle, and Coxcomb Mountains play an integral part in establishing the character and atmosphere of Desert Center. While densities are limited in the Open Space-Rural land use designation, development that does occur must prevent or minimize the potential for erosion and landslides, preserve significant views, and minimize grading and scarring.
Palo Verde Valley Area Plan Desert Center Area Plan	These plans have identical policies. Both plans support the designation of Interstate 10 and US Highway 95 as eligible and subsequently Official Scenic Highways. The plans recommend protection of the scenic highways in the Desert Center-Palo Verde Valley planning areas from changes that would diminish the aesthetic value of adjacent properties.
Bureau of Land Management	BLM's Visual Resource Management (VRM) system, involves inventorying scenic values and establishing management objectives for those values through the resource management planning process, and then evaluating proposed activities to determine whether they conform with the management objectives.
National Park Service	The National Park Service will cooperate with park neighbors and local government agencies to seek to minimize the intrusion of artificial light into the night scene in parks with natural dark.

SETTING

The following sections discuss the general visual characteristics along the proposed project and alternative transmission line alignments.

PROJECT DESCRIPTION

The BEPTL is to be situated in eastern Riverside County. The proposed project involves two distinct components: the Buck to Julian Hinds Transmission Component, and the Buck to Devers-Palo Verde Transmission Line Component. The Applicant has proposed the use of concrete, single-pole transmission line structures.

The Buck to Julian Hinds Transmission Component alignment would follow an existing transmission line corridor, generally following Southern California Edison's (SCE) existing Devers-Palo Verde No.1 500-kilovolt (kV) Transmission Line (D-PV-1) paralleling the south side of U.S. Interstate10 (I-10), from the Buck Boulevard Substation (west of the City of Blythe, California) 67.4 miles west to the Julian Hinds Substation.

The Buck to Devers-Palo Verde Transmission Line Component alignment would extend approximately 6.7 miles south southwest from the Buck Boulevard Substation to SCE's existing D-PV1 500 -kV transmission line and the site of the proposed Midpoint Substation.

Vicinity

This area of the county consists of a variety of natural geographic features, including flat desert valleys, rolling sand dunes, stark hillsides and barren mountain ranges. Most foreground views along the transmission line route include the broad expanse of the Sonoran Desert back dropped by mountains. Some of the more prominent visual resource features include: several clustered mountain ranges, including the Orocopia, Chuckwalla, Little Chuckwalla, Eagle, Mule, Arica, Little Maria, Palen, McCoy, Pinto, Riverside/Arizona Mountains, and the Big Maria Mountains. These mountains can be generally described as rugged, rocky, and rising sharply from sea level. Vegetation is generally very sparse consisting of a desert mix shrub. Colors range from gray to brown to tan with a blotchy appearance. Man-made visual features within the vicinity of the transmission line route include: the City of Blythe, the Ironwood and Chuckwalla State Prisons, the Colorado River Aqueduct, I-10 and State Route 177 (SR 177), agricultural producing lands, and scattered rural residences. Electric power infrastructure (power plants, substations, transmission lines and distribution lines) is established in the area. The network of existing t-lines is definitely part of the visual setting. The proposed and existing transmission lines within close proximity of the BEPTL include:

- the existing 500 kV Devers-Palo Verde Transmission Line;
- the proposed 161 kV Midway Transmission Line;
- the proposed 161 kV Gold Mine Transmission Line; and the
- the proposed 230 kV Eagle Mountain Transmission Line.

The proposed project transmission line alignment would be surrounded by sparse, desert vegetation and follow existing transmission line rights-of-way and maintenance roads for much of its length. Much of the land within the existing corridor has been disturbed by activities, maintenance roads, and facilities associated with the existing transmission lines within the area.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

REGULATORY SETTING

Federal

The Federal Land Policy and Management Act of 1976 (FLPMA) establishes guidelines for the administration, management, protection, development, and enhancement of public lands. Section 102 (a)(8) of the Act emphasizes that public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values. Section 101 (b) of NEPA requires that measures be taken to ensure that aesthetically pleasing surroundings be retained for all Americans.

To meet its responsibility to maintain the scenic value of public lands, the BLM has developed the Visual Resource Management (VRM) system. The VRM system is implemented through the Resource Management Plan (RMP). Visual resources are to be considered in all BLM planning and environmental assessment documents. The BLM contrast rating system is used for this analysis to determine potential visual impacts of the proposed project and alternatives under consideration in this document, and is discussed in more detail below in the Visual Resource Management System subsection.

State

The California Environmental Quality Act of 1972 (CEQA) provides an environmental review process for state and local agencies, boards and commissions within California. The CEQA Guidelines define a “significant effect” on the environment to mean a “substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including...objects of historic or aesthetic significance” (California Code of Regulations, Title 14, Section 15382).

Appendix G, of the CEQA Guidelines provides a checklist of questions that a designated lead agency should normally address if relevant to a project’s environmental impacts. Specifically, the checklist contains the following questions pertaining to aesthetics that are posed as guideline for visual resources assessment:

a) Would the project have a substantial adverse effect on a scenic vista?

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

d) Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Local

County of Riverside

The project is within the boundaries of the County of Riverside General Plan, 2003. This plan serves as a guide for future development patterns in the Palo Verde Valley and the Desert Center Area. The applicable LORS associated with the proposed modification project are discussed in **Table 1** of this analysis.

City of Blythe

The City of Blythe has no specific policies on visual or aesthetic resources that apply to the BEPTL.

METHODOLOGY AND SIGNIFICANCE CRITERIA

Visual Resource Inventory

The visual resource inventory process provides a means for determining the visual values of the landscape. Visual resource inventory classes are assigned through the inventory process based on scenic quality evaluations, sensitivity level analysis, and delineation of distance zones. BLM administered lands are placed into one of four visual resource inventory classes. These inventory classes represent the relative value of the visual resources, Classes I and II having the highest values, Class III representing moderate value and Class IV being of least value. Each of these classes is defined in more detail in the Visual Resource Management System section of this analysis.

The inventory classes only provide a basis for establishing visual values and do not establish management direction. The information provides a basis for considering visual values in the process.

Visual Quality

Visual quality is an expression of the overall visual impression or appeal of a given landscape and associated public value attributed to the visual resource. This analysis used an approach that considers visual quality to range from low to high. High visual quality would be considered “picture perfect” landscape. Low visual quality describes landscapes that are often dominated by visually discordant human alterations, and do not provide views that people would find inviting or interesting. The relevant physical properties of the environment include landforms, vegetation, water, color, scarcity, and cultural modifications.

Visual Sensitivity

Viewer sensitivity is a measurement of the level of interest or concern of viewers regarding the visual resources of an area. It is expressed as low to high. Viewer sensitivity can be determined in two ways, directly through evaluation of viewer attitudes or indirectly using viewer activities.

Distance Zones

Landscapes are subdivided into three distance zones based on relative visibility from travel routes or observation points. The three zones are foreground-middleground, background, and seldom seen.

Visual Resource Management System

Portions of the proposed project and alternative transmission line corridors would be located within areas administered by the BLM, and, as such, are subject to the BLM VRM System. BLM has developed an analytical process that identifies, sets, and meets objectives for maintaining scenic values and visual quality. Visual resources, as defined by the BLM, are the visible physical features of a landscape (e.g., land, water, vegetation, animals, structures, and other features). All land has inherent visual values which warrant different levels of management; it is neither desirable nor practical to provide the same level of management for all visual resources. For example, management of an area with high scenic value might be focused on preserving the existing character of the landscape, while management of an area with little scenic value might allow for major modifications. Identifying an area's visual resources requires assessing the area's inherent scenic values (i.e., its visual appeal), assessing public concern for scenic quality, and developing appropriate management levels to protect it.

As a starting point, BLM conducts an inventory that evaluates the visual resources on all land under its jurisdiction (Inventory/Evaluation). Once inventoried and analyzed, lands are given relative Visual Resources Management ratings (VRM Classifications). VRM Class designations are derived from an analysis of:

- Scenic Quality (rated by landform, vegetation, water, color, influence of adjacent scenery, scarcity, and cultural modification);
- Viewer Sensitivity Levels (sensitivity of people to changes in the landscape) and;
- Distance Zones (visual quality of a landscape, as well as user reaction, may be magnified or diminished by the visibility of the landscape).

The BLM has established different objectives for each VRM Classification, with differing degrees of modifications allowed to the basic elements of the landscape (form, line, color, texture). The VRM Management Classification Objectives are defined as follows:

Class I: Natural ecological changes and very limited management activity are allowed. Any contrast created within the characteristic landscape must not attract attention. This classification is applied to wilderness areas, wild and scenic rivers, and other similar situations.

Class II: Changes in any of the basic elements caused by management activity should not be evident in the characteristic landscape. Contrasts are visible, but must not attract attention.

Class III: Changes to the basic elements caused by management activity may be evident, but should remain subordinate to existing landscape.

Class IV: Any contrast may attract attention and be a dominant feature of the landscape in terms of scale, but should repeat the form, line, color, and texture of the characteristic landscape.

Class V: Natural characteristics of the landscape have been disturbed to a point where rehabilitation is needed to bring it up to one of the four other classifications. The classification also applies to areas where there is potential to increase the landscapes visual quality. It would, for example, be applied to areas where unacceptable cultural modification has lowered scenic quality; it is often used as an interim classification until objectives of another class can be reached.

When a site-specific project is proposed, the degree of contrast between the proposed activity and the existing landscape is measured (Contrast Rating). The contrast rating process compares the proposed activity with existing conditions element by element (form, line, color, texture) and feature by feature (land/water surface, vegetation, structures). The contrast rating is compared to the appropriate VRM Classification to determine if contrasts are acceptable. If the proposed project exceeds the allowable contrast, a BLM decision is made to (1) redesign, (2) abandon or reject, or (3) proceed, but with mitigation measures stipulated to reduce project contrast.

The following is a description of visual resources present in the project area that could be affected by construction of the proposed project and its alternatives. This discussion includes the development of existing and interim Visual Resource Management Classifications for various parts of the project area and their associated management objectives.

Interim Visual Resource Management Classifications and Objectives

Based on conversations with BLM and CEC staff, and after studying areas along I-10 in the Coachella Valley (west of the proposed modifications) where the BLM has established VRM classes, the Applicant conducted an inventory and prepared their analysis using the BLM interim VRM classification process for both Federal and non-Federal lands.

Interim VRM classifications are established when a project is proposed and there are no RMP or Management Framework Plan-approved VRM classifications. These interim VRM classifications are developed using the guidelines in BLM VRM Manual Sections 8410 and 8411, Visual Resource Inventory, and must conform to the land use allocations set forth in the RMP which covers the project area. Although it is a goal of the BLM to inventory and assign VRM classifications to land within its jurisdiction, the project area has not been fully inventoried and VRM classifications have been assigned only to public lands within the Coachella Valley (Foote 2002).

The first step in assigning interim VRM classifications is to perform a scenic quality inventory and evaluation of the project area. The landforms, vegetation, water features (if any), color, adjacent scenery, scarcity, and cultural modifications of the area under inventory are all assessed and scored. When all of the scores are added up, a scenic quality rating is then assigned to that particular location, or scenic quality rating unit.

The BLM matrix assigns interim VRM classes by combining: 1). sensitivity levels; 2). scenic quality classes; and 3) viewing distance zones. **Table 2** displays the Interim VRM class matrix prepared by the Applicant. The shaded cells represent where in the matrix the KOP's for the proposed transmission line modifications were evident. As provided in the Matrix, the following is shown:

- Interim VRM Class 2 is assigned to KOP 4 based on high visual sensitivity, scenic quality class B, and foreground/middleground viewing distance. Contrasts resulting from a proposed action are seen but do not attract attention.
- Interim VRM Class 3 is assigned to KOP's 1, 2, 3, 5, and 6 based on high visual sensitivity, scenic quality class C, and foreground/middleground viewing distances. Contrast resulting from a proposed action are evident but should remain subordinate to the existing landscape.

VISUAL RESOURCES Table 2
Interim Visual Resource Management Class Matrix

	Visual Sensitivity						
	High			**Moderate**			**Low**
Special Areas	1	1	1	1	1	1	1
Scenic Quality Class A	2	2	2	2	2	2	2
Scenic Quality Class B	2	3	3	3	4	4	4
Scenic Quality Class C	3	4	4	4	4	4	4
	FG/MG[1]	**BG[2]**	**SS[3]**	**FG/MG[1]**	**BG[2]**	**SS[3]**	**SS[3]**

[1] Foreground/Middleground Zone
[2] Background Zone
[3] Seldom Seen Zone

Affected Environment

Key Observation Points

Six Key Observation Points (KOP's) were selected at various locations within the project area to represent views of potential concern as determined by degree of visual quality, sensitivity level analysis, and delineation of distance zones (See **Figure 1-Location of Key Observation Points**). Visual impacts at each KOP were evaluated using the BLM visual contrast rating system and assigned a contrast of strong, moderate, weak or none. Views from KOPs are shown both before project construction and with the project simulated in the view, at the end of this visual resources section.

KOP selections were located:

- Along major or significant travel corridors (e.g., I-10 and SR 177);
- At or near cultural, historic and prehistoric sites; and
- Near residential areas (e.g., City of Blythe).

Locations were selected to be typical views of the proposed transmission line as seen by a casual viewer and to portray potential impacts that could occur along the route. At

each KOP, the existing visual setting and the effects of introducing project facilities to the view were evaluated. To characterize the potential impacts on scenic quality and viewer's experience, photo simulations were prepared by adding images of project transmission lines and towers to representative photographs. The purpose of the photosimulation is to approximate the anticipated long-term appearance of the project in the existing landscape to evaluate potential visual impacts. Photo simulations are presented for each KOP.

The view from each KOP has been evaluated based on the visual quality of the landscapes, using BLM's scenic quality classes (BLM,1981). The BLM places scenic quality into three classes:

- Class A. Areas that combine the most outstanding characteristics of land form, vegetation, water, color, influence of adjacent scenery, scarcity, and man-made features.

- Class B. Areas in which there is a combination of some outstanding features and some that are fairly common to the physiographic region.

- Class C. Areas in which the features are fairly common to the physiographic region.

The BLM also assigns one of three " visual sensitivity levels" to each viewpoint as follows:

- High Visual Impact: The visual contrast of the project would exceed the VRM class guidelines for an area, or conflict with applicable plans and adopted policies of government agencies and would result in a high visual impact, and would be considered significant for the purposes of this analysis.

- Medium Visual Impact: The visual contrast of the project would be fully at, but not exceed, the VRM class guidelines for that area and would be considered to be a less-than-significant visual impact.

- Low/No Visual Impact: The visual contrast of the project is clearly within the VRM class guidelines for the area and would be considered a less than significant visual impact.

The scenic quality class ratings and visual sensitivity levels for each KOP are presented below. The ratings were based on the Applicant and CEC staff's in-field observations carried out in June and October of 2004, review of the BLM-scenic quality class mapping for areas similar viewshed qualities, and review of the USGS topographic maps. Scenic quality of the views from each of the KOPs was based on the direction in the BLM Manual (BLM, 1981).

The following section describes the KOP's, given the existing views without the project as shown in Figure's 2a through 7a followed by a description of the visual simulation with the project as shown in Figure's 2b through 7b.

VISUAL RESOURCES – KOP 1 represents a view from I-10 east of Nicholls Warms Springs/Mesa Verde Interchange, and just south of the Blythe Airport (See **Figure 2a-KOP 1**). This view was selected to represent the high volume of traffic along I-10 as this

view also represents a high sensitivity level. The view from KOP 1 encompasses a foreground/ middleground scene of single wooden poles which provide local electrical distribution, and two H-frame transmission lines which cross I-10. As provided in the AFC, the major elements in this view are the expanse of flat, open desert lands with the beginning of a citrus orchard in the foreground that provides relatively thick foliage and provides a distinct variation from the typical high desert coloration. The Riverside/ Arizona Mountains in the background and open space features in the foreground and middleground with developed features results in a scenic quality class C.

Figure 2b-KOP 1 provides a visual simulation of the Buck Substation and proposed transmission line as it crosses I-10. As provided in the AFC, the simulation is as it would appear from I-10 eastbound, just past the Nicholls Warm Springs/Mesa Verde interchange.

Given the presence of existing transmission lines and associated structures that dominate the landscape at this KOP, the additional new lines and structures would blend in with other transmission line crossings in the foreground/middleground view. The existing transmission lines also create strong geometric and linear forms that are gray in color and coarse in texture. Duration of view from the traveling public on I-10 would be brief, considering the transmission line crossing is at an existing cut-slope where the highway drops down from the Palo Verde Mesa to the Palo Verde Valley, and travel speeds are about 70 miles per hour on this segment of I-10. The addition of the new transmission line would create a weak contrast in this viewshed. The proposed modifications would be evident, but would remain subordinate to the existing landscape because they would blend in with other structures in the area. Therefore, KOP 1 would be in conformance with the Class 3 VRM objective.

VISUAL RESOURCES – KOP 2 represents a view from Nicholls Warm Springs/Mesa Verde, looking south toward the proposed Midpoint Substation (See **Figure 3a-KOP 2**). From this viewpoint, the proposed substation would be approximately 4 miles away. The Applicant and Commission staff chose this viewpoint as it represents views toward the substation from a few dozen residences that are located on the south edge of the community. The surrounding area is predominantly flat desert with widely scattered creosote brush and four-wheel drive vehicle trails. The existing H-frame transmission structures are in the background and almost completely blend in with the blue-gray Palo Verde Mountains.

The elements in this view are the expanse of flat open desert land in the foreground/middleground, the Mule Mountains on the right, and Palo Verde Mountains and existing transmission lines in the background. This view would be classified as scenic quality class C due to the developed features (transmission lines) that detract from the overall level of scenic quality.

Figure 3b-KOP 2 provides a simulated view of the proposed Midpoint Substation and transmission line as it would appear at the south edge of the town of Nicholls Warm Springs/Mesa Verde. The proposed transmission lines would create a weak visual contrast as the project would be visible as parallel silhouettes against the Palo Verde Mountains in the background, but would not dominate the view from the location of KOP 2. In addition, the proposed project transmission lines and structures would be

consistent with existing visual features within the viewshed (e.g., transmission lines and structures), and will not change the landscape character of this scene. As seen in the visual simulation, the Midpoint substation would not be visible from this KOP or from the town of Nicholls Warm Springs/Mesa Verde, because of its lower profile. Overall the scenic quality which is now low, would remain the same. The proposed modifications would remain subordinate in this landscape, and would meet the objectives of interim VRM Class 3.

VISUAL RESOURCES – KOP 3 represents a view from I-10, looking south toward Chuckwalla and Ironwood State Prisons. (See **Figure 4a-KOP 3**) The jagged, bold mountains to the south appear as a dark silhouette. This view was selected to represent typical views toward the proposed transmission lines from numerous locations along I - 10 as the transmission line parallels the interstate highway. The Chuckwalla Mountains contain a variety of landforms, textures, and colors, with steep-walled canyons, inland valleys, washes, and isolated rock outcroppings. As discussed in the AFC, this KOP was selected in consultation with Commission staff because the state prisons create a focal point in the landscape; therefore more visual attention will be drawn to existing and proposed human activities in this view.

The existing wooden poles from the Blythe-Eagle Mountain 161-kV line and lattice structures of the SCE 500 - kV D-PV1 transmission line are visible against the blue-gray mountains in the background. The major elements in this view are the white buildings and white water tower of the state prisons set in the open expanse of the flat, open desert land in the foreground/middleground with the wood pole line and 500 - kV lattice structures in the foreground/middleground. The Chuckwalla Mountains in the background provide to some extent a visual interest, but the visual variety of the open space and stark visual contrasts of the state prison facilities detract from the overall level of scenic quality. Based on these criterions, this view would be classified as having a scenic quality of Class C.

Figure 4b-KOP 3 provides a simulated view of the proposed transmission lines and poles as seen from I-10, just east of Wileys Well Road and Rest Area. The proposed transmission lines which are seen in the foreground/middleground would be visible at a distance, but would not dominate the view and would blend with the existing transmission lines. Attention would still be drawn to the white buildings and water tower of the two state prisons which is a focal point within the view. The viewing distance from this KOP is approximately 1.5 to 2 miles, and the angle of the view which is greater than 45 degrees away from I -10 decreases the visual impact of the proposed modifications.

The overall scenic quality of this view which is now low would not be substantially changed by the proposed modifications. Based on the high sensitivity of viewers, low scenic quality of the landscape, and foreground/middleground viewing distance, the addition of a new transmission line would cause a weak contrast and be subordinate to the existing landscape surroundings as the forms and lines of the transmission lines and conductors would blend in with existing form and lines of the existing SCE D-PV1 transmission line. Based on this contrast rating, the proposed modifications would meet the objectives of interim VRM Class 3.

VISUAL RESOURCES - KOP 4 represents a view from I-10 at the Highway 177 Junction at the Desert Center exit (See **Figure 5a-KOP 4**). The view is looking southwest toward Alligator Rock, which is the most scenic view associated with the proposed project.

Desert Center is a popular exit on I-10 for various highway commercial services and a rest stop. Because the freeway is elevated as it crosses Highway 177, residents and visitors to the tourist-commercial facilities cannot see most of the proposed modifications at or near Alligator Rock.

This viewpoint was selected in consultation between Commission staff and the Applicant because Alligator Rock creates a focal point in the landscape. Wooden electrical distribution poles are visible between the highway cut slope and Alligator Rock. The existing lattice structures (D-PV1) are not visible from this viewpoint, because the transmission line is located between Alligator Rock and the Chuckwalla Mountains in the background. Alligator Rock and the Chuckwalla Mountains appear as a bold definitive mass with rugged edges. The desert vegetation is contrasting and asymmetrical and ranges from light to dark brown in color, and is in the foreground and middleground. Also parts of the view are the soil-eroded cut-slopes of the freeway interchange. The only vertical elements in this landscape view are the wooden utility poles and various wooden sign poles in the foreground and middleground. Applying the BLM scenic quality class scale for landscape visual quality, this view would be classified as a moderate scenic quality, Class B.

Figure 5b-KOP 4 provides a simulated view of the proposed modifications as seen from I-10 at the Desert Center exit, looking southwest toward Alligator Rock from the bridge over Highway 177. As indicated in the AFC, the proposed transmission lines would be clearly visible from this viewpoint. With the Chuckwalla Mountains in the background and Alligator Rock in the foreground/middleground of the viewpoint, the viewer's attention would be drawn to these scenic features. Given the dominating appearance of the existing dark brown wooden poles in the foreground, the proposed transmission structures would be clearly visible, but would be less noticeable than the wooden poles. The proposed lines and structures would appear to blend in, to some extent, with the blue-gray and dark colors of the Chuckwalla Mountains and Alligator Rock. Commission staff agrees with Applicant that the presence of existing towers and poles and the horizontal elements of the existing conductors in the BLM Utility Corridor H along I-10 has created a precedent for these elements in this landscape. The viewing distance of a quarter mile to one mile and the angle of view (greater than 45 degrees away from the interstate) would tend to decrease the visual impact of the proposed transmission line. Based on the high sensitivity of viewers, scenic quality class B, and foreground/middleground viewing distance, the proposed modifications would meet the objectives of interim VRM Class 2.

VISUAL RESOURCES - KOP 5 represents a view of the I-10 at the Hayfield Road exit and overcrossing (See **Figure 6a-KOP 5**). The viewpoint was selected because the proposed transmission line modifications would cross I-10 at this location. As shown in the KOP, the Orocopia Mountains are visible in the background, and I-10 and the Hayfield Road Bridge dominate the foreground/middleground view. Because a high

number of the travelers along I-10 would view the transmission structures at this location, this view has a high sensitivity level.

Although the mountains in the background provide some scenic interest, the desert vegetation, barren soils and the developed features such as I-10 and Hayfield Road Interchange decrease the overall level of scenic quality. The BLM scenic quality class scale for landscape visual quality in the foreground/middleground area of this KOP would be classified as having a low scenic quality of Class C.

Figure 6b-KOP 5 provides a simulated view of the proposed modifications as seen from a viewpoint located on I-10 at the Hayfield Road Exit, looking east. The transmission lines and structures are clearly visible from this viewpoint, but with the architectural form of the modern highway overcrossing (I-10/Hayfield Road Bridge) and the on-ramp structure to I-10, the new transmission line structures will add continuity to the infrastructural landscape. The proposed modification project and the highway overcrossing structure would continue to dominate the foreground/middleground view, and create a strong focal point in the landscape.

The presence of the proposed modifications would not change the character of this viewpoint and therefore the scenic quality, which is now low (scenic quality class C), would remain the same. Based on the high sensitivity of viewers, low scenic quality of the landscape, and foreground/middleground viewing distance, the interim VRM objective for the KOP is Management Class 3. The proposed modification would be subordinate in this landscape, considering the form, lines, color, and texture of the concrete structures would be consistent with the freeway overpass infrastructure. The objectives of the assigned VRM Class 3 would be met with the proposed modifications in place.

VISUAL RESOURCE - KOP 6 represents a view toward Julian Hinds Substation from Hayfield Road and I-10 (See **Figure 7a-KOP 6)**. The viewpoint was taken from the same location as KOP-5 looking northeast toward Julian Hinds Substation and the California Aqueduct. The Eagle Mountains are in the background and the flat, open desert lands are in the foreground. This focal point was selected with consultation with Commission staff because of the nature of the aqueduct facilities which are a focal point in the landscape and the proposed modifications would be located in the foreground/middleground of this view. As stated in the traffic and transportation section of this analysis, the traffic volumes on Hayfield Road are low, and no recreational facilities are accessible from this road. However, because of the high volume of traffic on I -10, the sensitivity of this view is high.

Because the California Aqueduct and the Julian Hinds Substation detract from the overall level of scenic quality, the foreground/middleground areas of the viewpoint would be classified as having a low scenic quality of Class C.

Figure 7b-KOP 6 provides a simulated view from KOP 6 at the same vantage point as KOP 5: I-10 at the Hayfield Road exit, looking northeast toward Julian Hinds Substation and the California Aqueduct, the community of Hayfield, a private community established solely for the purpose of maintaining the California Aqueduct, and the Joshua Tree Wilderness and Eagle Mountains in the background.

The proposed transmission line structures in the foreground/middleground distance zone would be visually evident, but are not sky lined as depicted in the KOP, therefore would not dominate the scene. The California Aqueduct is a dominant feature in this landscape, and more attention could be drawn to the proposed transmission line structures, because of the open nature of the Hayfield Lake Valley. The structures would be fully visible to the traveling public along I-10 and Hayfield Road. The linear form of the monopoles with horizontal conductors would be visible and would provide some noticeable contrast against the open, flat desert lands in the foreground/middleground. Staff agrees with the Applicant in that the California Aqueduct's white, linear penstocks, the Julian Hinds Substation, and existing Hayfield community at the foot of the Eagle Mountains already create a greater existing contrast than the contrast that would be created by the proposed transmission line .

The overall low scenic quality of this foreground/middleground landscape view would remain the same, although the transmission line structures would to some extent change the character of this view, and the overall level of scenic quality would not be substantially altered. The proposed transmission line structures as indicated earlier would be visible, but would appear to blend in with the grayish colors of the Eagle Mountains, and would remain subordinate to the existing landscape. Based on this contrast rating, the objectives of the assigned interim VRM Class 3 would be met with the proposed modifications in place.

Light and Glare

The proposed project does not have the potential to substantially increase the amount of light visible to the surrounding area. Applicant has included measures to reduce lighting impacts at the proposed Midpoint Substation by the installing one low wattage light to guide workers from the entrance gate to the equipment control building.

Construction Laydown Area

During the construction period, parking for construction workers and laydown of equipment would take place at various locations along the transmission route, including storage facilities at the Julian Hinds Substation, Buck Substation and at the Desert Center. Because of the limited time that the laydown areas would be present and their location away from potential viewers, the project's construction laydown areas would not create a significant adverse visual impact. In addition, the minimal lighting proposed at the laydown areas would not result in a significant adverse impact.

PROJECT CHANGES TO THE BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATION PETITION

Blythe Energy has provided project changes for the BEPTL amendment for the follow transmission line project components:

1. Transmission line pole realignment near the Blythe City Airport, poles 8 through 28.

2. Transmission line pole realignment near the Julian Hinds Substation, poles 418 through 433.

3. Relocation of the Midpoint Substation.

4. Transmission line pole realignment near Alligator Rock, poles 289 through 305.

The following is staff's evaluation of the BEPTL proposed alternatives.

POLE REALIGNMENT NEAR THE BLYTHE AIRPORT

The proposed realignment of the transmission line near the Blythe Municipal Airport would cross I-10 approximately 1600 feet to the east of the original location as depicted in Visual Resources Figure 2-b for KOP 1. At the I-10 crossing, the proposed realignment would be adjacent to the existing IID and Western 161-kV transmission lines. The poles and conductors would clearly be visible to the traveling public on I-10, but would blend in with other transmission line crossings in the foreground/middleground view. The crossing is within a more urbanized area than the original location with the existing transmission lines and the Blythe Energy Power Plant Project (BEP) just north of the project. Staff agrees with Applicant in that the proposed modifications would be evident, but remain subordinate to the existing landscape, as they would blend in with other infrastructures in the area. Based on this contrast rating, the assigned VRM Class 3 would be met with the proposed modifications in place.

POLE REALIGNMENT NEAR JULIAN HINDS SUBSTATION

The proposed realignment near Julian Hinds as viewed from KOP 6 and depicted in Figure 5.9-7b would not change staff's analysis of low scenic quality of Class C. The structures for the proposed realignment would appear in the distant background, where the existing focal points created by the California Aqueduct with the white linear penstocks, Julian Hinds Substation, and the community of Hayfield already creates a greater existing contrast than the contrast of the proposed realignment. Therefore, the proposed modifications would blend in with the grayish Eagle Mountains and would be subordinate to the existing landscape. Based on the contrast rating, the objectives of the assigned interim VRM Class 3 would be met with the proposed modifications in place.

MIDPOINT SUBSTATION RELOCATION

The proposed relocation of the substation to approximately 500 feet northwest from the original site as viewed from KOP 2 would not change staff's analysis. The substation would not be visible from this KOP or from the town of Nicholls Warm Springs/Mesa Verde, because of the low profile of the substation. The scenic quality will remain low, and would remain subordinate to the surrounding landscape.

Based on staff's analysis, the requested changes to the proposed original BEPTL petition would not create any significant visual impacts. The Project Description section of the SA/DEA has complete descriptions and maps of the BEPTL petition changes. (see project description)

ALLIGATOR ROCK POLE REALIGNMENT

The proposed realignment of the transmission line near Alligator Rock as viewed from KOP 4 would not change staff's analysis of moderate scenic quality of Class B. The

realignment of the poles would continue to repeat the forms and lines, color, and textures of other infrastructures in the landscape, and would not attract attention, especially considering the angle of view (almost perpendicular to the interstate and the travel speed of viewers (70 miles per hour).

CUMULATIVE IMPACTS

For the most part, the proposed BEPTL from Buck Boulevard Substation to Julian Hinds would be adjacent to the existing SCE D-PV1 500-kV line, which is within a designated utility corridor. As discussed in the AFC, two other transmission lines are proposed within the same utility corridor, the SCE D-PV2 and the Desert Southwest 500-kV line, although the proposed location of the Desert Southwest 500-kV line has not been specified. For further discussion on proposed and future transmission lines, see the **Alternatives** section of this report.

The siting of the BEPTL within this corridor, which is predominately 1.5 to 2 miles from I-10 viewers, will serve to minimize the visual cumulative impact. Existing visible man-made features within the project area include a private residential community, agricultural activities, roadways, railways, an airport, electricity substations and transmission lines, water conveyance facilities, water diversion dikes on the south side of I-10, two prisons, and general land disturbance/alteration associated with these facilities and other activities. The proposed project would contribute cumulatively to detract from the visual characteristics of the project area. The mitigation measures identified in this analysis would serve to reduce, but not fully eliminate, the project's contribution to cumulative visual impacts. Because of the distance and angle of view of the proposed BEPTL and other transmission lines from viewers, visual awareness of the transmission lines would be low and therefore there would not be a significant cumulative visual impact.

RESPONSE TO AGENCY AND PUBLIC COMMENTS

Comments were received from the National Park Service (NPS). Please see Appendix C of this document for the details of the comments and our response. A minor change to the LAWS, ORDINANCES, REGULATIONS, AND STANDARDS section has been made in response to NPS's comments.

CONCLUSIONS

The visual analysis focused on two main issues; (1) whether construction and operation of the proposed project would cause significant visual impacts, and (2) whether the proposed project would be in compliance with applicable local LORS.

- The project is within the boundaries of the County of Riverside General Plan. General Plan Figure LU-1 shows the project route as "Open Space Conservation."
- The project is consistent with the General Plan's Multipurpose Open Space Element, specifically Scenic Resources and Scenic Corridors. The General Plan does not identify the portion of U.S. Interstate Highway 10 within the project viewshed as a

County scenic highway. It has been listed by the State as a candidate for scenic highway designation, although it currently has no official designation.

- A portion of the project (Buck Boulevard Substation to Devers-Palo 1 Verde Line Component) lies within the boundary of the City of Blythe General Plan. The project is consistent with the General Plan's "Heavy Industrial" designation.
- The project is not within a City or County designated historic district.
- A 67.4 mile portion of the project's transmission line alignment would be within an existing designated Utility Corridor "H" under the U.S. Bureau of Land Management's California Desert Conservation Area Plan of 1980, as amended. This utility corridor directly parallels U.S. Interstate Highway 10 and contains the existing 500-kV D-PV 1 transmission line.
- Lands within the project viewshed are generally characterized as being remote, uninhabited, inaccessible, subject to natural hazards, and unable to support more intense development due to the lack of public facilities and services.
- The project would not create a new source of substantial outdoor light or glare. Lights would only be used at the proposed Midpoint Substation, and are to be shielded and directed downward. Switchyard and electric transmission structures are to be constructed using non-glare surface treatment(s). Fencing for the projects substation facilities are to be non-reflective.
- The project would be consistent with applicable visual policies of the Palo Verde Valley Area Plan and the Desert Center Area Plans of the Riverside County General Plan, City of Blythe General Plan, and the Visual Resource Management (VRM) guidance criteria used by the U.S. Bureau of Land Management.
- Given the concentration of existing transmission lines, and other degraded visual conditions in the area, the proposed transmission facilities would be co-dominant to the other transmission lines, and be relatively inconspicuous. Staff has provided mitigation (**VIS-7**) which insures tinting of the transmission poles to a color consistent with the surrounding area. With this and other mitigations identified in this analysis, construction and operation of the project will not cause any significant visual impacts.
- As discussed earlier in the alternative route evaluation, the proposed realignment of the transmission line near the Blythe Municipal Airport cannot be fully analyzed without a visual simulation of the transmission poles within the orange grove, conducting a full investigative study on adjacent land uses in the area, and reviewing the type of user or viewers present in the project area.

Staff has determined that based upon the above described statements and with the proposed mitigation measures instituted, the visual impacts of the proposed transmission line will be less than significant. The use of colors that blend with the existing setting will reduce the potential visual impact of the project structures to a less than significant level. Measures to minimize lighting effects will reduce such impacts to less than significant levels.

PROPOSED AMENDED CONDITIONS OF CERTIFICATION

Staff recommends that the Energy Commission adopt the following conditions of certification if it approves the project.

SITE SURFACE RESTORATION

VIS-6 The project owner shall remove all evidence of the laydown area and linear facility construction activities, with the exception of access roads that will be maintained in place, if any, and shall restore the ground surface to the original condition or better condition, including the replacement of any native vegetation or paving removed during construction where project development does not preclude this. The project owner shall submit to the CPM for review and approval a surface restoration plan, the proper implementation of which will satisfy these requirements.

Verification: At least 60 days prior to the start of transmission line and substation construction, the project owner shall submit the surface restoration plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the surface restoration plan are needed, within 30 days of receiving that notification the project owner shall submit to the CPM a plan with the specified revisions.

The project owner shall complete surface restoration within 60 days after completion of the transmission line and substation construction. The project owner shall notify the CPM within seven days after completion of surface restoration that the restoration is ready for inspection.

SURFACE TREATMENT OF PROJECT STRUCTURES AND BUILDINGS

VIS-7 The project owner shall treat the surfaces of the transmission line monopoles in the area of Alligator Rock from milepost 44 to 49 (poles # 295 to 319) and substation buildings visible to the public such that a) their color(s) minimize(s) visual intrusion and contrast by blending with the landscape; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. The transmission line poles and conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive.

The project owner shall submit for CPM review and approval, a specific surface treatment plan that will satisfy these requirements. The treatment plan shall include:

a) A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;

b) A list of major project structures; the transmission line towers and/or poles as identified; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;

c) One set of color brochures or color chips showing each proposed color and finish;

d) A specific schedule for completion of the treatment; and

e) A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.

Verification: At least 90 days prior to specifying to the vendor the color(s) and finish(es) of structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to the County of Riverside Transportation and Land Management Agency, Planning Department, and the U.S. Bureau of Land Management, Palm Springs Field Office for review and comment.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.

Prior to the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and they are ready for inspection and shall submit one set of electronic color photographs from the same key observation points identified in (d) above.

The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

PERMANENT EXTERIOR LIGHTING

VIS-8 To the extent feasible, consistent with safety and security considerations, the project owner shall design and install all permanent exterior lighting such that a) obtrusive spill light does not occur beyond the project transmission line alignment; b) lighting does not cause excessive reflected glare; c) direct lighting does not illuminate the nighttime sky; d) illumination of the project and its immediate vicinity is minimized; and e) the plan complies with local policies and ordinances.

The project owner shall submit to the CPM for review and approval and simultaneously to the County of Riverside Transportation and Land

Management Agency, Planning Department, and the U.S. Bureau of Land Management, Palm Springs Field Office for review and comment a lighting mitigation plan that includes the following:

a) Location and direction of light fixtures shall take the lighting mitigation requirements into account;

b) Lighting design shall consider setbacks of project features from the site boundary to aid in satisfying the lighting mitigation requirements;

c) Lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated;

d) Light fixtures shall not cause obtrusive spill light beyond the project boundary;

e) All lighting shall be of minimum necessary brightness consistent with operational safety and security; and

f) Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.

Verification: At least 90 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to discuss the documentation required in the lighting mitigation plan.

At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to County of Riverside Transportation and Land Management Agency, Planning Department for review and comment a lighting mitigation plan.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.

The project owner shall not order any exterior lighting until receiving CPM approval of the lighting mitigation plan.

Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection.

Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General Conditions including a proposal to resolve the complaint, and a schedule for implementation. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days of complaint resolution.

SIGNAGE

VIS-9 The project owner shall install minimal signage visible to the public, which shall a) have unobtrusive colors and finishes that prevent excessive glare; and b) be consistent with the policies and ordinances of the affected local jurisdiction (e.g., County of Riverside, City of Blythe) and the U.S. Bureau of Land Management, Palm Springs Field Office. The design of any signs required by safety regulations shall conform to the criteria established by those regulations.

Verification: The project owner shall notify the CPM and the affected local jurisdiction's planning department that appropriate signage has been installed and is ready for inspection prior to the start of commercial operation, and shall provide the CPM with electronic color photographs of the signage. If the CPM determines that signage requires changes, the project owner shall complete the changes within 60 days and notify the CPM that the changes have been completed.

REFERENCES

Blythe Energy, LLC, Blythe, California. (BLYTHE 2004a). Petition for post certification amendment. October 12, 2004.

Blythe Energy, LLC, Blythe, California. (BLYTHE 2004e). Data Responses Nos. 1 – 99. December 1, 2004.

Bureau of Land Management. Visual Resource Inventory, BLM Manual Handbook, Revised January, 1986

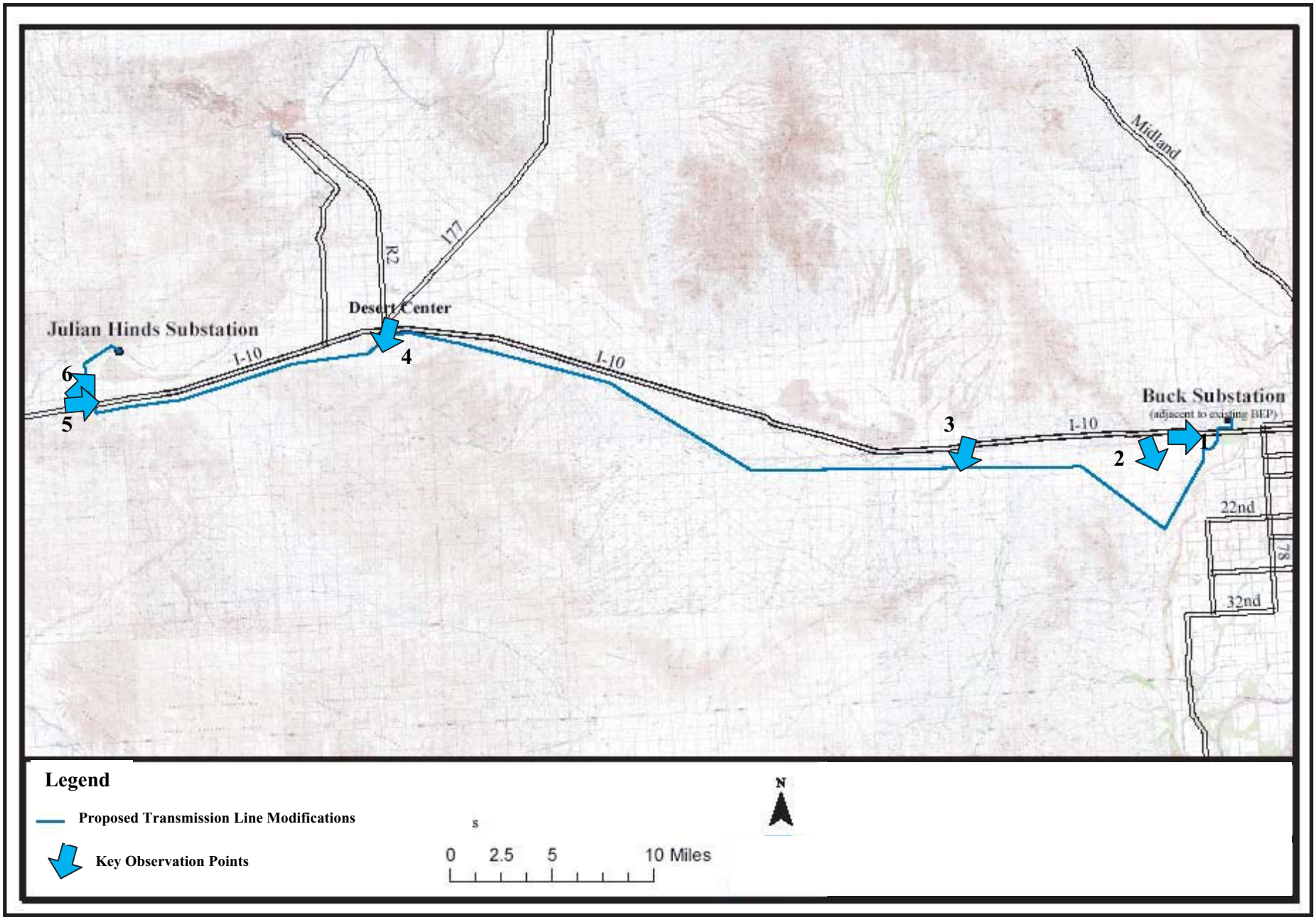
City of Blythe General Plan and Zoning Ordinance, 1989

County of Riverside, Desert Center Specific Area Plan, 2003a

County of Riverside. Palo Verde Valley Specific Area Plan, 2003b

VISUAL RESOURCES - FIGURE 1

Blythe Transmission Line Project - Location of Key Observation Points



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-1

VISUAL RESOURCES - FIGURE 2a - KOP 1

Blythe Transmission Line Project - KOP 1 - Existing view from I-10 looking east

SEPTEMBER 2006

VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-2a

VISUAL RESOURCES - FIGURE 2b - KOP 1

Blythe Transmission Line Project - KOP 1 - Visual Simulation of Proposed Modifications

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-2b

VISUAL RESOURCES - FIGURE 3a - KOP 2

Blythe Transmission Line Project - KOP 2 - Existing view from Mesa Verde, looking southeast toward Midpoint Substation

SEPTEMBER 2006

VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-3a

VISUAL RESOURCES - FIGURE 3b - KOP 2

Blythe Transmission Line Project - KOP 2 - Visual Simulation of Proposed Modifications

SEPTEMBER 2006

VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-3b

VISUAL RESOURCES - FIGURE 4a - KOP 3

Blythe Transmission Line Project - KOP 3 - Existing view from I-10, looking south toward the Chuckwalla Valley State Prison

SEPTEMBER 2006

VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-4a

VISUAL RESOURCES - FIGURE 4b - KOP 3

Blythe Transmission Line Project - KOP 3 - Visual Simulation of Proposed Modifications

SEPTEMBER 2006

VISUAL RESOURCES

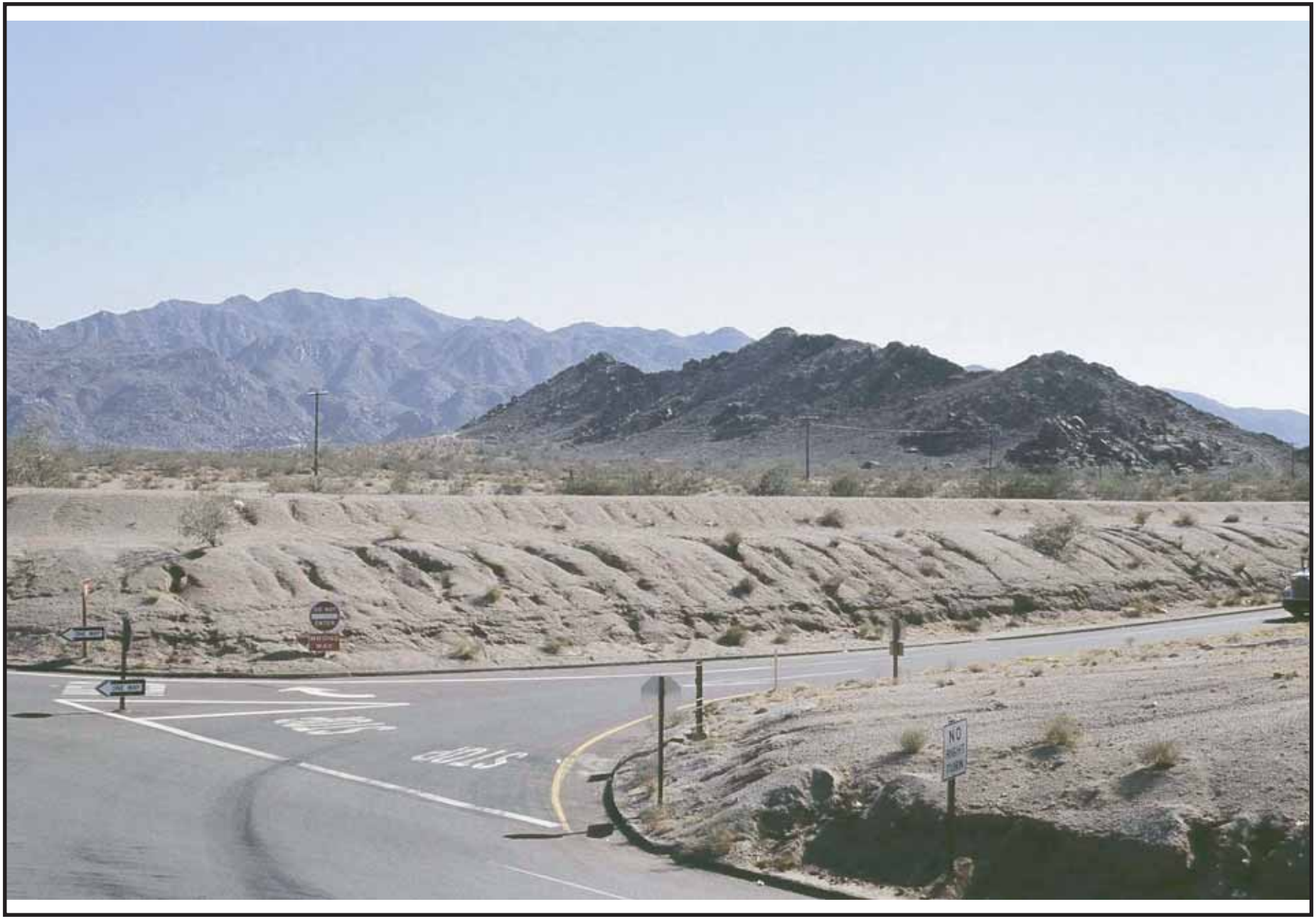
CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-4b

VISUAL RESOURCES - FIGURE 5a - KOP 4

Blythe Transmission Line Project - KOP 4 - Existing view from I-10 at Highway 177 junction, looking southwest toward Alligator Rock

SEPTEMBER 2006



VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-5a

VISUAL RESOURCES - FIGURE 5b - KOP 4

Blythe Transmission Line Project - KOP 4 - Visual Simulation of Proposed Modifications

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-5b

VISUAL RESOURCES - FIGURE 6a - KOP 5

Blythe Transmission Line Project - KOP 5 - Existing view from I-10 at Hayfield Road, looking east

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-6a

VISUAL RESOURCES - FIGURE 6b - KOP 5

Blythe Transmission Line Project - KOP 5 - Visual Simulation of Proposed Modifications

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-6b

VISUAL RESOURCES - FIGURE 7a - KOP 6

Blythe Transmission Line Project - KOP 6 - Existing view from I-10 at Hayfield Road, looking northeast toward Julian Hinds Substation

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-7a

VISUAL RESOURCES - FIGURE 7b - KOP 6

Blythe Transmission Line Project - KOP 6 - Visual Simulation of Proposed Modifications

SEPTEMBER 2006

VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: AFC Figure 5.9-7b

WASTE MANAGEMENT

Testimony of Obed Odoemelam, Ph.D.

SUMMARY OF CONCLUSIONS

Energy Commission staff has determined that management of the wastes generated during construction and operation of the proposed Blythe Energy Project Transmission Line Modifications (BEPTL) would be unlikely to result in any significant adverse impacts if the waste management measures proposed in the Amendment Petition and the Conditions of Certification specified in the Final Decision for the Blythe Energy Project (BEP) are implemented. Staff recommends an additional Condition of Certification to address potential contamination from abandoned military ordnance along the proposed route. Compliance would ensure mitigation of any related hazard before construction activities. Staff considers the available hazardous and non-hazardous waste disposal facilities as capable of handling the generated wastes without any significant impacts of a cumulative nature.

INTRODUCTION

This Staff Assessment/ Draft Environmental Assessment SA/DEA addresses the issues associated with management of the wastes generated from the construction and operation of the proposed BEPTL. The analysis deals with the generated hazardous and non-hazardous wastes but not project-related wastewater whose management is specifically addressed in the **Soil and Water Resources** section.

Energy Commission staff's objectives in its waste management analysis are to ensure that:

- The management of the wastes will be in compliance with all applicable laws, ordinances, regulations, and standards (LORS). Compliance with such LORS ensures that wastes generated during the construction and operation of the proposed project will be managed in an environmentally safe manner.
- The disposal of project wastes will not result in significant adverse impacts on existing area waste disposal facilities.

WASTE MANAGEMENT Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal	
42 U.S.C. § 6922 Resource Conservation and Recovery Act (RCRA)	RCRA establishes requirements for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal. Section 6922 requires generators of hazardous wastes to comply with requirements regarding: • Record keeping practices which identify quantities of hazardous wastes generated and their disposition, • Labeling practices and use of appropriate containers, • Use of a manifest system for transportation, and • Submission of periodic reports to the U.S. EPA or authorized state agency.
Title 40, Code of Federal Regulations, part 260	These sections contain regulations promulgated by the U.S. EPA to implement the requirements of RCRA as described above. Characteristics of hazardous waste are described in terms of ignitability, corrosivity, reactivity, and toxicity, and specific types of wastes are listed.
State	
California Health and Safety Code §25100 et seq. (Hazardous Waste Control Act of 1972, as amended)	This act creates the framework under which hazardous wastes must be managed in California. It mandates the State Department of Health Services (now the Department of Toxic Substances Control (DTSC) under the California Environmental Protection Agency, or Cal EPA) to develop and publish a list of hazardous and extremely hazardous wastes, and to develop and adopt criteria and guidelines for the identification of such wastes. It also requires hazardous waste generators to file notification statements with Cal EPA and creates a manifest system to be used when transporting such wastes.
Title 14, California Code of Regulations, §17200 et seq. (Minimum Standards for Solid Waste Handling and Disposal)	These regulations set forth minimum standards for solid waste handling and disposal, and guidelines to ensure conformance of solid waste facilities with county solid waste management plans, as well as enforcement and administration provisions.
Title 22, California Code of Regulations, §66262.10 et seq. (Generator Standards)	These sections establish requirements for generators of hazardous waste. Under these sections, waste generators must determine if their wastes are hazardous according to either specified characteristics or lists of wastes. As in the Federal program, hazardous waste generators must obtain EPA identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities.

	Additionally, hazardous wastes must only be handled by registered hazardous waste transporters. Generator requirements for record keeping, reporting, packaging, and labeling are also established.
Title 22, California Code of Regulations, §67100.1 et seq. (Hazardous Waste Source Reduction and Management Review)	These sections establish reporting requirements for generators of certain hazardous and extremely hazardous wastes in excess of specified limits. The required reports must indicate the generator's waste management plans and performance over the reporting period.

SETTING

The proposed transmission lines and related facilities would be routed mostly through undeveloped publicly owned desert and mountainous land with relatively few activities that could generate the hazardous wastes or contaminated areas that are of specific concern in this analysis. Blythe Energy, LLC (Blythe Energy or Applicant) stated that the type of survey that Energy Commission staff would consider adequate for this project had been conducted by the staff of Tetra Tech- Foster Wheeler (TT-FW) without any discernible signs of such wastes (Blythe Energy 2004e).

One unusual risk from this project is the risk of military ordnance contamination of specific areas along the proposed route. Western Area Power Administration (Western) submitted comments on Blythe Energy's data response to staff's data request 91 (Western 2004) regarding the steps taken to identify the potential sources of hazardous materials around all potential project routes. In these comments, Blythe Energy stated that a related survey of the entire transmission line route had been conduced by TT- FW staff without finding any contamination sources. This statement was contradicted by Western's comments in which the Western author specifically recalled having found military explosive devices on the north side of the access road east of Wiley Wells. These devices were later again located in the field. There appears to be an additional discrepancy in the Blythe Energy's response to Data Request 91 (in which they stated that the entire transmission line route had been surveyed) and their response to Data requests 32 and 33 in which they pointed to three on-going cultural surveys and a 100 percent survey of the area of potential effect. Staff recommends Condition of Certification (**WASTE-6**) to ensure completion of all necessary surveys, mitigation of any contamination hazards, and verification of the absence of such contamination before the start of construction.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

Two main issues are addressed in staff's Waste Management analyses: potential site contamination from past industrial or other human activities and the methods used to handle the related wastes (which may be Class I hazardous wastes, Class II designated wastes, or Class III municipal solid wastes) during demolition, construction, and

operations. Staff's method of analysis and the thresholds for determining significance of the impacts of concern are different for these two issues.

As with any proposed for construction and operation of power plants and related facilities in California, Blythe Energy is required to provide sufficient documentation of the nature of any contamination for areas with past human activities considered capable of generating the wastes of concern.

Staff reviewed Blythe Energy's proposed solid and hazardous waste management plans to determine if the proposed methods would meet the State's standards for waste reduction and recycling. Staff then assessed the remaining capacity of the available off-site treatment and disposal sites to determine whether or not the project-related wastes would have a significant impact on handling capacity as allotted daily, yearly, or over the facility's lifetime. Staff used an impact threshold of 10 percent of the remaining capacity as the measure of potential significance.

DIRECT/INDIRECT IMPACTS AND MITIGATION

Existing Contamination

Given the general lack of waste-generating activities along the route of the proposed project lines and related facilities, staff does not consider the proposed structure erection activities as warranting a remediation survey for generalized worker health protection, but recommends a Condition of Certification (**WASTE-6**) as staff considers it necessary to deal with the special case of military ordnance contamination.

Construction Impacts and Mitigation

The waste-generating activities of concern for this proposed modification project are those associated with construction of the lines and their support structures which have been more fully described by Blythe Energy (Blythe Energy 2004a, pages 3-1 through 3-11). The non-hazardous solid waste components of the related wastes will be metal, plastic, and wood, excess concrete, cardboard, and various non-hazardous empty containers as typically associated with transmission line construction activities. An estimated 90 tons of such wastes are expected and would be recycled through a waste broker as practicable. The fraction that cannot be recycled would be disposed of at the local Blythe Class III sanitary landfill. The 5,700 cubic yards of excavated soil would be used for access road grading, or disposed of at the Blythe Sanitary landfill (Blythe Energy 2004a, pages 5.12-1 and 5.12-2). The construction-related non-hazardous liquid wastes will be managed as discussed in the **Soil and Water Resources** section.

Most of the liquid hazardous wastes to be generated during construction are liquid hazardous wastes such as cleaning solvents, and specialty chemicals such as caustic fluids, acids, chemical test liquids, and hydrocarbon-based compounds. Relatively small amounts of solid wastes including welding materials, dried paint, and joint-sealing compounds may also be generated.

Blythe Energy would be considered the generator of hazardous wastes at each construction point and would be responsible through a contractor for the handling and disposal of these hazardous wastes during each construction phase. Such wastes

would be accumulated at satellite locations and then transported daily to the construction contractor's 90-day hazardous waste storage area located in the construction laydown area. The wastes thus accumulated would be properly manifested, transported and disposed of at a permitted hazardous waste management facility by a licensed hazardous waste collection and disposal company. Three regional hazardous waste disposal facilities (Kettleman Hills in King's County, Buttonwillow in Kern County, and Westmoreland in Imperial County) would be available for such disposal.

Operational Impacts and Mitigation

Operation of the proposed lines and related substations would generate waste materials in much smaller amounts than that generated from the construction phase. The non-hazardous wastes in this case would include packaging materials, metal, plastic, and cardboard pieces. The relatively small amounts of hazardous wastes would include cleaning solvents, paints, welding materials, and sealing compounds. All these wastes would be managed the same way as the noted construction wastes, thus presenting an insignificant risk to workers and the public. Non-hazardous liquid wastes would also be generated during facility operation and are discussed in the **Soil and Water Resources** section.

Impacts on Existing Waste Disposal Facilities

The Blythe Landfill is a permitted Class III facility (for non-hazardous wastes) approximately seven miles north of Blythe. It is projected to remain operational until 2073 and presently accepts an average of 50 tons per day. The volume of non-hazardous wastes expected from construction and operation of the proposed project lines and related substations is expected to be a fraction of one percent of the Blythe Landfill's annual capacity. The total remaining capacity is estimated to be in excess of one million cubic yards, meaning that the volume of solid non-hazardous waste and unused excavation soil from the modification project requiring off-site disposal would be insignificant compared to the existing disposal capacity (Blythe Energy 2004a, page 5.12-3).

The three Class I landfills that would be available for the generated hazardous wastes collectively have an excess of 20 million cubic yards of capacity that translates into a remaining operational life of over 50 years. The relatively small amounts of hazardous construction and operation-related wastes would be insignificant relative to available disposal capacity.

CUMULATIVE IMPACTS AND MITIGATION

The quantities of non-hazardous and hazardous wastes generated during construction and operation of the proposed modification project will add to the total quantities of waste generated in the project area and the State of California in general. However, the estimated 90 tons of solid wastes to be generated during construction and the minimal amount from operation could easily be disposed of at the available Blythe Sanitary Landfill during the project's operational life. The three regional hazardous waste disposal facilities would have sufficient capacity to accommodate the relatively small amounts associated with the proposed and similar projects (Blythe Energy 2004a, page

5.12-13). This means that project construction and operation will not result in significant cumulative waste management impacts.

COMPLIANCE WITH LORS

BEP would be required to dispose of hazardous and non-hazardous wastes at facilities approved by the various departments within the California Environmental Protection Agency (Cal EPA). Because hazardous wastes will be produced during both project construction and operation, the project owner or contractor will be required to obtain a hazardous waste generator identification number from the California Department of Toxic Substances Control (DTSC). Accordingly, BEP will be required to properly store, package and label waste, use only approved transporters, prepare hazardous waste manifests, keep detailed records, and appropriately train employees. Pursuant to California Code of Regulations, Title 22, section 67100.1 et seq., Blythe Energy must prepare a Hazardous Waste Source Reduction and Evaluation Plan.

RESPONSE TO AGENCY AND PUBLIC COMMENTS

A Comment was received from the BEP. This comment has been addressed in Appendix C of this document. Minor changes were made to Waste-6 in the Conditions of Certification Waste Management section of this document.

CONCLUSIONS

Staff has determined that management of the wastes generated during construction and operation of the proposed line modification project would not result in any significant adverse environment impacts if the waste management measures proposed in the Amendment Request and for the existing Blythe Energy Project are implemented. Staff's analysis specifically shows that there would be no significant direct or cumulative impacts on the waste handling ability of the area's waste management facilities. Any risk from military ordnance hazardous wastes would be minimized through compliance with staff's recommended Condition of certification, **WASTE-6**.

PROPOSED AMENDED CONDITIONS OF CERTIFICATION

WASTE-6 The project owner shall verify that there would be an insignificant risk from ordinance contamination by conducting a subsurface evaluation of the potential for unexploded ordinance in areas of suspected ordinance contamination where excavation or auguring activities will occur. Results of the excavation shall be provided to California Energy Commission Compliance Project Manager (CPM) and the landowner. If unexploded ordinance is found, construction will proceed in that area only through implementation of a removal plan approved by the CPM**.** ~~The project owner shall provide verification that there would be an insignificant risk from ordnance contamination of the area along the proposed route. The absence of such a risk could be established from negative survey findings or mitigation of discovered contamination. The applicable situation~~

~~shall be presented in the report in defense of the finding of a potentially insignificant risk or mitigation of discovered contamination.~~

Verification: At least 60 days before the start of excavation and auguring activities in areas of suspected ordinance presence, or contamination, the project owner shall submit the subsurface evaluation and ordinance removal plan to the CPM. ~~At least 60 days before the start of construction verification of the absence of ordnance contamination hazard shall be provided to the Energy Commission Compliance Project Manager (CPM).~~

REFERENCES

Blythe Energy LLC 2004a (Blythe 1 Transmission Lines project). Petition for Post Certification Amendment. Submitted to the California Energy Commission, October 1, 2004.

Blythe Energy LLC 2004b (Blythe 1 Transmission Lines project). Data responses Submitted to the California Energy Commission, November 29, 2004.

Western (Western Area Power Administration) 2004. Comments on Blythe Energy Transmission Line Amendment Data Responses. Filed November 30, 2004.

WORKER SAFETY AND FIRE PROTECTION

Testimony of Geoff Lesh, P.E. and Rick Tyler

SUMMARY OF CONCLUSIONS

Amendments to Conditions of Certification **WORKER SAFETY-1 & -2,** and new Conditions of Certification **WORKER SAFETY-6 & -7** assure that the worker safety and health plans are properly implemented and monitored during the construction and commissioning phases of the project. If the Energy Commission approves the Blythe Energy Project Transmission Line Modification (BEPTL) project, commission staff recommends the adoption of these conditions. Compliance with these conditions will result in the project complying with LORS, providing adequate worker protection from potential safety and fire hazards.

INTRODUCTION

Worker safety and fire protection is enforced by laws, ordinances, regulations, and standards (LORS), and implemented at the Federal, state, and local levels. Worker safety would be of utmost priority at the project location and would be achieved through worker safety practices and training. Industrial workers at the facility would operate process equipment, handle hazardous materials daily, and may face hazards that can result in accidents and serious injury. Protection measures would be employed to either eliminate these hazards or minimize the risk through special training, protective equipment, or procedural controls.

The purpose of this Worker Safety and Fire Protection analysis is to assess the worker safety and fire protection measures proposed by Blythe Energy, LLC (Blythe Energy or Applicant), for the BEPTL project and to determine whether Blythe Energy, in their Petition for Post-Certification Amendment (BEPTL 2004), has proposed adequate measures to:

- comply with applicable safety LORS;
- protect workers during construction and operation of the proposed project;
- protect against fire; and
- provide adequate emergency response procedures.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS

Worker Safety Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
29 U.S.C. §§ 651 through 678).	Public Law 91-596, the Federal Occupational Safety and Health Act (OSHA) of 1970, mandates safety requirements in the workplace and is found in Title 29 of the United States Code, § 651
29 C.F.R. §§ 1910.1 - 1910.1500	Occupational Safety and Health Administration Safety and Health Regulations. Implementing regulations are codified at Title 29 of the Code of Federal Regulations, under General Industry Standards §§ 1910.1 - 1910.1500 and clearly define the procedures for conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector. Most of the general industry safety and health standards now in force under this OSHA represent a compilation of materials from existing Federal standards and national consensus standards. These include standards from the voluntary membership organizations of the American National Standards Institute (ANSI) and the National Fire Protection Association (NFPA) which publishes the National Fire Codes.
29 C.F.R. §§ 1952.170 – 1952.175	Federal approval of California's plan for enforcement of its own Safety and Health requirements, in lieu of most of the Federal requirements found in 29 C.F.R. §§ 1910.1 – 1910.1500.
Title 8 California Code of Regulations, §§337-560 and §§1500-8568	The California Labor Code requires that the Cal/OSHA Standards Board adopt standards at least as effective as the Federal standards (Labor Code § 142.3(a)) and thus all Cal/OSHA health and safety standards meet or exceed the Federal requirements.
Cal. Code Regs., tit. 24, Part 9	California Fire Code and all applicable NFPA standards.
Cal. Code Regs., tit. 24, § 3	California Building Code Title 24, California Code of Regulations
CPUC GO-95	This General Order of the California Public Utilities Commission covers Rules for Overhead Electric Line Construction.

SETTING

The proposed BEPTL modifications would be located in eastern Riverside County, California, predominantly on undeveloped public lands administered by the Bureau of Land Management (BLM). Expansive, primarily undeveloped desert and mountainous areas characterize this portion of eastern Riverside County. Interstate-10, State Route

78, and State Route 177 are the primary highways providing vehicular access throughout this region.

The Riverside County Fire Department (under contract with California Department of Forestry) responds to any possible fires along the right-of-way of the proposed transmission line (BEPTL 2004a). Medic Engine 49, stationed at Desert Center is responsible for the area between Chiriaco Summit and Blythe, including the Hayfield and Julian Hinds Substation area. The Riverside County Fire Department also maintains three stations in Blythe, the nearest station being Station No. 45 at 17280 Hobson Way. The United States Army's Fort Irwin is located approximately 200 miles northwest of Blythe (300 miles by road). Fort Irwin personnel would likely be called if any unexploded military ordnance is discovered during construction activities.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

Authority for establishing regulations protecting worker safety and health exists at the Federal level, and is administered in California through Federal delegation to the California Division of Occupational Safety and Health's Cal/OSHA program. The threshold for determination of adequate provision for worker safety and health is that the proposed plans will be adequate to meet applicable LORS. Similarly, compliance with all LORS would be adequate to assure protection from all fire hazards.

IMPACTS

WORKER SAFETY

Industrial environments are potentially dangerous during construction and operation of facilities. Workers at the proposed project would be exposed to loud noises, moving equipment, trenches, and confined space entry and egress problems. The workers may experience falls, trips, burns, lacerations, and numerous other injuries. They have the potential to be exposed to falling equipment or structures, chemical spills, hazardous waste, fires, explosions, and electrical sparks and electrocution. It is important for the BEPTL to have well-defined policies and procedures, training, and hazard recognition and control along the proposed route and at each project facility to minimize such hazards and protect workers. If construction and operation of the transmission lines and related facilities complies with all LORS, workers would be adequately protected from health and safety hazards.

FIRE HAZARDS

During construction and operation of the proposed BEPTL, there would be the potential for fires. Electrical sparks, combustion of fuel oil, flammable liquids, explosions, and over-heated equipment, may cause small fires. Compliance with all LORS would be adequate to assure protection from all fire hazards.

PROPOSED MITIGATION

WORKER SAFETY

A Safety and Health Program would be prepared by Blythe Energy to minimize worker hazards during construction and operation. Staff uses the phrase “Safety and Health Program” to refer to the measures that would be taken to ensure compliance with the applicable LORS during the construction and operational phases of the project.

Construction Safety and Health Program

Construction Safety Orders are published at Title 8, California Code of Regulations, section 1502 et seq. These requirements are promulgated by Cal/OSHA and are applicable to the construction phases of the project. The Construction Safety and Health Program would include the following:

- Construction Injury and Illness Prevention Program (Cal. Code Regs., tit. 8, § 1509);
- Construction Fire Protection and Prevention Plan (Cal. Code Regs., tit. 8, § 1920); and
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 1514 - 1522).

Additional programs under General Industry Safety Orders (Cal. Code Regs., tit. 8, §§ 3200 - 6184), Electrical Safety Orders (Cal. Code Regs., tit. 8, §§2299 - 2974) and Unfired Pressure Vessel Safety Orders (Cal. Code Regs., tit. 8, §§ 450 - 544) would include:

- Electrical Safety Program;
- Unfired Pressure Vessel Safety Program;
- Equipment Safety Program;
- Forklift Operation Program;
- Excavation/Trenching Program;
- Fall Prevention Program;
- Scaffolding/Ladder Safety Program;
- Articulating Boom Platforms Program;
- Crane and Material Handling Program;
- Housekeeping and Material Handling and Storage Program;
- Hot Work Safety Program;
- Respiratory Protection Program;
- Employee Exposure Monitoring Program;
- Confined Space Entry Program;
- Hand and Portable Power Tool Safety Program;
- Hearing Conservation Program;

- Back Injury Prevention Program;
- Hazard Communication Program;
- Air Monitoring Program;
- Heat and Cold Stress Monitoring and Control Program; and
- Pressure Vessel and Pipeline Safety Program.

Prior to construction of the BEPTL, detailed programs and plans would be provided pursuant to modified Condition of Certification **WORKER SAFETY-1**.

Operations and Maintenance Safety and Health Program

Upon completion of construction and prior to operations at the BEPTL, the Operations and Maintenance Safety and Health Program would be prepared. This operational safety program would include the following programs and plans:

- Injury and Illness Prevention Program (Cal. Code Regs., tit. 8, § 3203);
- Emergency Action Plan (Cal. Code Regs., tit. 8, § 3220);
- Hazardous Materials Management Program;
- Operations and Maintenance Safety Program;
- Fire Protection and Prevention Program (Cal. Code Regs., tit. 8, § 3221); and
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 3401-3411).

In addition, the requirements under General Industry Safety Orders (Cal. Code Regs., tit. 8, §§ 3200 - 6184), Electrical Safety Orders (Cal. Code Regs., tit. 8, §§2299 - 2974) and Unfired Pressure Vessel Safety Orders (Cal. Code Regs., tit. 8, §§ 450 - 544) are applicable to the project. Written safety programs, which Blythe Energy would develop for the BEPTL project, would ensure compliance with the above-mentioned requirements.

Prior to operation of the BEPTL project, all detailed programs and plans would be provided pursuant to existing Condition of Certification **WORKER SAFETY-2**.

Safety and Health Program Elements

Blythe Energy provided the proposed outlines for both a Construction Safety and Health Program and an Operations and Maintenance Safety and Health Program (BEPTL 2004). The measures in these plans are derived from applicable sections of state and Federal law. The major items required in both construction and operation Safety and Health programs are as follows:

Injury and Illness Prevention Program (IIPP)

Blythe Energy would submit expanded Construction and Operations Illness and Injury Prevention Programs (IIPP) to Cal/OSHA for review 30 days prior to construction and operation of the project.

The IIPP would include the following components as presented in the PPCA:

- Identity of person(s) with authority and responsibility for implementing the program;
- System ensuring employees comply with safe and healthy work practices;
- System facilitating employer-employee communications;
- Procedures identifying and evaluating workplace hazards, including inspections to identify hazards and unsafe conditions;
- Methods for correcting unhealthy/unsafe conditions in a timely manner;
- Methods of documenting inspections and training and for maintaining records; and
- A training program for introducing the program; for new, transferred, or promoted employees; for new processes and equipment; for supervisors; for contractors.

Because portions of the proposed BEPTL project site have, in the past, been used as a military training ground, there is the possibility that workers may encounter leftover unexploded ordnance (UXO) or ordnance debris. Therefore, the final IIPP would include instructions and procedures to be followed if UXO/debris is encountered during ground-disturbing construction activities. Details would include an action plan, contact names and phone numbers and procedures for notifying the Bureau of Land Management (BLM), the Army Corps of Engineers (ACOE), and Fort Irwin personnel of any suspected UXO or ordnance debris discovered during construction. Any such materials are still military property and must be evaluated and possibly removed by military personnel from Fort Irwin. Issues regarding possible UXO on BLM lands are initially handled by the Los Angeles Office of the Army Corp of Engineers who will work with Fort Irwin for evaluation and action.

Emergency Action Plan

California regulations require an Emergency Action Plan (Cal. Code Regs., tit. 8, § 3220).

The following elements are required:

- Purpose and Scope of Emergency Action Plan;
- Personnel Responsibilities during Emergencies;
- Specific Response Procedures;
- Evacuation Plan;
- Emergency Equipment Locations;
- Fire Extinguisher Locations;
- Site Security;
- Accident Reporting and Investigation;
- Lockout/Tagout;
- Hazard Communication;

- Spill Containment and Reporting;
- First Aid and Medical Response;
- Respiratory Protection;
- Personal Protective Equipment;
- Sanitation; and
- Work Site Inspections.

Fire Prevention Plan

California Code of Regulations requires an Operations Fire Prevention Plan (Cal. Code Regs., tit. 8, § 3221). The plan would include the following topics:

- Responsibilities;
- Procedures for fire control;
- Fixed and Portable fire-fighting equipment;
- Housekeeping;
- Employee alarm/communication practices;
- Servicing and refueling areas;
- Training; and
- Flammable and combustible liquid storage.

Staff proposes that Blythe Energy submit a final revised Emergency Action Plan and Fire Protection and Prevention Plan to the California Energy Commission Compliance Project Manager (CPM) for review and approval and to the County of Riverside Fire Department for review to satisfy Conditions of Certification **WORKER SAFETY-1 & 2**.

Personal Protective Equipment Program

California regulations require Personal Protective Equipment (PPE) and first aid supplies whenever hazards are encountered which, due to process, environment, chemicals or mechanical irritants can cause injury or impair bodily function as a result of absorption, inhalation or physical contact (Cal. Code Regs., tit. 8, §§ 3380-3400). The BEPTL project operational environment would require a PPE program.

All safety equipment would meet National Institute for Occupational Safety and Health (NIOSH) standards or American National Standards Institute (ANSI) standards and would carry markings, numbers, or certificates of approval. Respirators would meet NIOSH and California Department of Health and Human Services Standards.

Each employee would be provided with the following information pertaining to the protective clothing and equipment:

- proper care, maintenance, and storage;
- when the protective clothing and equipment should be used;

- benefits and limitations; and
- when and how the protective clothing and equipment are to be replaced.

A PPE program ensures that employers comply with the applicable requirements for PPE and provide employees with the information and training necessary to implement the program.

Operations and Maintenance Written Safety Program

In addition to the specific plans listed above, there are additional LORS applicable to the project, which are called "safe work practices". Both the Construction and the Operations and Maintenance Safety Programs would address safe work practices under a variety of programs. The components of these programs include the following:

- Fall Protection Program;
- Hot Work Safety Program;
- Confined Space Entry;
- Hearing Conservation Program;
- Hazard Communication Program;
- Process Safety Management (PSM) Program; and
- Contractor Safety Program.

Operations and Maintenance Safety Training Programs

Employees would be trained in the safe work practices described in the above-referenced safety programs.

ADDITIONAL PROPOSED WORKER SAFETY MITIGATION MEASURES

Background

Protecting construction workers from injury and disease is among the greatest challenges in occupational safety and health. The following facts are reported by the National Institute for Occupational Safety and Health (NIOSH):

- More than 7 million persons work in the construction industry, representing 6% of the labor force. Approximately 1.5 million of these workers are self-employed.
- Of approximately 600,000 construction companies, 90% employ fewer than 20 workers. Few have formal safety and health programs.
- From 1980-1993, an average of 1,079 construction workers were killed on the job each year, more fatal injuries than in any other industry.
- Falls caused 3,859 construction worker fatalities (25.6%) between 1980 and 1993.
- 15% of workers' compensation costs are spent on construction injuries.

- Assuring safety and health in construction is complex, involving short-term work sites, changing hazards, and multiple operations and crews working in close proximity.
- In 1990, Congress directed NIOSH to undertake research and training to reduce diseases and injuries among construction workers in the United States. Under this mandate, NIOSH funds both intramural and extramural research projects.

The hazards associated with the construction industry are thus well documented. These hazards increase in complexity in the multi-employer worksites typical of large complex industrial type projects such as the construction of gas-fired power plants. In order to reduce and/or eliminate these hazards, it has become standard industry practice to hire a Construction Safety Supervisor to ensure a safe and healthful environment for all personnel. This has been evident in the audits of power plants under construction recently conducted by the staff. The Federal Occupational Safety and Health Administration has also entered into strategic alliances with several professional and trade organizations to promote and recognize safety professionals trained as Construction Safety Supervisors, Construction Health and Safety Officers, and other professional designations. The goal of these partnerships is to encourage construction subcontractors to improve their safety and health performance; to assist them in striving for the elimination of the four hazards (falls, electrical, caught in/between and struck-by hazards), which account for the majority of fatalities and injuries in this industry and have been the focus of targeted OSHA inspections; to prevent serious accidents in the construction industry through implementation of enhanced safety and health programs and increased employee training; and to recognize those subcontractors with exemplary safety and health programs.

To date, there are no OSHA or Cal-OSHA requirements that an employer hire or provide for a Construction Safety Officer. OSHA and Cal-OSHA regulations do, however, require that safety be provided by an employer and the term “Competent Person” is used in many OSHA and Cal-OSHA standards, documents, and directives. A “Competent Person” is usually defined by OSHA as an individual who, by way of training and/or experience, is knowledgeable of standards, is capable of identifying workplace hazards relating to the specific operations, is designated by the employer, and has authority to take appropriate action. Therefore, in order to meet the intent of the OSHA standard to provide for a safe workplace during power plant construction, staff proposes Condition of Certification **WORKER SAFETY-6** which would require the Applicant/project owner to designate and provide for a power plant site Construction Safety Supervisor.

As discussed above, the hazards associated with the construction industry are well documented and increase in complexity in the multi-employer worksites typical of large complex industrial type projects such as the construction of gas-fired power plants. Accidents, fires, and a worker death have occurred at Energy Commission-certified power plants in the recent past due to project owner failure to recognize and control safety hazards and the inability to adequately supervise compliance with occupational safety and health regulations. Safety problems have been documented by Energy Commission staff in safety audits conducted in 2005 at several power plants under

construction. The findings of the audit staff include, but are not limited to, such safety oversights as:

- Lack of posted confined space warning placards/signs;
- Confusing and/or inadequate electrical and machinery lockout/tagout permitting and procedures;
- Confusing and/or inappropriate procedures for handing over lockout/tagout and confined space permits to commissioning team and then to operations;
- Dangerous placement of hydraulic elevated platforms under each other;
- Inappropriate placement of fire extinguishers near hotwork;
- Dangerous placement of numerous power cords in standing water on the site thus increasing the risk of electrocution;
- Construction of an unsafe aqueous ammonia unloading pad; and
- Inappropriate and unsecured placement of above-ground natural gas pipelines inside the facility but too close to the perimeter fence.
- Lack of adequate employee or contractor written training programs addressing proper procedures to follow in the event of finding suspicious packages or objects either on- or off-site.

In order to reduce and/or eliminate these hazards, it is necessary for the Energy Commission to have a safety professional monitor on-site compliance with Cal-OSHA regulations and periodically audit safety compliance during construction, commissioning, and the hand-over to operational status. These requirements are outlined in Condition of Certification **WORKER SAFETY-7**. A monitor, hired by the project owner yet reporting to the CBO and CPM, will serve as an “extra set of eyes” to ensure that safety procedures and practices are fully implemented at all power plants certified by the Energy Commission. During the audits conducted by staff, most site safety professionals welcomed the audit team and actively engaged them in questions about the team’s findings and recommendations. These safety professionals recognized that safety requires continuous vigilance and that the presence of an independent audit team provided a “fresh perspective” of the site.

FIRE PROTECTION

Staff reviewed the information provided in the PPCA regarding available fire protection services and equipment (BEPTL 2004) to determine if the project would adequately protect workers and if it would affect the fire protection services in the area. The project would rely on both on-site fire protection procedures and local fire protection services. The on-site fire procedures and equipment provide the first line of defense for small fires. In the event of a major fire, fire support services including trained firefighters and equipment for a sustained response would be required from the County of Riverside Fire Department.

The information in the PPCA indicates that the project intends to meet the minimum fire protection and suppression requirements. Staff agrees that the project would indeed meet all requirements. Blythe Energy will be required to provide the final Fire Protection

and Prevention Program to Staff and to the County of Riverside Fire Department, prior to construction and operation of the project, to confirm the adequacy of the proposed fire protection measures.

CUMULATIVE IMPACTS

There are few industrial facilities in this agricultural area. Riverside County Fire Chief Craig Anthony confirmed that his agency is adequately staffed and equipped to deal with any foreseeable incidents involving the proposed project (Anthony 2005). Staff reviewed the potential for the construction and operation of the BEPTL project, combined with existing industrial facilities, to result in impacts on the fire and emergency service capabilities of the County of Riverside Fire Department and concludes that cumulative impacts would be insignificant.

PROJECT CHANGES TO THE BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATION PETITION

Blythe Energy has provided project changes for the BEPTL amendment for the following transmission line project components:

1. Transmission line pole realignment near the Blythe City Airport, poles 8 through 28.

2. Transmission line pole realignment near the Julian Hinds Substation, poles 418 through 433.

3. Relocation of the Midpoint Substation.

4. Transmission line pole realignment near Alligator Rock, poles 289 through 305.

The requested changes to the proposed original BEPTL petition would not create any worker safety or fire prevention issues or significant impacts. The Project Description section of the SA/DEA has complete descriptions and maps of the BEPTL petition changes. (see project description)

RESPONSE TO PUBLIC AND AGENCY COMMENTS

No comments received.

CONCLUSION AND RECOMMENDATIONS

Because the PPCA is an amendment to the original certification decision (CEC 2001), the Conditions of Certification **Worker Safety-1 & 2** from the original commission decision for BEPTL remain in force. Because the proposed project involves substantial differences in the construction methods from the original project (transmission lines instead of a power plant), new submittals under **Worker Safety-1 & 2** will be required. These new worker safety plan submittals would incorporate any unique and specific requirements of power transmission line construction and operation and must be submitted to the CPM for review and approval.

If Blythe Energy provides a Project Construction Safety and Health Program and a Project Operations Safety and Health Program as required by existing Conditions of Certification **WORKER SAFETY-1 & 2**, Staff believes that the project would incorporate sufficient measures to ensure adequate levels of industrial safety, and comply with applicable LORS. The Safety and Health Programs apply to all project-related construction and operations. Staff also concludes that the proposed project would not have significant impacts on local fire protection services.

If the Energy Commission certifies the project, Staff recommends the adoption of the following new proposed Conditions of Certification, **WORKER SAFETY-6 & 7** which assure that the worker safety and health plans are properly implemented and monitored during the construction and commissioning phases of the project.

Finally, there is a longstanding regulatory program of demonstrated effectiveness requiring compliance with Title-8, implemented through the California Public Utilities Commission. Therefore, any linear portions of the project (e.g. electrical transmission lines, gas transmission lines) that would be built solely by a CPUC-certified public utility company subject to CPUC regulation, will not be subject to any CEC worker safety related conditions of certification. Exemption from the requirements of worker safety related conditions of certification for this situation would provided through Condition of Certification, **Worker Safety-8.**

PROPOSED CONDITIONS OF CERTIFICATION

~~**WORKER SAFETY-1** The project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program, containing the following:~~

- ~~A Construction Injury and Illness Prevention Program~~
- ~~A Construction Fire Protection and Prevention Plan~~
- ~~A Personal Protective Equipment Program~~

~~**Protocol**: The Construction Injury and Illness Prevention Program and the Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders.~~
~~The Construction Fire Protection and Prevention Plan shall be submitted to the City of Blythe for review and acceptance~~

~~**Verification:** At least Thirty (30) days prior to the start of construction, or a date agreed to by the CPM, the project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program and the Personal Protective Equipment Program, with a copy of the cover letter transmittal of the programs to Cal/OSHA Consultation Services. The project owner shall provide a letter from the City of Blythe stating that they have reviewed and accepted the Construction Fire Protection and Prevention Plan.~~

WORKER SAFETY-1 The project owner shall submit to the Compliance Project Manager (CPM) a copy of the Project Construction Safety and Health Program containing a:

- Construction Safety Program;
- Construction Personal Protective Equipment Program;
- Construction Exposure Monitoring Program;
- Construction Emergency Action Plan; and
- Construction Fire Protection and Prevention Plan.

The Safety Program, the Personal Protective Equipment Program, and the Exposure Monitoring Program shall be submitted to the CPM for review and comment concerning compliance of the program with all applicable Safety Orders. The Construction Safety Program shall include instructions and procedures to be followed if unexploded ordnance (UXO) or military debris is encountered during ground-disturbing construction activities. Details shall include an action plan and contact names and phone numbers and procedures for notifying the Bureau of Land Management (BLM), the Army Corps of Engineers, and Fort Irwin personnel of any suspected UXO or military debris discovered during construction.

The Construction Fire Protection and Prevention Plan and Emergency Action Plan shall be submitted to the Riverside County Fire Department for review and comment prior to submittal to the CPM.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Safety and Health Program. The project owner shall provide a letter from the Riverside County Fire Department stating that they have reviewed and commented on the Construction Fire Protection and Prevention Plan and Emergency Action Plan.

~~**WORKER SAFETY-2** The project owner shall submit to the CPM a copy of the Project Operation Safety and Health Program containing the following:~~

- ~~an operation Injury and Illness Prevention Plan~~
- ~~an Emergency Action Plan~~
- ~~an operation Fire Protection Plan~~
- ~~a personal Protective Equipment Program~~

~~**Protocol**: The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders. The Operation Fire Protection Plan and the Emergency Action Plan shall be submitted to the City of Blythe for review and acceptance.~~

~~**Verification:** At least Thirty (30) days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operation Safety & Health Program. It shall incorporate Cal/OSHA s Consultation Service~~

~~comments, stating that they have reviewed and accepted the specified elements of the proposed Operation Safety and Health Plan.~~

~~The project owner shall notify the CPM that the Project Operation Safety and Health Program (Injury and Illness Prevention Plan, Fire Protection Plan, the Emergency Action Plan, and Personal Protective Equipment requirements), including all records and files on accidents and incidents, is present on-site and available for inspection~~

WORKER SAFETY-2 The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

- Operation Injury and Illness Prevention Plan;
- Emergency Action Plan;
- Hazardous Materials Management Program;
- Operations and Maintenance Safety Program;
- Fire Protection and Prevention Program (Cal. Code Regs., tit. 8, § 3221); and;
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 3401-3411).

The Operation Fire Protection Plan and the Emergency Action Plan shall also be submitted to the Riverside County Fire Department or review and comment.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Operations and Maintenance Safety and Health Program. The project owner shall provide a letter from the Riverside County Fire Department stating that they have reviewed and commented on the Construction Fire Protection and Prevention Plan and Emergency Action Plan.

WORKER SAFETY-6 The project owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power line construction activities and relevant laws, ordinances, regulations, and standards, is capable of identifying workplace hazards relating to the construction activities, and has authority to take appropriate action to assure compliance with applicable worker safety requirements and mitigate workplace hazards. The CSS shall:

- Have over-all authority for coordination and implementation of all occupational safety and health practices, policies, and programs;
- Assure that the safety program for the project complies with Cal/OSHA & Federal regulations related to power line projects;
- Assure that all construction and commissioning workers and supervisors receive adequate safety training;

- Conduct accident and safety-related incident investigations prepare emergency response reports for injuries, and inform the CPM of safety-related incidents; and
- Assure that all the plans identified in Worker Safety 1 and 2 are implemented.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM the name and contact information for the CSS. The contact information of any replacement CSS shall be submitted to the CPM the next business day after the replacement.

The CSS shall submit in the Monthly Compliance Report a monthly safety inspection report to include:

(1) Record of all employees trained for that month (all records shall be kept on site for the duration of the project);

(2) Summary report of safety management actions and safety-related incidents that occurred during the month;

(3) Report of any continuing or unresolved situations and incidents that may pose danger to life or health; and

(4) Report of accidents and injuries that occurred during the month.

WORKER SAFETY-7 The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Those services shall be in addition to other work performed by the CBO. The Safety Monitor shall be selected by and report directly to the CBO, and will be responsible for verifying that the Construction Safety Supervisor, as required in Worker Safety 6, implements all appropriate Cal/OSHA and Commission safety requirements. The Safety Monitor shall conduct on-site (including linear facilities) safety inspections at intervals necessary to fulfill those responsibilities.

Verification: Prior to the start of construction, the project owner shall provide proof of its commitment to pay for the Safety Monitor services to the CPM for review and approval.

WORKER SAFETY-8 If any portion of a linear facility built solely by a California Public Utilities Commission(CPUC)–certified public utility company, then none of the above conditions will apply to that portion of the linear facility.

Verification: Prior to the start of construction of any portion of a linear facility to be built solely by a CPUC–certified utility company, the project owner shall provide a description of such portion and the name of the responsible public utility company to the CPM for review and approval.

REFERENCES

2001 California Fire Code. Published by the International Fire Code Institute comprised of the International Conference of Building Officials, the Western Fire Chiefs Association, and the California Building Standards Commission. Whittier, Ca.

Anthony, Craig. Fire Chief, County of Riverside Fire Department. Personal communication, January 5, 2005.

BEPTL (Blythe Energy Project Transmission Line Modifications) 2004: Petition for Post Certification Amendment [99-AFC-8]. Submitted to the California Energy Commission on October 1, 2004.

BEPTL (Blythe Energy Project Transmission Line Modifications) 2004a Response to Data Requests, Submitted to the California Energy Commission on November 30, 2004.

CEC California Energy Commission 2001. Commission Decision for the Blythe Energy Project (99-AFC-8)

ENGINEERING ASSESSMENT

GEOLOGY AND PALEONTOLOGY

Testimony of Patrick Pilling, Ph.D., P.E., G.E.

SUMMARY OF CONCLUSIONS

Strong ground shaking represents the only regionally significant geologic hazard along the Blythe Energy Project Transmission Line Modification (BEPTL) alignment, although other geologic hazards, such as liquefaction, dynamic compaction, landslides, and expansive soils, may be present locally. These potential geologic hazards will be investigated prior to facility design as required by Conditions of Certification and, if present, mitigated through facility siting and foundation design as required by the California Building Code (2001). The BEPTL site lies in an area that contains no known viable geologic or mineral resources. Paleontological resources have been documented in the general area of the project. The potential impacts to paleontological resources due to construction activities will be mitigated as required by Conditions of Certification.

Based on this information, it is staff's opinion that the potential for significant adverse cumulative impacts to the project from geologic hazards, and to potential geologic, mineral, and paleontologic resources from the construction, operation, and closure of the proposed project, is less than significant. The BEPTL can be designed and constructed along the proposed transmission line pole alignments, including the realignment near the Blythe Municipal Airport, in the vicinity of Alligator Rock, and near the Julian Hinds substation, in accordance with all applicable laws, ordinances, regulations, and standards (LORS), and in a manner that protects environmental quality and assures public health and safety.

INTRODUCTION

In this section, Energy Commission staff discusses potential impacts of the proposed BEPTL regarding geologic hazards, geologic (including mineral resources), and paleontologic resources. Staff's objective is to ensure that there will be no significant adverse impacts to geologic and paleontologic resources during project construction, operation, and closure. A brief geologic and paleontologic overview of the project is provided. The section concludes with staff's proposed monitoring and mitigation measures with respect to geologic hazards and geologic, mineral resources, and paleontologic resources. Conditions of Certification for the proposed transmission line modification project are also included.

LAWS, ORDINANCES, REGULATION, AND STANDARDS

GEOLOGY AND PALEONTOLOGY Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal: Antiquities Act of 1906 (16 United States Code [USC], 431-433	Approximately 66 percent of the proposed BEPTL will cross Federal (Bureau of Land Management) land. Although there is no specific mention of natural or paleontological resources in the Act itself, or in the Act's uniform rules and regulations (Title 43 Part 3, Code of Federal Regulations [43 CFR Part 3], 'objects of antiquity' has been interpreted to include fossils by the National Park Service (NPS), the Bureau of Land Management (BLM), the Forest Service (FS), and other Federal agencies. All design will also need to adhere to any applicable BLM design standards.
California Building Standards Code, 2001 (particularly Part 2, CBC)	The CBC includes a series of standards that are used in project investigation, design and construction (including evaluation of geologic hazards, grading and erosion control).
Local:	No LORS.

SETTING

The proposed BEPTL site consists of two components designed to enhance electrical power transmission between the generating facility at Blythe, California (Buck Substation) and the California Independent System Operator (CAISO) system. Specifically, the proposal calls for construction of new overhead electrical transmission lines from the Buck Substation to the Julian Hinds Substation, and to a new substation (Midpoint Substation) proposed for construction at the Southern California Edison (SCE) Devers-Palo Verde transmission line. Associated modifications to existing facilities are also included in the proposal.

Transmission line construction between Buck Substation and the Julian Hinds Substation would entail installation of approximately 67 miles of new electrical transmission line via free-standing, concrete, single pole structures. The Buck to Julian Hinds component would generally follow SCE's existing Devers-Palo Verde transmission line corridor.

Transmission line construction between Buck Substation and the proposed Midpoint Substation would require installation of approximately 6-1/2 miles of new electrical transmission line via free-standing, concrete, single pole structures along a new electrical transmission line corridor.

REGIONAL SETTING

The BEPTL project is located entirely within Riverside County, California in the southern portion of the Mojave Desert geomorphic province. The Mojave Desert is generally characterized by northwest trending mountain ranges flanked by broad Quaternary colluvium deposits which grade laterally into valley fill alluvium. Dry lake (playa) deposits formed by infrequent desert stormwater runoff are common on the valley floors. Localized eolian sand dunes are present in the Chuckwalla Valley. Bedrock outcrops in the project area consist of moderately to severely weathered Precambrian through Mesozoic metamorphic, metasedimentary, and igneous rock types (California Division of Mines and Geology, 1967). Several well-delineated as well as inferred fault traces have been mapped along the proposed transmission line route although none are shown to cross it. No earthquake epicenters with magnitude greater than 5.0 are known to exist in the project area (CDMG, 1994; Jennings and Saucedo, 2002).

PROJECT SITE AND VICINITY DESCRIPTION

The proposed Buck to Midpoint substation segment (located adjacent to the Devers Palo Verde 1 Line) lies within the Palo Verde Basin which is defined by the Palo Verde Valley on its eastern margin and the Palo Verde Mesa on the west. The Palo Verde Basin is composed primarily of alluvial deposits of the Colorado River and more localized alluvial deposits formed by erosion, transport, and deposition from local bedrock outcrop and reworking of alluvium. In general, the alluvial deposits which form Palo Verde Mesa are older than those of the Palo Verde Valley and reflect a period of deposition when the Colorado River was in a significantly higher average flow stage.

West of the Palo Verde Mesa, the proposed transmission line route runs west through the Chuckwalla Valley for approximately 16 miles before turning northwest for approximately 18 miles to bypass the major relief of the Chuckwalla Mountains. At Desert Center the alignment veers southwest into the Orocopia Valley for approximately 15 miles before turning north and northeast for about 3-1/2 miles to the Julian-Hinds Substation.

Surficial deposits along the proposed route in the Chuckwalla Valley are composed of Quaternary colluvium, alluvium, and dune sands. Near Desert Center Mesozoic granitic outcrops are encountered. Surface deposits within the Orocopia Valley are much the same as those of the Chuckwalla Valley with the addition of Precambrian metamorphic outcrops and dry lake deposits. Source material for the Quaternary deposits of the Chuckwalla and Orocopia Valleys are the Precambrian and Mesozoic metamorphic and granitic mountain ranges which define the northern and southern boundaries of the valleys, including the Eagle, Orocopia, Chuckwalla, Palen, and McCoy ranges.

The depth to ground water is reported to vary between 50 and 200 feet across the project route (Blythe 2004a).

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

There are two types of impacts considered in this section. The first are geologic hazards, which could impact proper functioning of the proposed facility and include

faulting and seismicity, liquefaction, dynamic compaction, hydrocompaction, subsidence, expansive soils, landslides, and tsunamis and seiches. The second considers potential impacts the proposed facility could have on existing geologic, mineral resources, and paleontologic resources in the area.

The following sections provide the criteria used for determining potential hazard significance; a discussion of the main potential geologic hazards, and mineral and paleontologic resources, at the site; and an assessment of the potential impact to the project from other types of geologic hazards.

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

Federal agencies are required to review major Federal actions such as the BEPTL project under the National Environmental Policy Act (NEPA). This document has been prepared in consultation with the Bureau of Land Management (BLM) to also address Federal environmental issues. This project will also be reviewed by BLM staff pursuant to the Federal Land Policy and Management Act of 1976 (FLPMA). The FLPMA establishes the agency's multiple-use mandate to serve present and future generations.

The Antiquities Act of 1906 (16 United States Code [USC]) requires that objects of antiquity be taken into consideration for Federal projects and the California Environmental Quality Act, Appendix G, also requires the consideration of paleontological resources. The CBSC and CBC provide geotechnical and geological investigation and design guidelines, which engineers must adhere to when designing a proposed facility. As a result, the criteria used to assess geologic hazard impact significance includes evaluating each potential hazard in relation to being able to adequately design and construct the proposed facility.

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, provides a checklist of questions that a lead agency should normally address if relevant to a project's environmental impacts.

- Section (V) (c) asks if the project will directly or indirectly destroy a unique paleontological resource or site or unique geological feature.
- Sections (VI) (a), (b), (c), (d), and (e) pose questions that are focused on whether or not the project would expose persons or structures to geologic hazards.
- Sections (X) (a) and (b) pose questions about the project's effect on mineral resources.

With respect to impacts the proposed facility may have on existing geologic and mineral resources, geologic and mineral resource maps for the surrounding area have been reviewed, in addition to site-specific information provided by Blythe Energy to determine if geologic and mineral resources are present in the area. When available, operating procedures of the proposed facility are reviewed to determine if such operations could adversely impact such resources.

Staff researched existing paleontologic information for the surrounding area in accordance with accepted assessment protocol (Society of Vertebrate Paleontology

[SVP], 1995) to determine if there are any known paleontologic resources in the general area. If present or likely to exist, Conditions of Certification are applied to the project approval, which outlines procedures required during construction to mitigate impacts to potential resources.

DIRECT/INDIRECT IMPACTS AND MITIGATION

Seismicity represents the most significant regional geologic hazard along the alignment. Other more localized geologic hazards, such as liquefaction, dynamic compaction, landslides, and expansive soils, will also need to be investigated prior to facility design. Any of these potential geologic hazards can be effectively mitigated through facility siting, to locate structures away from such hazards, and by design, incorporating a foundation and structural system capable of reducing the effects generated by the noted hazards to acceptable levels. The proposed Conditions of Certification will mitigate these impacts to a less than significant level.

The alignment will lie within existing transmission line corridors, and there are no viable geologic or mineral resources known to exist in these corridors. Areas with high mineral development potential lie nearly 30 miles from any of the alignment (United States BLM Map 4-1). While there is almost always some mineral potential in the Colorado Desert of Southern California, the potential for a transmission line, with 4-foot diameter structures on approximate 820-foot centers, to affect a mining operation is negligible.

Paleontological resources have been documented in the vicinity of the project area, and native materials exhibit a high sensitivity rating with respect to containing significant paleontologic resources. Since the proposed project will include significant but localized amounts of grading and foundation excavation, staff considers the probability that paleontological resources will be encountered during such activities to be high when native materials are encountered, based on SVP assessment criteria. Conditions of Certification are designed to mitigate any paleontological resource impacts, as discussed above, to a less than significant level.

GEOLOGICAL HAZARDS

The Petition for Post-Certification Amendment (Blythe 2004a) provides documentation of potential geologic hazards along the proposed transmission line alignment. Review of the proposed modifications, coupled with our independent research, indicates the potential for certain geologic hazards (strong ground shaking and possibly liquefaction, dynamic compaction, and expansive soils) to impact the proposed facility are potentially significant but can be effectively mitigated through facility design.

Our independent research included review of available geologic maps, reports, and related data of the proposed transmission line alignment. Geological information was available from the California Geological Survey (CGS), California Division of Mines and Geology (CDMG), U.S. Geological Survey (USGS), and other government organizations.

Faulting and Seismicity

Energy Commission staff reviewed the CGS publication *Fault Activity Map of California and Adjacent Areas with Locations and Ages of Recent Volcanic Eruptions*, dated 1994 (CGS, 1994); the *Simplified Fault Activity Map of California* (Jennings and Saucedo, 2002); the *Maps of Known Active Fault Near-Source Zones in California and Adjacent Parts of Nevada* (International Conference of Building Officials [ICBO], 1998), the *Geologic Map of California Salton Sea Sheet* (CDMG, 1967), *Seismic Shaking Hazard Maps of California* (Petersen et al., 1999); *Probabilistic Seismic Hazard Assessment for the State of California* (CDMG, 1996); *Epicenters of and Areas Damaged by M≥ 5 California Earthquakes, 1800-1999* (Toppozada et al., 2000), and *Peak Acceleration from Maximum Credible Earthquakes in California (Rock and Stiff Soil Sites)* (CDMG, 1992).

The project is located within Seismic Zone 3 as delineated on Figure 16-2 of the 2001 edition of the CBC. Several concealed faults, which originate from inactive bedrock faults, are mapped as passing beneath Holocene age (recent) alluvium and the proposed alignment in the vicinity of the Chuckwalla Mountains and near the Julian Hinds Substation (CDMG, 1967). Based on a review of this information, no active or potentially active faults are known to cross the transmission line corridor. Even if the concealed faults were considered potentially active, they could be effectively mitigated by locating structures a minimum of 50 feet from the fault locations.

The closest known active fault is the San Andreas Fault, which is located more than 40 kilometers (25 miles) southwest of the western end of the project. This fault is designated a class “A” fault under the CBC (a fault with a maximum magnitude earthquake greater than 7 and a slip rate in excess of 5 mm/year). The maximum credible earthquake for the San Andreas Fault is considered to be moment magnitude 8.5 along most of its length. The maximum moment magnitude earthquake for the segment of San Andreas Fault closest to the project is 7.4. The slip rate for this section of the San Andreas Fault is 24 mm/yr (ICBO 1998, Table 1). CGS Map Sheet 48 predicts a 10 percent chance of peak ground acceleration of 0.1g in 50 years for the project area. Deterministic peak horizontal ground accelerations for this fault are estimated to vary between 0.05g and 0.08g near the Buck Substation (Blythe, 2003).

Since no active faults are known to exist within the limits of the proposed transmission line corridor, the potential for surface rupture along the alignment is considered low.

Liquefaction

Liquefaction is a condition in which a cohesionless soil loses its shear strength due to a sudden increase in pore water pressure. The soils most prone to liquefaction during earthquakes are submerged fine-grained, poorly graded, sands and silts.

Information contained in the amendment petition indicates ground water is present at depths of 50 or more feet below surface along the proposed transmission line route. Perched water may be present at shallower depths in localized occurrences. No site-specific geotechnical exploration was available for review. As a result, evaluation of liquefaction potential will need to be performed as required by **Condition of Certification GEO-2.** Due to the suspected heterogeneous character of near surface

sediments in the project area, potentially liquefiable soils, if they occur, will probably be encountered as zones or pockets, rather than as horizontally or vertically continuous layers. Therefore, potential liquefaction can be effectively mitigated through facility design.

Dynamic Compaction

Dynamic compaction of soils results when relatively unconsolidated granular materials experience vibration associated with seismic events. The vibration causes a decrease in soil volume, as the soil grains tend to rearrange into a more dense state (an increase in soil density). The decrease in volume can result in settlement of overlying structural improvements.

No site-specific geotechnical exploration data was available for review. As a result, evaluation of dynamic compaction potential will need to be performed as required by the Conditions of Certification. If the potential is present, however, this geologic hazard can be effectively mitigated through facility design.

Hydrocompaction

Partially saturated soils can possess bonds that are a result of chemical precipitates that accumulate under arid and semi-arid conditions. Such soluble compound bonds provide the soils with cohesion and rigidity; however, these bonds can be destroyed upon prolonged submergence. When destroyed, a substantial decrease in the material's void ratio is experienced even though the vertical pressure does not change. Materials that exhibit this decrease in void ratio and corresponding decrease in volume with the addition of water are defined as collapsible soils. Collapsible soils are typically limited to true loess, clayey loose sands, loose sands cemented by soluble salts, windblown silts, and flash-flood deposits. Since the proposed electrical transmission line route is located in an arid environment generally underlain by granular soils with a relatively deep ground water table (reportedly in excess of 50 feet) that is not expected to rise appreciably from current elevations, the potential for hydrocompaction of site soils is considered low. Locally, higher levels of collapse potential may be present in flash-flood deposits on the distal ends of alluvial fans. Unless these deposits are unusually thick, they would have little impact on transmission tower foundation performance. If present, collapsible soils can be mitigated through facility design.

Subsidence

Ground subsidence is typically caused when ground water is drawn down by pumping such that the effective unit weight of the soil mass is increased, which in turn increases the effective stress on the underlying soils. This results in consolidation/settlement of the underlying soils which can manifest itself as surface subsidence. The proposed transmission line project is located across an area of relatively low groundwater extraction, and no pumping of ground water is planned as a part of this project. As a result, drawdown of the water table due to groundwater pumping on this project is not anticipated. Therefore, there is no potential for ground subsidence associated with activities on this project.

Expansive Soils

Soil expansion occurs when clay-rich soils, with an affinity for water, exist in-place at a moisture content below their plastic limit. The addition of moisture from heavy precipitation, irrigation, capillary tension, water line breaks, etc. causes the clay soils to collect water molecules in their structure, which in turn causes an increase in the overall volume of the soil. This increase in volume can correspond to movement of overlying structural improvements.

No site-specific geotechnical exploration data was available for review. As a result, evaluation of expansive soils and their potential to affect overlying structural improvements will need to be performed as required by the Conditions of Certification. The near-surface alluvium present along the project route is expected to generally consist of granular soil materials overlying bedrock. Such materials are not prone to excessive expansion, although the few feet of surface may have weathered to expansive clay. If present, expansive soils can be effectively mitigated through facility design.

Landslides

Landslides are the perceptible downward sliding or falling of earth or rock under the influence of gravity. Landslides can take the form of rotational slump failures within surficial soils/colluvium and/or catastrophic failure of weakened bedrock. Such movement can be initiated by an increase of the moisture content of relatively competent material overlying a low strength layer, seismic shaking which results in loss of cohesion within a formation, or as a result of freeze/thaw weakening. Debris flows are shallow landslides that travel downslope very rapidly as muddy slurry.

Most of the proposed alignment is relatively flat, exhibiting slopes of less than three percent. The only exception is in and around the Chuckwalla Mountains, where the proposed transmission line will cross slopes that are as steep as 30 percent. No site-specific geotechnical exploration data was available for review. As a result, evaluation of landslides and their potential to affect overlying structural improvements will need to be performed as required by the Conditions of Certification. If present, landslides can be effectively mitigated by locating transmission line foundations outside the zone of influence of the landslide.

GEOLOGIC, MINERAL, AND PALEONTOLOGIC RESOURCES

Energy Commission staff have reviewed applicable geologic maps and reports for this area; Kohler, 2002; CDC, 2001; CDMG, 1990; CDMG, 1999; CDMG, 1998; and CDMG, 1986; CDMG, 1968. Based on this review and the information contained in the Petition for Post-Certification Amendment (Blythe 2004a), there are no known viable geologic or mineral resources located within or immediately adjacent to the proposed transmission line corridor.

Historic mining for precious and base metals has been documented in bedrock outcrops of the Chuckwalla, Eagle, and Mule Mountains, however recent mineral and mining indexes indicate two aggregate production operations near the City of Blythe as the only mining activity currently taking place in eastern Riverside County (CDMG, 1998, and

CDMG, 1999). As of 1998, less than ½ million tons of aggregate were being produced from the two operations in the Blythe area per year and neither operation is within the proposed transmission line corridor (Kohler, 2002).

Much of the proposed modification alignment is located on Pleistocene older alluvium which is considered to have a high sensitivity rating with respect to containing paleontologic resources. Monitoring conducted during previous facility construction resulted in discovery of two vertebrate fossils (bird bone and rodent tooth). No other significant fossil finds were reported. Based on this information and staff's review of available information (San Bernardino County Museum, 2004), the proposed transmission line project has the potential to encounter significant paleontological resources within native materials during grading and foundation construction activities. Although the alignment is nearly 67.4 miles long, grading activities for tower foundations typically only occurs on approximate 820-foot centers.

Tsunamis and Seiches

Tsunamis and seiches are earthquake-induced waves that inundate low-lying areas adjacent to large bodies of water. The proposed BEPTL route is located a minimum of 20 miles northeast of the Salton Sea, the nearest large body of water. The Chocolate Mountains and the Chuckwalla Mountains separate the Salton Sea from the BEPTL project. As a result, the potential for tsunamis and seiches to affect operation of the facility is considered low.

Construction Impacts and Mitigation

As noted above, no viable geologic or mineral resources are known to exist within the project area. Paleontological resources have been documented in the vicinity of the project, and the native materials exhibit a high sensitivity rating with respect to containing significant paleontologic resources. Since construction of the proposed project will include significant amounts of grading and foundation excavation on approximate 820-foot centers, staff considers the probability that paleontological resources will be encountered during such activities to be high when grading and excavation take place in older Pleistocene alluvium, based on SVP assessment criteria. Conditions of Certification are designed to mitigate any paleontological resource impacts, as discussed above, to a less than significant level.

Operation Impacts and Mitigation

Operation of the proposed facility should not have any adverse impact on geologic, mineral resources, or paleontologic resources.

CUMULATIVE IMPACTS AND MITIGATION

Other projects in the area include the proposed Desert Southwest Transmission Project (DSTP), which would be located along the existing Palo Verde to Devers No. 1 transmission line within the Interstate 10 corridor. This is the same corridor that would host the proposed BEPTL project. As a result, impacts associated with the BEPTL project as outlined below would also be applicable to the DSTP.

With the exception of strong ground shaking, and the potential for liquefiable soils, dynamic compaction, landslides, and expansive soils to be present, the BEPTL project route lies in an area that generally exhibits low geologic hazards and no known viable geologic or mineral resources. Strong ground shaking, in addition to potentially liquefiable soils, dynamic compaction, landslides, and expansive soils, must be mitigated through facility siting or foundation design as required by the CBC. Paleontological resources have been documented in the general area of the project. The potential impacts to paleontological resources due to construction activities will be mitigated as required by Conditions of Certification.

Based on this information, it is staff's opinion that the potential for significant adverse cumulative impacts to the project from geologic hazards, and to potential geologic, mineral, and paleontologic resources is low. Energy Commission staff agree with Blythe Energy, LLC (Blythe Energy or Applicant) that the project can be designed and constructed to minimize the effect of geologic hazards, and that impacts to paleontologic resources encountered during construction would be mitigated to a level of insignificance.

CHANGES TO THE BLYTHE ENERGY TRANSMISSION LINE MODIFICATION PETITION

TRANSMISSION LINE POLE REALIGNMENT NEAR BLYTHE MUNICIPAL AIRPORT

Blythe Energy proposes a potential realignment of transmission power poles 8 through 28 near the Blythe Municipal Airport. There is the potential to increase the height of the poles or realign the route slightly, neither of which is likely to result in significant impacts to geological, mineralogical, nor paleontological resources greater than that expected for the proposed alignment. Furthermore, no additional geologic hazards beyond those already discussed will impact the proposed route realignment.

TRANSMISSION LINE POLE REALIGNMENT NEAR JULIAN HINDS SUBSTATION

The realignment of transmission line power poles 418 through 433 (see project description) were required to mitigate slope and engineering issues near the Julian Hinds substation. The engineering difficulties posed by the steep terrain were recognized by Western staff and noted in their comments on the BEP petition. The realignment of the transmission line poles numbers 418 through 433 in the vicinity of the Julian Hinds substation would provide an improved design, fewer construction challenges, and avoidance of complex terrain within this congested area. The potential impacts to geological, mineralogical, and paleontological resources due to the required route realignment will be similar to the impacts associated with the originally proposed project and require the same mitigation measures. No additional geologic hazards beyond those already discussed will impact this proposed route realignment.

MIDPOINT SUBSTATION REALIGNMENT AND INTERCONNECTION

The proposed Midpoint Substation will require a slight relocation to the northwest due to potential impacts to cultural resources in the vicinity. As this relocation is within the same general vicinity as the original location, the potential impacts to geological, mineralogical, and paleontological resources will be similar to the potential impacts associated with the originally proposed project and require the same mitigation. No additional geologic hazards beyond those already discussed will impact this proposed substation relocation.

TRANSMISSION LINE POLE REALIGNMENT NEAR ALLIGATOR ROCK

The realignment of transmission line power poles 289 through 305 (see project description) were required to avoid sensitive cultural resources in the vicinity of Alligator Rock. The power poles will be adjusted slightly to the north.

As this relocation is within the same general vicinity as the original location, the potential impacts to geological, mineralogical, and paleontological resources will be similar to the potential impacts associated with the originally proposed project and require the same mitigation. No additional geologic hazards beyond those already discussed will impact this proposed route realignment.

COMPLIANCE WITH LORS

The proposed Conditions of Certification are to allow the Energy Commission Compliance Project Manager (CPM) and Blythe Energy to adopt a compliance monitoring scheme that will ensure compliance with LORS applicable to geologic hazards, and geologic, mineral, and paleontologic resources.

RESPONSE TO PUBLIC AND AGENCY COMMENTS

No comments on geology and paleontology have been received for the BEPTL project.

CONCLUSIONS

Blythe Energy will be able to comply with applicable LORS, provided that the proposed Conditions of Certification are followed, regardless of which of the alternate alignments near the Blythe Municipal Airport is selected. The project will have no adverse impact with respect to design and construction of the project, and geologic, mineral, and paleontologic resources. Staff proposes to ensure compliance with applicable LORS through the adoption of the proposed Conditions of Certification listed below.

PROPOSED AMENDED CONDITIONS OF CERTIFICATION

General Conditions of Certification with respect to Geology and Paleontology are required under **Conditions of Certification GEN-1, GEN-5, CIVIL-1, and PAL-1 through PAL-7** in the Commission Decision (CEC, 2001) and apply to this project as well. **Conditions of Certification GEO-1 and GEO-2**, also contained in the

Commission Decision (CEC, 2001) have been modified slightly to reflect particular aspects of this project.

GEO-1 Prior to the start of construction, Blythe Energy shall assign to the project an engineering geologist(s), certified by the State of California, to carry out the duties required by the ~~1998~~ 2001edition of the California Building Code (CBC) Appendix Chapter 33, Section 3309.4. The certified engineering geologist(s) assigned must be approved by the Compliance Project Manager (CPM). The functions of the engineering geologist can be performed by the responsible geotechnical engineer, if that person has the appropriate California license.

Verification: At least thirty (30) days [(or a lesser number of days mutually agreed to by Blythe Energy and the Compliance Project Manager (CPM)] prior to the start of construction, Blythe Energy shall submit to the CPM for approval the name(s) and license number(s) of the certified engineering geologist(s) assigned to the project. The submittal should include a statement that CPM approval is needed. The CPM will approve or disapprove of the engineering geologist(s) and will notify Blythe Energy of its findings within 15 days of receipt of the submittal. If the engineering geologist(s) is subsequently replaced, Blythe Energy shall submit for approval the name(s) and license number(s) of the newly assigned individual(s) to the CPM. The CPM will approve or disapprove of the engineering geologist(s) and will notify Blythe Energy of the findings within 15 days of receipt of the notice of personnel change.

GEO-2 The assigned engineering geologist(s) shall carry out the duties required by the ~~1998~~ 2001 CBC, Appendix Chapter 33, Section 3309.4 Engineered Grading Requirement, and Section 3318.1 — Final Reports. Those duties are:

1. Prepare the Engineering Geology and Soils Engineering Reports. These ~~is~~ reports shall accompany the Plans and Specifications when applying to the CBO for the grading permit.

2. Monitor geologic conditions during construction.

3. Prepare the Final Engineering Geology and Soils Engineering Reports.

Protocol: The Engineering Geology Report required by the ~~1998~~2001 CBC Appendix Chapter 33, Section 3309.~~3~~4 Engineered Grading ~~Designation~~ Requirements, shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and an opinion on the adequacy of the site for the intended use as affected by geologic factors.

The Soils Engineering Report required by the 2001 CBC Appendix Chapter 33, Section 3309.4 Engineered Grading Requirements, shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures, including buttress fills, when necessary, and opinion on adequacy for the intended use of sites to be developed by the proposed grading as affected by soils engineering factors, including site liquefaction,

dynamic compaction, landslide, and expansion potential of site materials, as well as stability of fill slopes.

The Final Engineering Geology Report to be completed after completion of grading, as required by the ~~1998~~2001 CBC Appendix Chapter 33, Section 3318.1, shall contain the following: A final description of the geology of the site and any new information disclosed during grading; and the effect of same on recommendations incorporated in the approved grading plan. The engineering geologist shall submit a statement that, to the best of his or her knowledge, the work within their area of responsibility is in accordance with the approved Engineering Geology Report and applicable provisions of this chapter.

The Final Soils Engineering Report to be completed after completion of grading, as required by the 2001 CBC Appendix Chapter 33, Section 3318.1 shall contain the following: locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved soils engineering investigation report. Soils engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibility is in accordance with the approved soils engineering report and applicable provisions of this chapter.

Verification: (1) Within 15 days after submittal of the application(s) for grading permit(s) to the CBO, Blythe Energy shall submit a signed statement to the CPM stating that the Engineering Geology and Soils Engineering Reports ha~~s~~ves been submitted to the CBO as a supplement to the plans and specifications and that the recommendations contained in the report are incorporated into the plans and specifications. (2) Within 90 days following completion of the final grading, the project owner shall submit copies of the Final Engineering Geology and Soils Engineering Reports required by the ~~1998~~2001 CBC Appendix Chapter 33, Section 3318 Completion of Work, to the CBO, and to the CPM on request.

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TRANSMISSION SYSTEM ENGINEERING

Testimony of Ajoy Guha MSEE, P.E and Mark Hesters

SUMMARY OF CONCLUSIONS

Blythe Energy, LLC (Blythe Energy) submitted a petition to the California Energy Commission (Energy Commission) for a post-certification amendment to the Blythe Energy Project (BEP) Certification 99-AFC-8. The petition amended the original AFC to add the construction of transmission modifications that would allow more generation from the BEP to reach the California Independent System Operator (CAISO) controlled transmission grid. Blythe Energy is proposing to construct one or both of the following transmission modifications:

1. A new 67.4 mile 230 kV transmission line from the Western Area Power Administration's (Western) Buck Blvd. substation to Metropolitan Water District's (MWD) Julian Hinds substation.

2. Depending on the location of the proposed Midpoint substation, a new 6.7 mile or 11.9 mile 230 kV line from Western's Buck Blvd. substation to a proposed Midpoint 500/230/161 kV substation that will be interconnected with Southern California Edison's (SCE) existing Devers-Palo Verde 500 kV (DPV1) transmission line.

The Western System Impact Studies (SISs) provide sufficient evidence that the transmission line modifications will comply with applicable laws, ordinances, regulations and standards (LORS) on the Western system. The SCE SISs and CAISO preliminary approval letters indicate the need for further study to insure compliance with LORS. Staff believes that the studies do sufficiently identify the downstream transmission and mitigation measures that would require further environmental analysis. The study of the only downstream facilities requiring environmental analysis, the interset of six poles on the Julian Hinds – Mirage 230 kV, is included in this document. While further study of the project is needed, staff recognizes that the CAISO is the agency responsible for insuring compliance with reliability LORS, therefore, staff is confident that the proposed modifications that must receive interconnection approval from the CAISO will comply with CAISO reliability criteria. Staff is proposing new conditions of certification **TSE-4 to TSE-11** to insure the new facilities comply with applicable LORS.

Staff proposed condition of certification **TSE-8** requires that the executed Facility Interconnection Agreement with the CAISO and the executed Facility Construction Agreement with Western be submitted at least sixty days before the start of construction. The CAISO interconnection agreement will not be issued without resolution of several issues including, impacts on transmission path ratings and the operational/market issues caused by the new tie between the CAISO and Western control areas. It could take between one and two years to resolve these issues and the resolution could affect the commercial viability of the project by reducing the amount of power that can be sent from BEP directly to the CAISO grid. Staff is concerned that unless these issues are resolved before the start of construction, construction could be started but not completed and would then have physical impacts to California without any of the benefits of the new transmission facility. Requiring the submittal of the Facility

Interconnection Agreement and the final interconnection approval letter from the CAISO, and the submittal of the Facility Construction Agreement from Western, including the final transmission studies before the start of construction will allow staff to have a complete record for this project.

INTRODUCTION

STAFF ANALYSIS

The Transmission System Engineering (TSE) analysis examines whether the facilities associated with the proposed transmission modifications conform to all applicable LORS required for safe and reliable electric power transmission. Additionally, under the California Environmental Quality Act (CEQA), the Energy Commission must conduct an environmental review of the "whole of the action," which may include facilities not licensed by the Energy Commission (California Code of Regulations, title 14, §15378). Therefore, the Energy Commission must identify the system impacts and necessary new or modified transmission facilities downstream of the proposed interconnection that are required for interconnection and represent the "whole of the action." The Staff has coordinated with the co-lead federal agencies, Bureau of Land Management (BLM) and the Western to meet National Environmental Policy Act (NEPA) environmental requirements.

Commission Staff rely on the interconnecting authorities, in this case SCE, Western and the CAISO, for the analysis of impacts on the transmission grid. The analysis includes the identification and approval of required new or modified facilities required by the interconnecting authorities as mitigation measures. The Blythe Energy proposed Blythe Electric Power Transmission Line (BEPTL) modifications would connect to both the Western and SCE transmission networks and requires analysis by both Western and SCE as well as approval by the CAISO.

WESTERN'S ROLE

Western is responsible for ensuring electricity system reliability in the Western transmission system. For the proposed transmission modifications, Western determines whether the proposed transmission modifications conform to Western and applicable national and regional reliability standards. Western provides the analysis and reports for their System Impact and Facilities studies, and executes the facility construction agreement with the applicant for construction of the facilities and changes required in the Western system for addition of the proposed transmission modifications. If necessary, Western provides testimony for the Energy Commission hearings.

CAISO'S ROLE

The CAISO is responsible for ensuring electric system reliability for all participating transmission owners and is also responsible for developing the standards necessary to achieve system reliability. The CAISO determines the reliability impacts of the proposed transmission modifications on the interconnecting utility (e.g. SCE) transmission system in accordance with all applicable reliability criteria. According to the CAISO Tariffs, the CAISO determines the "Need" for transmission additions or upgrades downstream from the interconnection point to insure reliability of the transmission grid. As a matter of

course, the CAISO reviews the SIS performed by the interconnecting utility and/or any third party, provides their analysis, conclusions and recommendations, and issues a preliminary approval or concurrence letter to the utility. On completion of the SCE Facility Studies (FS), the CAISO reviews the study results, provides their conclusions and recommendations and issues a final approval/disapproval letter for the interconnection of the proposed BEPTL modifications. According to the CAISO Tariffs the CAISO also performs an operational review of all facilities that are to be connected, or made part of, the CAISO controlled grid to ensure that facilities being proposed provide for acceptable operating flexibility and meet all requirements for proper integration with the CAISO grid (CAISO 2003a). If necessary, the CAISO provides written and verbal testimony on their findings at the Energy Commission hearings.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS

- North American Electric Reliability Council (NERC) Reliability Standards for the bulk electric systems of North America provide national policies, standards, principles and guides to assure the adequacy and security of the electric transmission system. The NERC planning standards provide for system performance levels under normal and contingency conditions. With regard to power flow and stability simulations, while these Standards are similar to NERC/WECC Planning Standards, certain aspects of the NERC/WECC standards are either more stringent or more specific than the NERC standards for Transmission System Contingency Performance. The NERC planning standards apply not only to interconnected system operation but also to individual service areas (NERC 2006).
- NERC/WECC Planning Standards: The Western Electricity Coordinating Council (WECC) Planning Standards are merged with the NERC Reliability Standards and provide the system performance standards used in assessing the reliability of the interconnected system. These standards require the continuity of service to loads as the first priority and preservation of interconnected operation as a secondary priority. Certain aspects of the NERC/WECC standards are either more stringent or more specific than the NERC standards alone. These standards include the reliability criteria for system adequacy and security, system modeling data requirements, system protection and control, and system restoration. Analysis of the WECC system is based to a large degree on Section I.A of the standards, “NERC and WECC Planning Standards with Table I and WECC Disturbance-Performance Table” and on Section I.D, “NERC and WECC Standards for Voltage support and Reactive Power”. These standards require that the results of power flow and stability simulations verify defined performance levels. Performance levels are defined by specifying the allowable variations in thermal loading, voltage and frequency, and loss of load that may occur on systems during various disturbances. Performance levels range from no significant adverse effects inside and outside a system area during a minor disturbance (loss of load or a single transmission element out of service) to a level that seeks to prevent system cascading and the subsequent blackout of islanded areas during a major disturbance (such as loss of multiple 500 kV lines along a common right of way, and/or multiple generators). While controlled loss of generation or load or system separation is permitted in certain circumstances, their uncontrolled loss is not permitted (WECC 2002).

- Western “General Requirements for Interconnection,” September 1999, provides Western’s general minimum requirements including technical, environmental and contractual requirements for interconnection, additions and modifications to Western’s transmission facilities.
- California Public Utilities Commission (CPUC) General Order 95 (GO-95), “Rules for Overhead Electric Line Construction,” formulates uniform requirements for construction of overhead lines. Compliance with this order ensures adequate service and safety to persons engaged in the construction, maintenance, operation, or use of overhead electric lines and to the public in general.
- California Public Utilities Commission (CPUC) General Order 128 (GO-128), “Rules for Underground Electric Line Construction,” formulates uniform requirements for construction of underground lines. Compliance with this order ensures adequate service and safety to persons engaged in the construction, maintenance, operation, or use of overhead electric lines and to the public in general.
- National Electric Safety Code 1999 provides electrical, mechanical, civil and structural requirements for overhead electric line construction and operation.
- CAISO Planning Standards also provide standards, and guidelines to assure the adequacy, security and reliability in the planning of the CAISO transmission grid facilities. The CAISO Planning Standards incorporate the merged NERC and WECC Planning Standards. With regard to power flow and stability simulations, the CAISO Planning Standards are similar to NERC/WECC and the NERC Planning Standards for Transmission System Contingency Performance. However, the CAISO Standards also provide some additional requirements that are not found in the NERC/WECC or NERC Planning Standards. The CAISO Standards apply to all participating transmission owners interconnecting to the CAISO controlled grid. It also applies when there are any impacts to the CAISO grid due to facilities interconnecting to adjacent controlled grids not operated by the CAISO (CAISO 2002a).
- CAISO/FERC Electric Tariff provides guidelines for construction of all transmission additions/upgrades (projects) within the CAISO controlled grid. The CAISO determines the “Need” for the proposed project where it will promote economic efficiency or maintain System Reliability. The CAISO also determines the Cost Responsibility of the proposed project and provides an Operational Review of all facilities that are to be connected to the CAISO grid, (CAISO 2003a).

DESCRIPTION OF PROPOSED TRANSMISSION MODIFICATIONS

Blythe Energy has proposed three alternate transmission modifications that would be used to deliver full or partial BEP generation output to the CAISO grid (power not delivered to the CAISO grid would be delivered to the Western Grid), the proposed BEPTL modifications that would be located in Riverside County are as follows (see TSE Figure 1 attached):

1. Buck Blvd.-Julian Hinds 230 kV Line Component:

a. Buck Blvd. – Midpoint substation location: Subject to the location of the proposed Midpoint substation as Option 1 or option 2 as stated in Item 2.b below, the 6.7 mile or 11.9-mile portion of the new line from the Buck Blvd. substation to the proposed Midpoint substation would either be built as a single circuit or as a double circuit line with 2-1033 ACSR conductor on concrete poles (Blythe 2004a, Figure 3.3-1, Section 3.3-3, page 3-30; FPL 2006a).

b. Midpoint Substation Location – Julian Hinds substation: Subject to the location of the proposed Midpoint substation as Option 1 or Option 2 as stated in Item 2.b below, the major portion of the proposed line (60.7 mile or 55.5 mile length) would be a single circuit transmission line with 2-1033 ACSR conductor on single-column concrete poles (Blythe 2004a, Figure 3.2-1, Section 3.2.3, page 3-9; FPL 2006a).

c. Buck Blvd. substation modifications: The termination of the proposed line at the Buck Blvd. substation would require modifications to existing equipment and installation of new equipment within the existing substation boundary as follows (Blythe 2004a, Figure 3.2-4B, 4.2-1, page 4-6):

    i) Extension of the present bus structure and buses for the installation of two additional 230/161 kV switching bays with three breakers (one and a half breaker configuration for each switching bay), protection devices and communication equipment. The two new bays and one of the existing bays would operate at 161 kV. The interconnection of the existing BEP steam unit (180 MW) and the termination of the 161 kV line to the Blythe substation would be shifted to the new 161 kV bays.

    ii) The five existing 230/161 kV switching bays with one and a half breaker configuration and the associated bus would operate at 230 kV instead of 161 kV and the new proposed 230 kV line to Julian Hinds would be terminated at one of the spare switching bays. The existing BEP combustion turbine units (170 MW each) would remain connected at the existing bays which would operate at 230 kV.

    iii) A 375 MVA 161/161 kV phase shifting transformer (PST) in series with a 161/230 kV transformer will be installed and connected to the 230 kV end of the spare 230 kV switching bay and at the 161 kV end to a spare 161 kV switching bay.

d. Julian Hinds substation modifications: The termination of the proposed line at the existing Julian Hinds substation would require the expansion of the existing substation boundaries by about 75 X 224 feet in the MWD owned land to accommodate the following modifications:

    i) Extension of the existing 230 kV bus structure and double buses

    ii) Installation of an additional switching bay with two breakers, protection devices and communication equipment (Blythe 2004a, Figure 3.2-5).

e. Downstream Upgrades: The SCE preliminary System Impact Study dated July 19, 2004, shows that in order to deliver power from BEP generation output to the Julian Hinds substation through the proposed new line, the additional power that would flow through the existing Julian Hinds-Mirage 230 kV line, would cause its existing 605 ACSR conductor to sag more and create ground clearance problems. Based on SCE's present analysis, it would be necessary to interset six pole structures between certain existing towers to reduce the sag and maintain proper ground clearances under normal operating conditions. As a result the normal and emergency ratings of the line will change from existing 599 Amps to 895 Amps (Blythe 2004a, Figure 3.2-8).

2. Buck Blvd. to Midpoint substation component:

   a. Buck Blvd. – Midpoint transmission line: The length of the new 230 kV line from the existing Buck Blvd. substation to the proposed new Midpoint substation would be either 6.7-mile or 11.9-mile depending on the Midpoint substation location as Option1 or Option 2 as stated in Item 2.b below. The line would either be built as a single circuit or as a double circuit line with 2-1033 ACSR conductor on concrete poles. The line would operate at 161 kV initially and would be terminated at a spare switching bay of the modified Buck Blvd. substation (Blythe 2004a, Figure 3.3-1, Section 3.3-3, page 3-30; FPL 2006a).

   b. Proposed Midpoint Substation: The new Midpoint substation would be located either as Option 1 at the intersection point of the proposed 230 kV line with the existing SCE's Devers Palo Verde 1 500 kV (DPV1) line or as Option 2 at the proposed location for Desert Southwest Transmission Project (DSWTP) about 5.2 miles northwest of Option 1 location (FPL 2006a). Option 2 is further described and analyzed in Appendix B of this Staff Assessment. The substation would require an area approximately 1,000 feet by 1,800/1,900 feet and would include the following:

      i) Installation of a 625 MVA 500/230/161 kV PST.

      ii) Installation of a 500 kV switchyard including 500 kV double buses and three switching bays with a one and a half breaker configuration. Two bays would be used for looping the DPV1 in and out of the Midpoint substation and the third one would be connected to the high side of the above 500/230/161 kV PST.

      iii) Installation of two 230 kV switching bays with double buses and circuit breakers, one bay for termination of the 230 kV line from the Buck Blvd. substation and the other bay would be connected to the low side of the above 500/230/161 PST (Blythe 2004a, Figures 3.3-2 and 4.2-1).

3. The combined projects, both transmission modifications, would consist of the project facilities as described in Items 1 and 2 above along with the following:

   a. Upgrades and changes to the existing Buck Blvd. substation would be identical to Item 1.c above with some changes in protective devices.

b. Depending on the location of the proposed Midpoint substation, the 6.7-mile or 11.9-mile portion of the new 230 kV line between the Buck Blvd. and the proposed Midpoint substation would be built as a double circuit line to carry both the Buck Blvd.-Julian Hinds and the Buck Blvd. to Midpoint transmission lines (FPL 2006a).

TRANSMISSION SYSTEM IMPACT ANALYSIS

For the interconnection of a proposed generating unit or transmission facility to the grid, the interconnecting utility and the control area operator are responsible for insuring grid reliability. For the BEPTL modifications, Western, SCE and the CAISO are responsible for insuring grid reliability. In accordance with FERC/CAISO/Utility Tariffs, System Impact and Facilities Studies are conducted by the interconnecting utilities to determine the preferred and alternate interconnection methods to the grid. These studies provide evaluations of the downstream transmission system impacts and the mitigation measures needed to insure system conformance with performance levels required by utility reliability criteria, NERC planning standards, WECC reliability criteria, and CAISO reliability criteria (CAISO 2002a & 2003a). Staff relies on the studies and any review conducted by the responsible agencies to determine the effect of the project on the transmission grid and to identify any necessary downstream facilities or indirect project impacts required to bring the transmission network into compliance with applicable reliability standards.

The SISs and FSs analyze the grid with and without the proposed project under conditions specified in the planning standards and reliability criteria. The standards and criteria define the assumptions used in the study and establish the thresholds through which grid reliability is determined. The studies must analyze the impact of the project for the proposed first year of operation and thus are based on a forecast of loads, generation and transmission. Load forecasts are developed by the interconnected utility, which would be both SCE and Western in this case. Generation and transmission forecasts are established by an interconnection queue. The studies are focused on thermal overloads, voltage deviations, system stability (excessive oscillations in generators and transmission system, voltage collapse, loss of loads or cascading outages), and short circuit duties.

If the studies show that the interconnection of the project causes the grid to be out of compliance with reliability standards then the study will identify mitigation alternatives or ways in which the grid could be brought into compliance with reliability standards. When a project connects to the CAISO controlled grid, both the studies and mitigation alternatives must be reviewed and approved by the CAISO. If the CAISO or interconnecting utility determines that the only feasible mitigation includes transmission modifications or additions which require CEQA review as part of the “whole of the action,” the Energy Commission must analyze these modifications or additions according to CEQA requirements.

STATUS OF THE WESTERN STUDIES

Western has completed three System Impact Studies and the Facilities Study for the BEPTL modifications (FPL 2005d, Western 2004d, Western 2005a, CEC ROC 2006a).

The System Impact Studies do not identify any system reliability concerns in the Western system due to the addition of the either of the proposed project or the combination of both projects. System protective mitigation measures have been finalized in the Western study. Because the SIS studies did not identify any impacts on the Western grid, the Western Facility Study is unlikely to identify any additional impacts. Condition of certification **TSE-8** requires that the completed Facility Study and the executed Facility Construction Agreement with Western be submitted to the Energy Commission before construction of the BEPTL modifications begins.

STATUS OF THE SCE STUDIES

SCE has completed five System Impact Studies but has not completed the Facilities Study for the BEPTL modifications (Blythe 2004a, G & B 2005e, Blythe 2005d, and Blythe 2006b). The studies analyzed the impacts of the BEPTL modifications under a variety of assumptions and the most recent study completed on November 14, 2005 incorporated comments from the CAISO on earlier studies. Before being allowed to interconnect, several more studies are required. These studies include the Facilities Study as well as WECC Path Rating Studies and an operational study. SCE has begun the Facilities Study and expect to complete it in June 2006. Staff estimates that once initiated, the Path Rating and operational studies will require between one and two years to complete.

STATUS OF CAISO REVIEW

The CAISO has provided preliminary interconnection approval for the proposed transmission modifications. However, the preliminary interconnection approval stated that the projects need to receive WECC/ Western Arizona Transmission System (WATS) approval for required Path Rating studies and need to undergo a CAISO operational and market issues review. The CAISO could issue a final interconnection approval letter(s) to SCE based on the Facilities Study and mitigation plan; however, the project(s) would not be allowed to commence commercial operation until the completion of the WECC/WATS Path Rating approval process and the CAISO operational and market issues study (CAISO 2005a, CAISO 2005b and CAISO 2006a). Thus several studies including the facilities studies are required before the CAISO will allow either of the BEPTL modifications to connect to the existing transmission grid. If the SCE Facilities Study is complete in June of 2006, the CAISO review of that study could be completed by the end of July (typically 30-days after receipt of the study). The Path Rating and the operational studies could take as long as two-years to complete thus CAISO interconnection agreement(s) will not be issued until those studies are complete.

While these studies are required for interconnection, they are not studies that will identify the need for downstream facilities that require CEQA review. The SCE Facilities Study will define cost of interconnecting the BEPTL modifications to the SCE grid based on the Blythe Energy's chosen interconnection alternative and mitigation measures. The Path Rating studies will establish or modify the reliable level of power transfer for existing and proposed facilities. The operations study will define market and operational issues caused by the new interface between the CAISO and Western control areas and will establish the operations protocols between the CAISO and Western for the new interface between the control areas. Finally, as mitigation (discussed below) for the interconnection, a Sub Synchronous Resonance Study is required, but this study would

not identify the need for equipment requiring CEQA analysis. Thus, while further study is required, staff believes that the facilities requiring CEQA analysis have been identified and that the CAISO and Western interconnection approval will insure that the interconnection is reliable and conforms with LORS. Staff's proposed Condition of Certification **TSE-8** requires that the CAISO final interconnection approval and other studies mentioned above be submitted to the Energy Commission before the start of construction.

SUMMARY OF STUDY RESULTS

Western and SCE have completed several studies for the proposed transmission modifications. The Western studies are complete (although the Facilities Study has not been submitted to the Commission) and indicate there are no negative impacts on the Western System and that the BEPTL Modifications actually reduce the loading on the Western System. The SCE studies indicate that it is possible to interconnect the proposed transmission modifications to the SCE system, but further study is needed before the CAISO will allow the project to interconnect.

Western Study Results

Western has completed three System Impact Studies of the BEPTL modifications and each study demonstrates that the project would have no adverse impact on Western's Desert Southwest (DSW) system. The studies included pre and post-project power flow analysis, a transient stability analysis and a short circuit study. The new interconnections are acceptable to Western subject to the proposed equipment additions and modifications at the Buck Blvd. substation. Western will, however, continue the operation of the Blythe Remedial Action Scheme (RAS) in order to curtail BEP generation and install a System Operating Procedure (SOP) to ensure that the 161 kV lines connected to the Blythe Substation are not overloaded as a result of the PST operations and other contingencies.

The SIS did not identify any reliability concerns in the Western system due to the addition of the project line and system protective mitigation measures have been finalized in the Western study. The pending Western Facility study is unlikely to provide any additional information beside costs of interconnection facilities at the Buck Blvd. Substation.

SCE Study Results

The five SCE SISs for the BEPTL modifications indicate that there are many significant impacts on the SCE system, although staff believes that each can be mitigated effectively. Many of the studies were not approved by the CAISO because they did not include assumptions, such as transmission upgrades that will be constructed with or without the BEPTL, which the CAISO required as a starting point for the analysis. Because connection to the SCE system requires approval by the CAISO, study results, identified impacts, and mitigation measures that have not received CAISO approval are not reasonably foreseeable consequences of the proposed project. For a summary of impacts and approved mitigation for the Buck Blvd.-Julian Hinds 230 kV line, see the CAISO Preliminary Approval Letter of May 6, 2005 (CAISO 2005a). The CAISO review of the tie to the Midpoint substation and the combination of both options is contained in its comments of December 19, 2005 preliminary approval letter (CAISO 2006a). While

further study is required before the CAISO will give final interconnection approval, staff is confident that, while the additional studies could limit the output from the BEP under some conditions, they will not identify the need for additional facilities that would require CEQA analysis beyond those facilities identified in the existing, CAISO approved studies.

(1) Buck Blvd.- Julian Hinds 230 kV Line: SIS Results and Mitigation Alternatives

The studies identified the following overloads and mitigation measures:

- Julian Hinds-Mirage 230 kV line: New overloads were identified under normal, single contingency conditions (N-1) and double contingency conditions (N-2). In order to reduce sag on the line, six poles must be interset. Further mitigation, beyond the six interset poles is also required. The CAISO has concurred with four other mitigation alternatives, three of which the applicant has concurred with as well. Thus the Buck Blvd.- Julian Hinds overloads will be mitigated with interset poles and one of three other mitigation alternatives, none of which would require physical modifications outside the fenceline of an existing substation. The CAISO has stated a preference for a fourth alternative, reconductoring the overloading line. Blythe Energy has indicated a preference for the non-reconductoring alternatives that have been preliminarily approved by SCE and the CAISO. The CAISO approved nonreconductoring options are viable mitigation alternatives and it is reasonable to assume that one of the following alternatives will be used to mitigate overloads on the Julian Hinds – Mirage 230 kV line:
  - Inter-zonal congestion management to mitigate normal overloads, which requires WECC Path Rating study to establish a new Transmission Path rating for the Buck Blvd.-Julian Hinds 230 kV line or in combination with the existing Path 59. The Path Rating study establishes limits on a line or group of lines so that the CAISO can limit generation that would violate path ratings.
  - Adjusting the angle of the preset phase shifting transformer (PST) at the Buck Blvd. Substation to relieve normal overloads.
  - A special protection system (SPS) to curtail BEP generation in order to mitigate overloads under contingency conditions.
- Mirage-Tamarisk 115 kV line: Pre-project overloads increase under normal, N-1 and N-2 contingency conditions. SCE forecasted the overload of the Mirage-Tamarisk 115 kV line even without the proposed BEPTL modifications and has addressed the overload in its 2003 Annual Transmission Expansion Plan. SCE plans to install a second Mirage 230/115 kV transformer and split the Devers/Mirage 115 kV loop system into two radial 115 kV systems: the Devers 115 kV system and the Mirage 115 kV system. SCE plans to implement the split of the Devers-Mirage subtransmission system by 2008. The CAISO considers these planned projects as the preferred mitigation option. However, if the planned mitigation is not in place before the BEPTL modifications then the overload could be mitigated with a phase shifting transformer at the Buck Blvd. substation, a SPS, or the line will need to be reconductored (Blythe Energy has chosen the nonreconductoring mitigation alternatives). The planned transformer and system split is the foreseeable mitigation of the overloads on the Mirage-Tamarisk 115 kV line.

- Mirage Substation 230/115 kV Transformer: The transformer overload under contingency conditions is an existing problem. The Devers-Mirage 115 kV system split project (discussed above) includes the installation of a second 230/115 kV transformer at the Mirage Substation which will mitigate any overloads caused by the proposed Buck Blvd. – Julian Hinds transmission line. The CAISO considers the planned system split as preferred mitigation for this overload. If the planned system split project is not implemented or is delayed due to permitting requirements, any of the three following SCE and CAISO approved mitigation measures would eliminate the overloads without requiring additional facilities outside the fenceline of existing substations:
  - Install a second 230/115 kV transformer bank.
  - Develop an automatic SPS to curtail BEP generation for worst loading under single contingency of Devers-Mirage 230 kV line.
  - Adjust the angle of the new Buck Blvd. 230/115 kV PST to eliminate the overload or to reduce the line loading to pre-project condition.

The planned transformer and system split is the foreseeable mitigation of the overloads on the Mirage Substation 230/115 kV Transformer.

- West of Devers 230 kV Lines: Devers-Vista #1 & #2 and Devers-San Bernardino #1 & #2 230 kV lines: Pre-project overloads under N-1 and N-2 contingency conditions increase without the DPV2 line and its associated upgrades to the West of Devers 230 kV lines. SCE plans to upgrade the transmission facilities as part of the several upgrades that are scheduled for Summer 2006[1] and as part of the DPV2 project. The BEP may be required to participate in a SPS to mitigate the contingency overloads. As part of the Facilities Study, SCE will determine whether or not the short-term upgrades will mitigate the post-project incremental overloads on the West of Devers 230 kV lines, thereby eliminating the need to include BEP generation curtailment for such contingency in the proposed SPS. The long-term West of Devers lines upgrades (i.e. reconductoring the lines) are included as part of the Devers-Palo Verde 2 500 kV project. The CAISO has already approved the short and long-term upgrades for the West of Devers transmission lines.

  Blythe Energy agrees to the short-term use of a SPS to curtail BEP generation until the permanent upgrades of the 230 kV lines West of Devers are completed as part of the DPV2. If necessary the petitioner is willing to delay operation of its modification project to coincide with the completion of the permanent upgrades in 2009. This may affect the timeline of the project (Blythe 2006a).

- Vista-San Bernardino #2 230 kV Line: The new overload under n-1 contingency conditions can be mitigated with a SPS that reduces BEP generation under the N-1 outage of the Etiwanda-San Bernardino #1 230 kV line. The SPS has preliminary CAISO approval and Blythe Energy has agreed with the mitigation.
- Devers-Mirage 230 kV Line: The new overload under normal conditions can be mitigated through the use of inter-zonal congestion management, SPS or reconductoring of the line. The CAISO prefers the reconductoring option but has

[1] SCE plans to upgrade the transmission facilities as part of the Southwest Transmission Expansion Plan Short-term upgrades that should be completed by Summer 2006 (CAISO 2006a, Page 7).

agreed to the congestion management and the SPS options. The inter-zonal congestion management that has been proposed to mitigate overloading concerns on the Julian Hinds-Mirage 230 kV may be used to mitigate base case overloads on this line. The SPS proposal to curtail BEP generation in order to eliminate overloads on the Julian Hinds-Mirage 230 kV line would also work to mitigate overloads on the Devers-Mirage 230 kV line. Blythe Energy supports the inter-zonal congestion management and SPS mitigation measures. The SPS or congestion management mitigation alternatives are the reasonably foreseeable mitigation measures for this overload.

- Julian Hinds-Eagle Mountain 230 kV line: This MWD transmission line overloads under contingency conditions and could be mitigated, assuming the MWD approves, by:
  - Reconductoring to achieve a contingency rating of 1450 Amps or greater.
  - Developing a SPS to curtail BEP generation for N-1 outage of the Julian Hinds-Mirage 230 kV line.
  - Adjusting the angle of the Buck Blvd. PST to eliminate the overload.

  Blythe Energy has agreed to the PST angle adjustment and the SPS mitigation alternatives and the SPS mitigation has been approved by the MWD.
- Camino-Iron Mountain 230 kV line: This MWD transmission line overloads under contingency conditions and could be mitigated, assuming the MWD approves, by:
  - Reconductoring the line to achieve a higher rating.
  - Developing a SPS to curtail BEP generation for N-1 outage of the Julian Hinds-Mirage 230 kV line.
  - Adjusting the angle of the Buck Blvd. PST to eliminate overload on the line.

  Blythe Energy has agreed to the PST angle adjustment and the SPS mitigation alternatives and the SPS alternative has been approved by the MWD.
- Short Circuit Study Results: The SIS indicates that the three phase short circuit fault currents increase by 0.1 kA to 1.8 kA at eight substation buses of the SCE and MWD systems and some of the breaker fault ratings could be exceeded. The single phase to ground short circuit fault currents also increase in seven of the SCE and MWD substation buses (Blythe 2004a). Some of the breaker fault ratings were not provided in Table 7 of the report and without a complete list of fault ratings staff is unable to determine whether or not the ratings will be exceeded and the breakers replaced (Table 7 and Section C. of the SCE report). A breaker replacement program has not been provided in the SIS reports, but will be provided in the Facility Study report. Breaker replacement rarely requires modifications outside the fence line of existing substations and thus would not require CEQA analysis.
- Transient Stability and Post-Transient Voltage studies: indicate that there are no transient or post-transient concerns for the Buck Blvd.-Julian Hinds 230 kV modification (Blythe 2004a).

(2) Buck Blvd – Midpoint substation Components and (3) the combined Buck Blvd- Midpoint substation/Buck Blvd.- Julian Hinds Components System Impact Study Results and Mitigation Measures

SCE completed several studies of the Buck Blvd.- Midpoint BEPTL modification option with various assumptions about queue generation and transmission projects planned for facilities affected by the BEPTL modifications. The most recent study (dated November 14, 2005), and staff believes most relevant study, analyzed the BEPTL modifications with and without the DPV2 project and associated system upgrades with four options for directing flow on the DPV1 line:

i) DPV1 Natural Flow option,

ii) DPV1 Series Compensation Adjustment option,

iii) Devers –Midpoint 500 kV PST option,

iv) Midpoint 500/230/161 kV PST with zero angle option.

The CAISO prefers, and Blythe Energy has chosen to pursue, the series compensation adjustment option, delivering 520 MW of BEP generation to the Midpoint substation and increasing the series compensation on the DPV1 line from 46.6 percent to 66 percent in order to increase flow on the Midpoint – Devers 500 kV line by 520 MW. The combination of the Buck Blvd – Midpoint and the Buck Blvd. – Julian Hinds modifications was studied by analyzing the impact of 439 MW of BEP generation delivered over the Buck Blvd.- Julian Hinds 230 kV line and 81 MW delivered to the Midpoint – Devers line. The study also included an analysis of delivering 420 MW of BEP generation delivered to the Midpoint substation with series compensation adjustment option on the DPV1 & DPV2 lines and the remaining 100 MW delivered to the Blythe-Eagle Mountain 230 kV– Devers line.

Increasing the series compensation at both ends of the DPV1 line from the existing 46.6 percent to proposed 66 percent will require upgrades of the existing series capacitors for normal and emergency ratings, a sub-synchronous resonance study and additional VAR support in SCE's Devers system. If sub-synchronous resonance concerns are identified, installation of thyristor-controlled series capacitors would be required for mitigation. Blythe Energy and the CAISO agree to this mitigation. Staff believes that the Facility Study will address the above issues and develop adequate mitigation measures. Any facility modifications identified would occur within the fence line of existing substations.

The SISs identified that the loading on the proposed Midpoint 500/230/161 kV PST will exceed its proposed rating of 625 MVA when the Palo Verde-Midpoint 500 kV line is out of service. If Blythe Energy wishes to use the proposed Midpoint PST rating of 625 MVA, SCE recommends that the PST will need an automatic operation control via a feed back loop. If Blythe Energy is unwilling to use the automatic operation, manual operation of the PST will involve using a larger capacity PST and increasing the thermal rating for the 7-mile Buck Blvd-Midpoint 230 kV line project planned with 2-1033 ACSR conductors energized at 161 kV.

In addition the dual voltage PST proposed for the Midpoint substation may not be available. Instead a 500/230/161 kV step down transformer and a 230/230 kV PST or a 161/161 kV PST of adequate capacities would be required at the Midpoint substation. Staff expects that the Facilities study will address this issue, and the resolution will not cause any substantive changes to staff's conclusions.

The project could affect the ratings of both the East of River and West of River (i.e. Colorado River) transmission paths. The project must go through the WECC/ WATS Path Rating Study process which would determine the Path rating of the project line and any adverse impacts on the East of River and West of River path ratings or other non-SCE systems due to changes in the DPV1 line. Blythe Energy has agreed to initiate this study process. Once started, studies could take between twelve and eighteen months to finish. The CAISO has determined that satisfactory completion of the WECC/WATS Path rating study is a requirement before permitting commercial operation of the transmission projects.

The project would create a new inter-tie or link between the CAISO and Western control areas that can cause operational and market issues. The CAISO estimates that it will take from six to twelve months to resolve potential operational and market issues.

Results of the SCE SIS:
The study results are shown in Tables SCE1R, SCE2R, SCE7R, SCE8R, SCE 13R,SCE14R, SCE19R and SCE20R of the study report (Blythe 2005e). The SCE SIS identified the following reliability criteria violations and mitigation measures (Blythe 2005e):

- Etiwanda –San Bernardino 230 kV line and the San Bernardino – Vista 230 kV line: The SIS identifies these overloads as pre-project overloads that would occur without the BEPTL modifications. SCE has proposed to reconductor these lines as part of its transmission expansion plan, thus the reconductoring is not the result of the BEPTL modifications. Post-project incremental overloads of these lines under N-1 and N-2 contingency conditions can be mitigated by installing a SPS that would trip one unit, 170 MW, of BEP generation. The CAISO and Blythe Energy concur with these mitigation measures.
- Devers- Valley 500 kV line: This overload occurs under normal conditions and as well as under N-1 and N-2 contingencies. Replacing the 3000 Amps wave trap and Gas-insulated (GIS) line riser with a wave trap and riser with a 4000 Amps rating can mitigate this overload. Blythe Energy has agreed with this mitigation that would occur within the fence line of the Devers and Valley existing substations.
- West of Devers 230 kV lines, Devers-Vista #1 & #2 230 kV lines and Devers- San Bernardino #1 & #2 230 kV lines: As part of the proposed DPV2 line project, SCE has a long-term upgrade plan for reconductoring the West of Devers 230 kV lines with 2-1033 ACSR conductors, which will mitigate the incremental overloads for N-1 and N-2 contingencies for addition of the proposed Buck Blvd.- DPV1 tie project. Blythe Energy has agreed to implement a SPS until the West of Devers 230 kV lines are upgraded by SCE or if necessary delay energization of the Buck Blvd. –Midpoint modifications until the upgrades are complete. The West of Devers long-term upgrades are currently scheduled for completion in 2009.

- Julian Hinds-Mirage 230 kV line: With the study scenario (ii) with 439 MW of BEP generation delivered to the proposed Buck Blvd.-Julian Hinds 230 kV line and 81 MW delivered to the Midpoint-Devers 500 kV line, the Julian Hinds to Mirage 230 kV line would be overloaded under the N-1 contingency of the Julian Hinds-Eagle Mountain 230 kV line. The overload could be mitigated by reconductoring the line with 2-1033 ACSR conductors or installing a SPS to trip the entire 520 MW of BEP generation. The CAISO agreed with these mitigation measures, and Blythe Energy has agreed to the SPS mitigation alternative.
- Short Circuit Study Results: The results of the three-phase to ground short circuit study conducted with Series Compensation Adjustment scenario and the Devers-Midpoint 500 kV PST scenario for pre and post-project cases are shown in the Tables 12 & 13 respectively of the SCE Technical Assessment Report and System Impact Study (G & B 2005e, SCE SIS study report, pages 69-70). The study indicates the new project causes the three-phase short circuit fault currents to increase by 0.1 kA to 8.2 kA at nineteen substations (four 500 kV, thirteen 230 kV and two 161 kV) in the SCE and MWD systems and some of the breaker fault ratings could be exceeded. A single-phase to ground short circuit study was not performed and the breaker fault duty ratings have not been provided in the Tables to evaluate any short circuit duties violations. A breaker replacement program has not been provided in the SIS reports, but will be provided in the Facility Study report. Breaker replacement rarely requires modifications outside the fence line of existing substations and will not likely require CEQA review.
- Transient Stability Results: The June 23, 2005 SIS report shows that that for 2007 and 2008 autumn conditions with the Buck-Julian Hinds line open and without wind generation in the San Gorgonio Pass region, the proposed Midpoint interconnection project causes no transient stability criteria violations for most of the selected single and double contingencies. However, for loss of the Lugo-Mira Loma #1 & #2 500 kV lines, a violation of the transient stability reliability criteria is identified under all transmission options. Also for the outage of Hassayampa-North Gila 500 kV line (Southwest Power Line), the transient stability reliability criteria violation is identified for both the Devers-Midpoint 500 kV PST and Midpoint 500/230/161 kV PST with zero angle scenarios. Mitigation of these reliability criteria violations was not addressed in the study report (Blythe 2004a, Appendix G). The study results indicate that potential WECC transient stability reliability criteria violations exist in non-SCE systems for both pre- and post-project scenarios and further analysis in this respect will be required to identify the impacts and the need for mitigation (G & B 2005e). Transient voltage deviations are usually mitigated by installing voltage support devices such as shunt capacitors or Static VAR Compensators (SVC) within the fence line of existing facilities.
- Post-Transient Voltage Study Results: The June 23, 2005 SIS report shows that for the post-project 2007 autumn condition with Buck Blvd.-Julian Hinds line open, a post-transient voltage deviation of 8.2 percent (greater than seven percent) is identified at the Eagle Mountain 161 kV bus for the Midpoint 500/230/161 PST with the zero angle option during the Devers-Midpoint 500 kV line contingency. The study indicates that installation of 15 MVAR shunt capacitor at the Eagle Mountain 161 kV bus would mitigate the violation.

- For both the pre and post-project 2008 autumn conditions with Buck Blvd.-Julian Hinds line open, a post-transient voltage deviation of 7.1 to 8 percent (greater than 7 percent) was identified at the Gila, Walnut Mohawk and Dome Tap 161 kV buses for the Midpoint 500/230/161 PST with zero angle option due to outage of the Hassayampa-North Gila 500 kV line. The study indicates further analysis is needed to determine the mitigation for these voltage drops in the Arizona Public Service system. Post-transient voltage deviations are usually mitigated by installing voltage support devices such as shunt capacitors within the fence line of existing facilities and do not require CEQA review.

DOWNSTREAM FACILITIES

The interconnection of the BEPTL modifications requires only one additional transmission modification in addition to the facilities identified by Blythe Energy in the petition for post-certification amendment. The interconnection of the proposed project requires six interset poles on the Julian Hinds- Mirage 230 kV line. Other system impacts of the proposed modifications can be mitigated with operating procedures like SPS, inter-zonal congestion management or the installation and upgrade of equipment within the fence line of existing facilities.

COMPLIANCE WITH LORS

The applicant has indicated that construction and operation of the transmission facilities would comply with applicable LORS. The Western SISs provide sufficient evidence that the BEPTL modifications will comply with applicable LORS on the Western system. The SCE studies and CAISO preliminary approval letters indicate the need for further study to insure compliance with CAISO Reliability Criteria (which incorporate WECC and NERC standards). However, staff recognizes that the CAISO is the agency responsible for insuring compliance with reliability LORS. Therefore, staff is confident that the proposed modifications that receive interconnection approval from the CAISO will comply with CAISO reliability criteria. The BEPTL modifications would, therefore, conform to reliability LORS and engineering LORS (GO 95 etc.) on satisfactory compliance with the new conditions of certification, **TSE-4** through **TSE-11**.

RESPONSE TO PUBLIC AND AGENCY COMMENTS

Comments were received from the applicant on TSE. The comments are addressed in Appendix C of this document. Minor changes to TSE-8, TSE-10 and TSE-11 have been included in the Revised SA/DEA (G&B 2006a).

CONCLUSIONS AND RECOMMENDATIONS

- Option (1), the Buck Blvd. - Julian Hinds 230 kV line, can be reliably connected to the existing transmission network without significant upgrades to existing facilities beyond the six interset poles on the Julian Hinds – Mirage 230 kV line. SPS and congestion management are sufficient mitigation for overloads caused by the project assuming that DPV2 project and the associated West of Devers 230 kV upgrades

are operational and a Transmission Path rating has been established for the new BEPTL line. If DPV2 and the associated West of Devers 230 kV upgrades are delayed, Blythe Energy has agreed to participate in a SPS or to delay the interconnection of their project until these upgrades are operational.

- For the Buck Blvd. – Midpoint substation option (2) and the combination of both modifications (3):
    - The SISs performed by SCE demonstrate that the existing SCE transmission facilities are inadequate to accommodate 520 MW BEP output with the addition of the proposed Buck Blvd.-Midpoint line interconnection project. However, the resolution of post-project overloads on identified transmission facilities will not involve the installation of equipment requiring further CEQA review. Mitigation measures include operational procedures (SPS or RAS), installation or upgrade of reactive power support devices at existing substations, upgrade of the series capacitors on the DPV1 line, upgrade of line equipment, the upgrade/replacement of circuit breakers and the six poles interset on the Julian Hinds – Midway 230 kV line. The CEQA review of the interset poles is contained in this document.
    - The Western SISs demonstrate that there are no identified reliability concerns in Western's Desert Southwest (DSW) regional system due to the addition of the BEPTL modifications option (2) Buck Blvd – Midpoint or option (3) the combination of the Buck Blvd – Julian Hinds and the Buck Blvd – Midpoint. The required system protective measures have been selected.
- The CAISO will determine the reliability impacts of the proposed transmission modifications on the SCE transmission system in accordance with all applicable reliability criteria. The CAISO could issue a final interconnection approval letter(s) to SCE based on the Facilities Study and mitigation plan; however, the project(s) would not be allowed to commence commercial operation until the completion of the WECC/WATS Path Rating approval process and the CAISO operational and market issues study. These studies and the final CAISO approval will ensure the reliability of the grid in accordance with LORS with the proposed modifications. Because of the extensive analysis presented in the five SCE System Impact Studies staff believes that any additional impacts will be mitigated without the need for further CEQA review.
- Staff recommends approval of the BEPTL modifications with the additional Conditions of Certification **TSE-4** through **TSE-11** that would apply only to the new facilities.
- Staff proposed condition of certification **TSE-8** requires that the executed Facility Interconnection Agreement with CAISO and the executed Facility Construction Agreement with Western be submitted at least sixty days before the start of construction. The CAISO interconnection agreement will not be issued without resolution of several issues including, impacts on transmission path ratings and the operational/market issues caused by the new tie between the CAISO and Western control areas. It could take between one and two years to resolve these issues and the resolution could affect the commercial viability of the project by reducing the amount of power that can be sent from BEP directly to the CAISO grid. Staff is concerned that unless these issues are resolved before the start of construction,

construction could be started but not completed and would then have physical impacts to California without any of the benefits of the new transmission facility. Requiring the submittal of the interconnection agreement and the final interconnection approval letter from the CAISO and the submittal of facility construction agreement from Western, including the final transmission studies before the start of construction will allow staff to have a complete record for this project.

ADDITIONAL TRANSMISSION SYSTEM ENGINEERING CONDITIONS OF CERTIFICATION FOR THE BUCK BLVD.-JULIAN HINDS 230 KV LINE AND THE BUCK BLVD.-DPV1 LINE TRANSMISSION MODIFICATIONS

TSE-4 The project owner shall furnish to the CPM and to the CBO a schedule of transmission facility design submittals, a Master Drawing List, a Master Specifications List, and a Major Equipment and Structure List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Verification: At least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major equipment in **Table 1: Major Equipment List** below). Additions and deletions shall be made to the table only with CPM and CBO approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Equipment List
Breakers
Step-up/Step-down/Phase Shifting Transformers
Switchyard
Busses
Surge Arrestors
Disconnects & Wave-traps
Take off facilities
Electrical Control Building
Switchyard Control Building
Transmission Line Pole/Tower, Insulators & Conductors
Grounding System

TSE-5 Prior to the start of construction the project owner shall assign a registered electrical engineer and at least one of each of the following to the project: A) a

civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of Substation/Transmission Line structures and equipment supports; and D) a mechanical engineer. (Business and Professions Code Sections 6704 et seq., require state registration to practice as a civil engineer or structural engineer in California).

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer. The civil, geotechnical or civil and design engineer assigned in conformance with Facility Design condition **GEN-5**, may be responsible for design and review of the TSE facilities.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all engineers assigned to the project. If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations.

The electrical engineer shall:

1. Be responsible for the electrical design of the Substation, Transmission line, and termination facilities; and

2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction or rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

TSE-6 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend corrective action. (1998 CBC, Chapter 1, Section 108.4, Approval Required; Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval and shall reference this condition of certification.

Verification: The project owner shall submit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days of receipt. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action required to obtain the CBO's approval.

TSE-7 For the substation, transmission lines, and terminations, the project owner shall not begin any increment of construction until plans for that increment have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the Monthly Compliance Report:

a) receipt or delay of major electrical equipment;

b) testing or energizisation of major electrical equipment; and

c) the number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the substation, transmission lines and terminations, including a copy of the signed and stamped statement from the responsible electrical engineer attesting to compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

TSE-8 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The project owner shall submit the required number of copies of the design drawings and calculations to the CPM and CBO as determined by the CBO.

a) The power plant switchyard, substation, transmission lines and terminations shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC), Title 8 of the California Code and Regulations (Title 8), Articles 35,

36 and 37 of the "High Voltage Electric Safety Orders", CAISO standards, National Electric Code (NEC) (Facilities constructed by Public Utilities are exempted from NEC requirements) and related industry standards.

b) Breakers and busses in the substations, where applicable, shall be sized to accommodate full output from the project and to comply with a short-circuit analysis.

c) Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner's standards.

d) Termination facilities shall comply with applicable SCE and Western interconnection standards.

e) Mitigation for downstream impacts shall be limited to the measures selected by Blythe Energy in their ~~letter~~ filing entitled "Interconnection Mitigation Measures, January 26, 2006" referred to in this document as Blythe 2006a.

f) The project owner shall provide to the CPM:

i) The final Detailed Facilities Studies (DFS) from SCE and Western with the final selected mitigation plan for resolving identified reliability criteria violations including a description of facility upgrades, operational mitigation measures, and/or Special Protection System (SPS)/Remedial Action Schemes (RAS) sequencing and timing if applicable.

ii) The final interconnection approval letter~~s~~ from the CAISO. ~~and Western~~.

iii) The WECC/WATS Path rating study report and approval letter.

iv) The Operational and market issues review reports by the CAISO and/or SCE.

v) The executed project owner and CAISO Facility Interconnection Agreement.

vi) The executed project owner and Western Facility Construction ~~interconnection~~ Agreement.

Verification: At least 60 days prior to the start of construction of any transmission facilities~~y~~ (or a lesser number of days mutually agreed to by the project owner and CBO), the project owner shall submit for each facility to be constructed the following to the CPM and CBO for review and approval:

a) Design drawings, specifications and calculations conforming with CPUC General Order 95 or NESC, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC (Facilities constructed by Public Utilities are exempted from NEC requirements), applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and

major switchyard equipment, including a description of the location of the Midpoint substation Option.

b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[2] and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", NEC (Facilities constructed by Public Utilities are exempted from NEC requirements), applicable interconnection standards, and related industry standards.

c) Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements **TSE-8** a) through f) above.

d) The final DFS from SCE and Western, with a mitigation plan including a description of facility upgrades, operational mitigation measures, and/or SPS/RAS sequencing and timing if applicable, shall be provided concurrently to the CPM.

e) The final interconnection approval letter~~s~~ from the CAISO. ~~and Western.~~

f) The WECC/WATS Path rating study report and approval letter.

g) The Operational and market issues review reports by the CAISO and/or SCE.

h) The executed project owner and CAISO Facility Interconnection Agreement.

i) The executed project owner and Western Facility Construction Agreement.

TSE-9 The project owner shall inform the CPM and CBO of any impending changes, which may not conform to the requirements **TSE-8** a) through ~~g)~~ f), and have not, received CPM and CBO approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CBO and the CPM.

Verification: At least 60 days prior to the construction of transmission facilities, the project owner shall inform the CBO and the CPM of any impending changes which may not conform to requirements of **TSE-8** and request approval to implement such changes.

TSE-10 The project owner shall provide the following Notice to the Western Area Power Administration (Western, DSW office) and the California Independent System

[2] Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

Operator (CAISO) prior to connecting/synchronizing the facility with the California Transmission system:

Verification: At least one week prior to connecting/synchronizing the facility with the grid for testing, provide the Western, DSW office and the CAISO a letter stating the proposed date of connection/synchronization; and

1. At least one business day prior to connecting/synchronizing the facility with the grid for testing, provide telephone notification to the Western, DSW office and CAISO Outage Coordination Department.

The project owner shall provide copies of the Western, DSW office and CAISO letters to the CPM when it is sent to the Cal ISO and Western one week prior to initial connection/synchronization with the grid. The project owner shall contact the Western, DSW office and Cal ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the Western, DSW office and Cal ISO shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time.

TSE-11 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8, CCR, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", applicable interconnection standards, NEC (Facilities constructed by Public Utilities are exempted from NEC requirements) and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

Verification: Within 60 days after first connection/synchronization of the project, the project owner shall transmit to the CPM and CBO:

a) "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", and applicable interconnection standards, NEC (Facilities constructed by Public Utilities are exempted from NEC requirements), related industry standards, and these conditions shall be provided concurrently.

b) An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. "As built" drawings of the electrical, mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the "Compliance Monitoring Plan".

c) A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.

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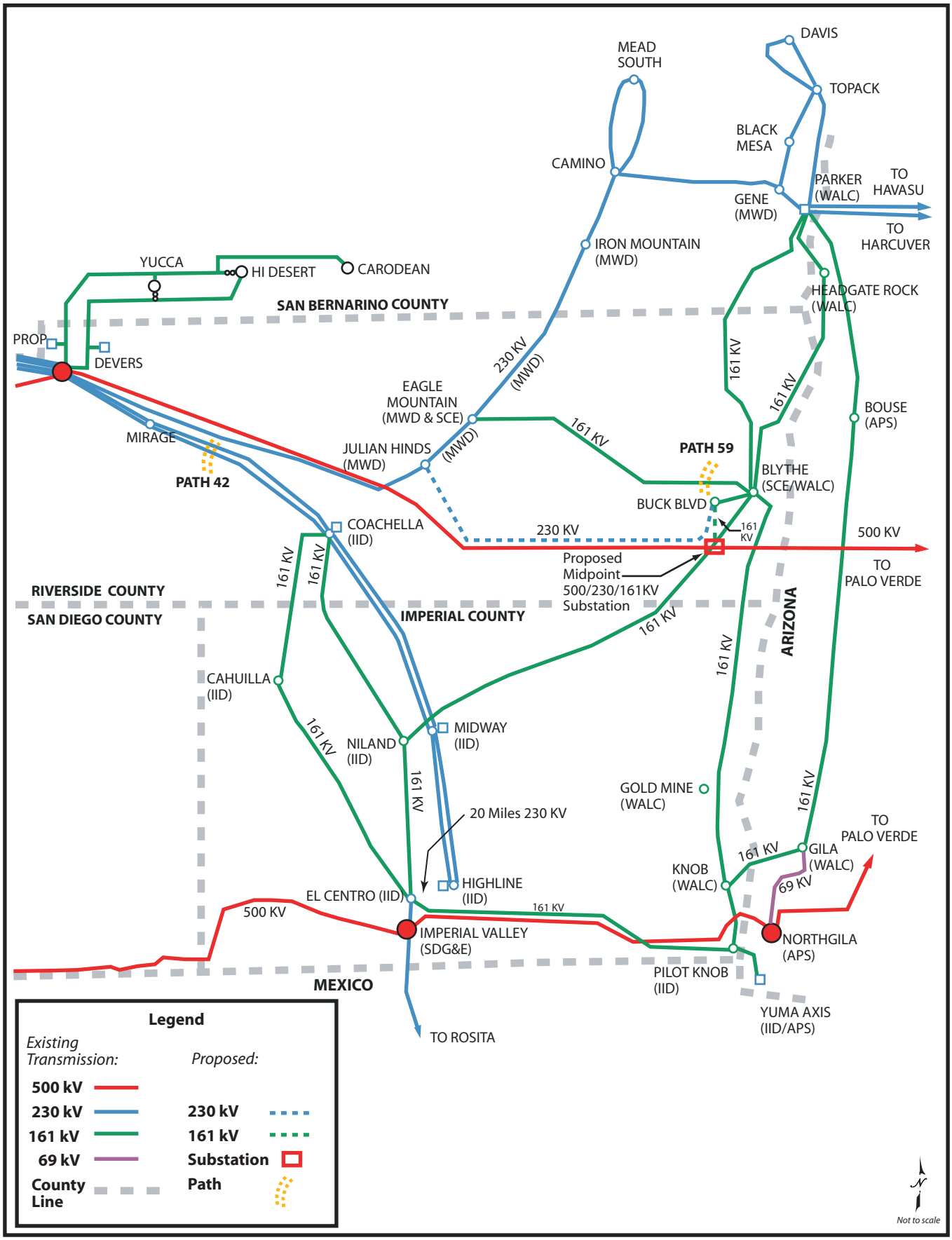
Blythe Energy Transmission Line Project - Existing Transmission System and Proposed BEPTL Projects in Blythe S



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MAY 2006

SOURCE: SCE and CEC Staff

ALTERNATIVES

Testimony of Susan V. Lee

SUMMARY OF CONCLUSIONS

This section evaluates alternatives to the proposed Blythe Energy Project Transmission Line Modification (BEPTL). More than 24 alternatives have been identified in this SA/DEA. Six of these, in addition to the No Project Alternative, were carried forward for full consideration: Eagle Mountain Alternative, Desert Southwest Transmission Project (DSWTP) Alternative, Devers-Palo Verde 500-kV No. 2 (D-PV2) Project Alternative, Buck Boulevard[1] to Julian Hinds with Reconductoring Alternative, the Larger Capacity Line Alternative, and the Wiley Well Substation Alternative. Note that conclusions for several resource areas are based on incomplete baseline information.

Of the six alternatives evaluated, the D-PV2 Alternative has the potential for greatest impacts and would have greater impacts in comparison with the proposed BEPTL in all of the issue areas except waste management, worker safety and fire protection, and facility design, where impacts would be similar. The D-PV2 Alternative also has the potential for significant unavoidable impacts in the issue area of cultural, visual, and recreational resources (CPUC & BLM 2006). However, in Transmission System Engineering (TSE) the D-PV2 Alternative would be slightly preferred. None of the other alternatives have any identified significant impacts.

For the Buck to Julian Hinds with Reconductoring Alternative, the impacts from reconductoring an additional 42 miles of line between Julian Hinds to Mirage/Devers Substations would be partially offset by the elimination of construction of the new proposed Midpoint Substation and 6.7 miles of double-circuit transmission line (a new single-circuit line and towers would still be required). However, the existing poles between Julian Hinds and the Mirage or Devers Substations would have to be replaced by new stronger towers during reconductoring, which would cause impacts largely similar to the construction of a new transmission line in the existing transmission line corridor from Buck Boulevard to the site of the proposed Midpoint Substation. Therefore, overall impacts in nearly all issue areas would be similar to those of the DSWTP and greater than those of the proposed BEPTL. In worker safety and fire protection and facility design, impacts would be similar to those of the BEPTL. The reconductoring alternative is preferred for TSE.

Overall, the Larger Capacity Line Alternative would likely have the least environmental impacts overall. The Larger Capacity Line Alternative would allow consolidation of several proposed transmission lines into a single line, creating similar short-term impacts but greatly reducing cumulative impacts that would result from construction of complete additional transmission lines in or adjacent to the existing Devers-Palo Verde (D-PV1) 500 kV transmission line corridor.

[1] The Buck Boulevard Substation is presently owned by the Western Area Power Administration, but it is located within the fenceline of the Blythe Energy Project (BEP).

Although the No Project Alternative may reduce cumulative impacts from the construction of multiple transmission projects in the same corridor, overall, the No Project Alternative is not superior to the proposed project. The No Project scenario (described in the section titled “Alternatives Evaluated in Detail”) would rely on other future projects to transmit energy from Blythe Power Plant and thus would likely require more time than the BEPTL, which would reduce the ability of Blythe Energy, LLC (Blythe Energy) to transmit increased electricity generated at the Blythe Power Plant directly into California markets, which is the primary objective of the proposed BEPTL.

For purposes of its draft environmental assessment (Draft EA), Western Area Power Administration (Western) reviewed the results of the Energy Commission alternatives analysis and determined that the alternatives examined were largely irrelevant when considered in the context of Western’s purpose and need. These alternatives continue to be an important part of the Energy Commission’s California Environmental Quality Act (CEQA) analysis, and Western supports the investigation of these alternatives as a means to minimize environmental impacts. They are not, however, viable alternatives to Western’s need to grant or deny an interconnection at Buck Boulevard Substation.

INTRODUCTION

This section considers potential alternatives to the construction and operation of the proposed BEPTL. The purpose of this alternatives analysis is to comply with State and Federal environmental laws by providing an analysis of a reasonable range of feasible alternatives that could substantially reduce or avoid any potentially significant adverse impacts of the proposed project (Cal. Code Regs., tit. 14, §15126.6; Cal. Code Regs., tit. 20, §1765). The National Environmental Policy Act (NEPA) Sec. 102(C)(iii) requires that alternatives to the proposed action be evaluated for all “major Federal actions significantly affecting the quality of the human environment.”

This section identifies potentially significant impacts of the proposed project and analyzes different technologies and alternative transmission line terminations, configurations and routes that may reduce or avoid significant impacts. Staff has also analyzed the impacts of those alternatives.

LAWS, ORDINANCES, REGULATION, AND STANDARDS

The Buck Boulevard Substation is under the jurisdiction of both the Energy Commission and Western, an agency of the U.S. Department of Energy. As a result, the project requires both state and Federal approval and is subject to review under the CEQA and the NEPA. In addition, the proposed line would traverse property under the jurisdiction of the U.S. Bureau of Land Management (BLM), another Federal agency, for 66 percent of the route. Therefore, Western and BLM are joint Lead Agencies under NEPA and the Energy Commission is the Lead Agency under CEQA. Western, BLM, and the Energy Commission are undertaking a combined NEPA/CEQA analysis.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The “Guidelines for Implementation of the California Environmental Quality Act,” Title 14, California Code of Regulations, Section 15126.6(a), provides direction by requiring

an evaluation of the comparative merits of "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." In addition, the analysis must address the "no project" alternative (Cal. Code Regs., tit. 14, §15126.6(e)).

The range of alternatives is governed by the "rule of reason" which requires consideration only of those alternatives necessary to permit informed decision-making and public participation. CEQA states that an environmental document does not have to consider an alternative of which the effect cannot be reasonably ascertained and of which the implementation is remote and speculative (Cal. Code Regs., tit. 14, §15125(d)(5)).

NATIONAL ENVIRONMENTAL POLICY ACT

NEPA requires that the decision-makers and the public be fully informed of the impacts associated with the proposed project. The intent is to make good decisions based on understanding environmental consequences, and to take actions to protect, restore, and enhance the environment. Western's and BLM's EA is intended to provide sufficient evidence and analysis for determining whether each agency should prepare a finding of no significant impact (FONSI) or, if potentially significant impacts remain after mitigation, initiate an environmental impact statement (EIS) process.

Alternatives identified must be consistent with the Federal agencies' purpose and need for the action under consideration, and the Applicant's objectives. The Applicant's objectives are described below in the Objectives of the proposed project section. Western's and BLM's purpose and need statements are described in the NEPA Purpose and Need section. This final Staff Assessment/Draft EA has identified and assessed several alternatives to the Applicant's proposed project, although not to the same level of analysis as the proposed project. Western's need is to grant or deny the Applicant's application for interconnection at Buck Boulevard Substation, and its purposes are to provide transmission service and protect system reliability while complying with the Open Access Transmission Policy and General Guidelines for Interconnection. Similarly, BLM's need is to grant or deny the Applicant's request for a right-of way permit to construct the proposed transmission lines and substation on Federal lands. Given Western's and BLM's limited purpose and need, the alternatives analysis in this document is considered adequate for the Draft EA, and full analysis of the alternatives to the Applicant's proposed project is not necessary.

Role of Western Area Power Administration

Western's action on the project is required because Blythe Energy has applied to modify its interconnection with Western's transmission system at the Buck Boulevard Substation. Western must respond to Blythe Energy's request to modify the interconnection with its transmission system, and its action requires NEPA compliance.

Role of U.S. Bureau of Land Management

Blythe Energy has applied to construct approximately 49 miles of the new transmission line on U.S. BLM lands in BLM designated utility corridors. Therefore, Blythe Energy must obtain a Right-of-Way Grant Permit from BLM to implement the project. The

issuance of a Right-of-Way Grant Permit is considered a proposed action and triggers the requirement for BLM to comply with NEPA.

BLM's decision on the project will be based on its consideration of impacts identified in this Staff Assessment/Draft EA, as well as other regulatory requirements. In accordance with Title 43, Code of Federal Regulations §1610.5-3, all actions on public lands must be in conformance with applicable BLM land use plans. The California Desert Conservation Area (CDCA) Plan of 1980, as amended, is the plan applicable to the area covered by the proposed transmission line project.

SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

Blythe Energy is proposing transmission line modifications that would allow more of its electrical output from the Blythe Energy Project (BEP) to be delivered to the southern California ISO-controlled electrical transmission system. Blythe Energy is the owner of the 520-megawatt (MW) natural gas fired electric-generating facility situated within the City of Blythe, California. In 2001, the California Energy Commission approved the Blythe Energy Application for Certification (99-AFC-8) for the BEP under which Blythe Energy constructed and operates the facility. The BEP commenced commercial operation in 2003.

According to Blythe Energy, the proposed transmission line modifications are for the sole purpose of improving the long-term transmission paths available for delivery of the BEP electrical output to the southern California Independent System Operator (CAISO)-controlled electrical transmission system. According to Blythe Energy, the proposed transmission line modifications would also serve to relieve transmission congestion and provide needed energy supplies in southern California in the future. This summary is from information presented in the Petition (BLYTHE 2004a) and additional System Impact Studies provided by Blythe Energy during the license amendment review process.

DESCRIPTION OF PROPOSED MODIFICATIONS

The proposed modifications would be located entirely within Riverside County, between the Buck Boulevard Substation near the City of Blythe and the Julian Hinds Substation near Hayfield. There are two distinct components to the proposed BEP transmission line modifications. Blythe Energy is requesting approval of both components but may opt to construct only one or the other.

Buck Boulevard to Julian Hinds Transmission Line Component:

- Upgrades to Buck Boulevard Substation.
- Installation of approximately 67.4 miles of new 230-kilovolt (kV) single-circuit transmission line between the Buck Boulevard Substation located adjacent to the BEP and the Julian Hinds Substation located approximately sixty miles to the west.
- The proposed transmission line route would generally follow Southern California Edison's (SCE) existing 500-kV D-PV1 transmission line.
- Transmission line structures would be concrete, single-pole structures.

- Upgrades to and expansion of the Julian Hinds Substation.

For most of its length, the Buck Boulevard to Julian Hinds transmission line component would be located within a 95-foot right-of-way (ROW) adjacent to and north of the existing SCE Devers-Palo Verde 500-kV line ROW. The existing D-PV1 ROW on BLM lands is 260 feet in width (wide enough to accommodate SCE plans for a second D-PV transmission line); therefore, an additional ROW of 95 feet in width adjacent to the existing D-PV1 ROW would be required for the BEPTL.

Buck Boulevard to Devers-Palo Verde Transmission Line Component:

- Upgrades to Buck Boulevard Substation.
- Installation of approximately 6.7 miles of a new 230-kV single-circuit transmission line (initially operated at 161-kV) between the Buck Boulevard Substation and SCE's existing D-PV1 500-kV transmission line, mostly adjacent to an existing Imperial Irrigation District (IID) 161-kV transmission line.
- Transmission line structures would be concrete single-pole structures.
- Construction of a new 161-kV to 500-kV substation ("Midpoint Substation") at the point of interconnection with SCE's existing D-PV1 500-kV transmission line.

Blythe Energy is requesting approval of each transmission component path/facility described as part of the project modifications. Blythe Energy believes that it may not be necessary to build both components to deliver the facility's full output to customers in California.

OBJECTIVES OF THE PROPOSED PROJECT

The Blythe Energy Petition presents the following four objectives for the BEPTL:

- Increase the electrical capability of transmission paths between the BEP and additional points of interconnection with the CAISO controlled transmission system;
- Blythe Energy to maintain management control over the schedule to complete the modifications and construction cost through Blythe Energy participation as the sole project sponsor;
- Blythe Energy to obtain long-term transmission access for delivery of power over the proposed transmission modifications to the CAISO transmission system sufficient for Blythe Energy to establish long-term off-take agreements for the full BEP electrical output; and
- Be in commercial operation within two years of approval.

CEQA requires that alternatives meet *most* project objectives; meeting all objectives is not required. In this analysis, the second objective (control by Blythe Energy) is considered desirable but not considered essential, since this objective would limit the scope of alternatives to a very narrow range. In addition, the fourth objective (to be operational in two years) is considered to be desirable, but not essential for consideration of alternatives or from the perspective of meeting state interests.

PURPOSE AND NEED FOR THE PROPOSED PROJECT

The purpose of the BEPTL is to increase the electrical capability of transmission paths between the BEP and additional points of interconnection with the CAISO controlled transmission system, and to allow Blythe Energy to establish increased sales agreements to southern California for the electrical output of the BEP. Blythe Energy states that by providing this additional transmission capacity, the BEPTL will better serve California's growing need for electricity in its more densely populated areas. This conclusion cannot be verified with extant System Impact Studies and it will depend on the power contracts that Blythe Energy arranges with buyers.

NEED FOR WESTERN ACTION

Blythe Energy has applied to interconnect with Western's transmission system at the Buck Boulevard Substation. Western must respond to Blythe Energy's request for an interconnection with the Federal transmission system.

PURPOSES FOR WESTERN ACTION

In responding to the Need for Agency Action, Western must achieve the following purposes.

1. **Providing Transmission Service per Open Access Transmission Policy**

   Federal Energy Regulatory Commission (FERC) Order Numbers 888, 888-A , 888-B, and 888-C require all public utilities owning or controlling interstate transmission facilities to offer non-discriminatory open access transmission services. That is, a utility must offer to provide third parties, to the maximum extent possible, with transmission service that the utility could provide itself on its system. FERC was addressing the need to encourage lower electricity rates by facilitating the development of competitive wholesale electric power markets through the prevention of unduly discriminatory practices in the provision of transmission services (FERC 1996).

   Although Western was not specifically subject to the requirements of the FERC Final Order Nos. 888, 888-A, 888-B, and 888-C, the Department of Energy (DOE) issued a Power Marketing Administration Open Access Transmission Policy that does apply to Western. That policy supports the intent of the FERC's Notice of Proposed Rulemaking for Open Access Transmission. To comply with FERC Orders 888 and 888-A, Western published its Notice of Final Open Access Transmission Service Tariff (Tariff) in the *Federal Register* on January 6, 1998, and filed an amendment to the Tariff with FERC on January 25, 2005 (see http://www.wapa.gov/transmission/oatt.htm). Congress enacted the Energy Policy Act of 2005, which in part requires Western to provide transmission service at rates comparable to those it charges itself, and under terms and conditions comparable to those it imposes on its own transmission activities. Under the tariff, Western offers transmission service for the use of available transmission capacity in excess of the capacity Western requires for the delivery of long-term firm capacity and energy to current contractual electric service customers of the Federal government. Under the Tariff, Western will provide firm and non-firm point-to-point transmission service and

network integration transmission service to the extent that Western has available transmission capability.

2. **Addressing an Interconnection Application per Western's General Guidelines for Interconnection**

   In addition to the Tariff, Western's General Guidelines for Interconnection provide a process for addressing applications for interconnection. The process dictates that Western respond to an application as presented by an applicant. Section 211 of the Federal Power Act requires transmission services be provided.

3. **Protecting Transmission System Reliability and Service to Existing Customers**

   Western must ensure that existing reliability and service is not degraded. Western's General Guidelines for Interconnection involve transmission and system studies to ensure that system reliability and service to existing customers would not be adversely affected if the interconnection was granted.

4. **Consideration of the Applicant's Objectives**

   Since the statement of purpose and need affects the extent to which alternatives are considered reasonable, it is important to understand both Western's purpose and need and that of the Applicant.

NEED FOR BLM INVOLVEMENT

Portions of these proposed transmission lines would be constructed on BLM administered public lands. The project proponent would have to secure a right-of-way grant from the BLM prior to constructing these facilities on BLM lands. This grant would allow the grant holder to construct, use, and maintain an electrical transmission facility on BLM lands under terms and conditions specified in the grant. The BLM decision in this process would be to either approve issuance of the grant on the proposed or other alternative alignment considered in the SA/DEA or deny issuance of any right-of-way grant for the entire project.

PURPOSES OF BLM DECISION PROCESS

BLM's decision is based on a detailed analysis that includes consultation and coordination with other governmental entities and interested parties and a determination on whether the proposed project is in the public interest, is consistent with BLM's land use plan, and would not result in unnecessary or undue degradation of public lands. BLM's decision will take into account:

- Potential environmental effects of the proposed transmission line modifications;
- Potential mitigation measures for the transmission line modifications; and
- Interconnection proposal consistent with Western's, SCE's and CAISO's purposes, including the Applicant's objectives.

BLM AND WESTERN'S FINAL DETERMINATIONS

For purposes of the NEPA process, Western and BLM will each determine the significance of environmental impacts in separate determinations issued after the Final EA. If the agencies determine there are no significant impacts, they will issue separate FONSIs. Publishing a FONSI would complete the assessment portion of the Federal environmental process. If the agencies determine that there are remaining potentially significant impacts, a Notice of Intent to Prepare an Environmental Impact Statement would be published in the *Federal Register* and copies distributed to the project mailing list.

Agency conclusions about significance may vary from the conclusions reached by Energy Commission Staff and the Energy Commission. The Federal agencies will consider the SA/DEA findings and Energy Commission determinations, but may apply different weightings to the Commission Staff's significance criteria or may consider different criteria. Any differences will be presented in the Western and BLM Final EA.

POTENTIAL SIGNIFICANT IMPACTS OF THE PROPOSED PROJECT

The environmental and engineering issues with the greatest potential for significant environmental effects of the proposed project are the following:

- Biological resources: the transmission line route passes through critical habitat for the desert tortoise, as identified by the U.S. Fish and Wildlife Service (USFWS).
- Cultural resources: there are archeological sites along the route with potential to encounter both prehistoric and historic period sites during construction.
- Land use impacts may result from inconsistency of the proposed project with established laws and policies.
- Inserting BEP power into the transmission system may cause violations of system reliability criteria and requires mitigation that cannot be determined with the current System Impact Studies.

Therefore, the alternatives analysis has focused on identifying and evaluating alternatives with the potential to reduce or avoid impacts on all resources, especially biological, cultural, and land use. Issues related to transmission system engineering (system reliability, use of a designated Utility Planning Corridor, and need) may affect all alternatives or may be different for different transmission routes, terminations, and configurations.

IDENTIFICATION AND SCREENING OF ALTERNATIVES

More than 23 alternatives have been identified in this SA/DEA. Blythe Energy presented two of these as part of its alternatives analysis (I-10 Alternative and Eagle Mountain Alternative; BLYTHE 2004a) and two sub-alignments. Staff identified six additional potential transmission alternatives and routes: the North of 1-10 Sub-Alignment, D-PV1/D-PV2 Alternative, Eliminate Midpoint Substation Alternative, Buck to Mirage/Devers Alternative, and Buck to Julian Hinds with Reconductoring Alternative.

Staff also evaluated the Desert Southwest Transmission Project (DSWTP) and the D-PV2 projects as project alternatives.

To prepare this alternatives analysis, staff used the following methodology:

1. Provide an overview of the project, identify the basic objectives and purpose and need of the project, and describe its potentially significant adverse impacts.

2. Identify and evaluate alternative transmission routes, terminations and capacity.

3. Identify and evaluate technology alternatives to the project such as increased energy efficiency (or demand-side management) and the use of alternative technologies (e.g., wind, solar, or geothermal energy).

4. Evaluate the impacts of not constructing the project, known as the “no project” alternative under CEQA or the “no action” alternative under NEPA.

Based on the above methodology, the following criteria were used to screen and analyze potential alternatives. Each alternative was evaluated for its ability to:

1. Avoid or substantially lessen one or more of the potential significant effects of the project as described above;

2. Meet most project objectives.

3. Not create unmitigable significant impacts of its own.

4. Be sufficiently far from moderate or high-density residential areas or from sensitive receptors (such as schools and hospitals) or from recreation areas so as to reduce or avoid temporary and permanent impacts of the project.

Staff used a two-stage process to select alternatives for analysis: first a range of alternatives was identified, and then these alternatives were screened to select those that qualified for detailed evaluation. Staff considered alternatives to the project that were identified by several sources, including Blythe Energy, previous environmental documents, and Energy Commission staff.

For purposes of its Draft EA, Western reviewed the results of the Energy Commission alternatives analysis and determined that the alternatives examined were largely irrelevant when considered in the context of Western’s purpose and need. These alternatives continue to be an important part of the Energy Commission’s CEQA analysis, and Western supports the investigation of these alternatives as a means to minimize environmental impacts. They are not, however, viable alternatives to Western’s need to grant or deny an interconnection at Buck Boulevard Substation.

The following sections first describe alternatives suggested by Blythe Energy, followed by alternatives identified by staff. The first section presents the detailed analysis of alternatives that have been retained for complete analysis, including five transmission alternatives, one substation location alternative, and the No Project Alternative. The analysis also considers construction of the proposed project as a double-circuit 230-kV

transmission line (rather than the single-circuit as proposed), and the construction of a 500-kV line that would initially be operated at 230-kV.

Alternatives that were eliminated from detailed consideration are described in a separate section below that presents an explanation of why these alternatives are not analyzed. Alternatives that were eliminated from detailed consideration are:

- Several transmission and substation alternatives
- Other transmission and technology alternatives (DC line, underground construction)
- Renewable resources (solar, wind, biomass, tidal, geothermal)
- Demand-side management.

ALTERNATIVES Table 1 lists all alternatives identified in this analysis, and states whether each is retained for detailed evaluation.

ALTERNATIVES Table 1
Alternatives Retained or Eliminated

Alternative	Retain?	If Not Retained, Why Not? (Detail Provided under "Alternatives Eliminated from Full Consideration")
Buck Boulevard to Julian Hinds Transmission Line Route Alternatives		
Interstate 10 (I-10)Alternative	No	• No environmental benefit compared to proposed and greater visual and cultural resources impacts.
Eagle Mountain Alternative	Yes	• Considered as Eagle Mountain Alternative in this analysis
Sub-Alignments Along Buck Boulevard to Julian Hinds Route		
North of I-10 Sub-Alignment	No	• Visual impacts from new corridor close to I-10.
Alligator Rock Sub-Alignment	No	• Crosses a central portion of Alligator Rock Area of Critical Environmental Concern (ACEC) (7,726 acre area of archaeological significance) • Crosses steeper rocky terrain, which would include need for blasting in some locations • Since farther from I-10 may be in an area with greater potential for desert tortoise impacts
East of Julian Hinds Sub-Alignment	No	• Crosses through sensitive cultural resources (Hayfield Rock Art District) • The I-10 crossing is more visible because there is no nearby overpass/bridge • Parallels southern boundary of Joshua Tree National Park and may be within viewshed of recreational viewers
Mesa Verde Sub-Alignment	No	• A new transmission corridor would be created parallel to the I-10. • New access roads (about 5.5 miles) would be required for transmission line construction. • Located in habitat of Mojave fringed-toed lizard (special status species) and within habitat for desert tortoise.

Alternative	Retain?	If Not Retained, Why Not? (Detail Provided under "Alternatives Eliminated from Full Consideration")
Substation Alternatives		
Wiley Well Substation Alternative	Yes	• Considered as Wiley Well Substation Alternative in this assessment
Mesa Verde Substation Alternative	No	• Longer access road improvements due to distance from paved roads • Greater visual resource impacts due to proximity to I-10.
Project Alternatives		
DSWTP Alternative	Yes	• Considered as Desert Southwest Transmission Project (DSWTP) Alternative in this assessment
D-PV2 Alternative	Yes	• Considered as Devers-Palo Verde 500-kV No. 2 Project (D-PV2) Alternative in this assessment
Other Transmission Alternatives		
Access to CAISO via Mead Substation	No	• Much longer construction extent and duration and not feasible due to much greater cost and time to permit, plus interstate construction.
Eliminate Midpoint Substation Alternative	No	• Greater environmental and land use impacts from creation of a 500-kV corridor with either a 500-kV double-circuit transmission line (DCTL) or two 500-kV single-circuit transmission lines (SCTLs) between the location where Midpoint Substation would be eliminated and Buck Blvd (or Hobsonway) Substation, which is the most developed portion of the route
Buck to Mirage/Devers Alternative	Yes	• Considered as an alternative variation under the Desert Southwest Transmission Project Alternative in this assessment
Buck to Julian Hinds with Reconductoring Alternative	Yes	• Considered as Buck to Julian Hinds with Reconductoring Alternative in this assessment
Other Alternatives		
DC Transmission	No	• Less flexibility for interconnections and longer construction time. • Greater impacts associated with DC terminal construction (i.e., converter stations).
Underground Construction	No	• Significantly greater impacts to soils/erosion, cultural resources, biological resources from trenching and longer construction time and associated impacts. • Longer repair times and prohibitively more costly.
Install Larger Capacity Line	Yes	• Considered as Larger Capacity Line Alternative in this assessment.
Generation Alternatives	No	• Inconsistent with project objectives because siting generation near Buck Blvd. or in other areas of California would not improve BEP's ability to transmit electricity generated to California markets.

Alternative	Retain?	If Not Retained, Why Not? (Detail Provided under "Alternatives Eliminated from Full Consideration")
Demand Side Management	No	• Already factored into electrical system planning. Inconsistent with project objectives.
Integrated Resource Alternative	No	• Feasibility and reliability concerns. Inconsistent with project objectives.
No Action Alternative	Yes	• Considered as No Project/No Action Alternative in this assessment

Alternatives Identified by Blythe Energy, LLC

Blythe Energy presented a range of potential alternatives to the proposed BEPTL. In the alternatives selection process, consideration was given to issues identified in consultation with various agencies, review of other existing and proposed projects in the area, and issues identified during certification and subsequent modifications to the BEP (99-AFC-8). The alternatives screening process included an assessment of consistency with Blythe Energy's objectives, the project's purpose and need, and public policy objectives; technical and regulatory feasibility; and potential to provide a clear environmental advantage over the proposed modifications.

The primary potential environmental issues and concerns that were identified by Blythe Energy during the project development process were: biological resources, cultural resources, and visual resources. For all other resource areas, the potential effects were considered less than significant without mitigation measures and, therefore, were not important factors in the alternatives screening process.

Blythe Energy also considered interconnection with the proposed DSWTP and with the D-PV2 Project. Both of these alternatives were eliminated from consideration by Blythe Energy because they did not meet the basic project objectives; however, they are retained for full analysis in this assessment because they meet most of the project objectives and have the potential to reduce impacts of the proposed project.

Blythe Energy also considered a transmission line to Mead Substation (southern Nevada), but this alternative was eliminated from consideration due to infeasibility, because the cost and time to permit and construct a 200-mile interstate linear facility was deemed to be prohibitive. Blythe Energy also considered generation alternatives (hydroelectric, energy storage, photovoltaic, wind, and conservation), but these options were eliminated from consideration because they did not meet the objectives of the proposed project.

Two route alignments and two sub-alignments are presented in the Petition as possible alternatives for the Buck Boulevard to Julian Hinds transmission line component, as follows:

- Alignment adjacent to Interstate 10;
- Alignment adjacent to existing SCE 161-kV Eagle Mountain Transmission Line;
- Proposed route sub-alignment number 1 near Alligator Rock; and,

- Proposed route sub-alignment number 2 accessing the Julian Hinds substation from the east.

From these options, only the alignment adjacent to the existing Eagle Mountain transmission line was retained for full analysis in this assessment as the Eagle Mountain Alternative (see "Alternatives Evaluated in Detail"). A discussion of the Interstate 10 Alternative is found in the section "Alternatives Eliminated from Full Consideration." Sub-alignments would only be pursued if potentially significant impacts were identified in other analysis sections (e.g., impacts to cultural or biological resources) along the proposed route segment.

Finally, three alternative substation locations were considered by Blythe Energy for locating the substation for the Buck Boulevard to D-PV1 transmission line component:

- Mesa Verde Alternative Substation location
- Wiley Well Alternative Substation location
- Original Midpoint Substation location.

In addition to the different substation locations, the Mesa Verde and the Wiley Well Substation Alternatives could be used with a different transmission alignment (Mesa Verde Sub-Alignment) and access road. The Wiley Well Substation Alternative was retained for full analysis. The Mesa Verde Substation Alternative and the Mesa Verde Sub-Alignment were both eliminated from full consideration because they would likely have greater impacts than the project as proposed; this rationale is more fully discussed in "Alternatives Eliminated from Consideration".

Cultural resource surveys conducted in 2004 and 2005 at the Original Midpoint Substation Alternative site identified several archaeological sites of potential importance within the footprint or buffer area of the proposed substation. To avoid potential impacts to these resources, a second location approximately 800 feet to the northwest was considered and examined for cultural, biological, and other resources. Based on the site surveys, the new site would appear to reduce the potential for impacts to cultural resources and is the location preferred by Blythe Energy for the substation. The original substation location has been considered as an alternate location for the substation, but was eliminated from full consideration because it would likely have greater impacts, especially to cultural resources than the project as proposed (see also "Alternatives Eliminated from Consideration").

Alternatives Identified by the City of Blythe

In the November scoping hearing, a comment was received from Butch Hull of the City of Blythe expressing concern regarding the proposed transmission line route and its proximity to the Blythe Airport near BEP and Hobsonway. The Applicant subsequently modified its proposed transmission line route in a Supplemental Analysis (BLYTHE 2005c); the revised route is considered as part of the proposed project in this SA/DEA.

Alternatives Identified by Staff

Based on the screening criteria defined above, the following five additional alternatives were identified by staff:

- Buck to Julian Hinds with Reconductoring Alternative
- Larger Capacity Line Alternative
- Eliminate Midpoint Substation Alternative
- Direct Current Transmission Alternative
- Underground Construction Alternative

The Buck to Julian Hinds with Reconductoring Alternative and the Larger Capacity Line Alternative were both selected for further evaluation in this SA/DEA. The other three alternatives are discussed in the section “Alternatives Eliminated from Full Consideration.”

SUMMARY COMPARISON OF ALTERNATIVES

ALTERNATIVES Table 2 presents a summary of the comparative impacts of the five transmission line alternatives and the substation alternative that were retained for full analysis with the proposed project. This table states how the impacts of each alternative in each issue area compare to those of the proposed project.

ALTERNATIVES Table 2
Comparison of Impacts of Alternatives to the Proposed Blythe Transmission Project

	Transmission Line Alternatives: Compared with Buck Boulevard to Julian Hinds Route					Substation Alt: Compared to Midpoint
Issue Area	**Eagle Mountain Alternative**	**DSWTP Alternative**	**D-PV2 Alternative**	**Buck to Julian Hinds with Reconductoring Alternative**	**Install Larger Capacity Line**	**Wiley Well Substation Alternative**
Environmental Assessment						
Air Quality	Similar impacts	Greater impacts due to longer length of construction			Similar impacts	Similar impacts
Biological Resources	Less impacts; less valuable desert tortoise and biological habitat	Greater impacts due to longer route and resulting disturbance			Similar impacts	Slightly greater impacts; provides habitat for Mojave fringe-toed lizard
Cultural Resources	Inadequate data	Greater impacts due to longer route and resulting disturbance [Note: Impacts for D-PV2 may be significant]			Similar impacts	Less impacts; not near know cultural resources
Hazardous Materials	Similar; greater impacts with alternative variation due to disposal of existing towers	Greater impacts due to longer length of construction			Similar impacts	Similar impacts
Land Use	Greater impacts; would require CDCA amendment and recreation impacts	Greater impacts due to longer route and resulting disturbance to nearby sensitive receptors [Note: Impacts to recreational resources for D-PV2 would be significant at Alligator Rock ACEC]			Less impacts; reduction of cumulative impacts of multiple lines	Slightly greater impacts; closer to sensitive receptors
Noise and Vibration	Similar impacts	Greater impacts due to longer route and resulting disturbance to nearby sensitive receptors			Similar impacts	Similar impacts
Socioeconomics	Similar impacts	Similar impacts	Greater impacts; due to EJ concerns and much greater project scope	Similar impacts	Similar impacts	Similar impacts
Soil and Water	Slightly greater impacts	Greater impacts due to longer route and resulting soil disturbance			Similar impacts	Similar impacts

	Transmission Line Alternatives: Compared with Buck Boulevard to Julian Hinds Route					Substation Alt: Compared to Midpoint
Issue Area	**Eagle Mountain Alternative**	**DSWTP Alternative**	**D-PV2 Alternative**	**Buck to Julian Hinds with Reconductoring Alternative**	**Install Larger Capacity Line**	**Wiley Well Substation Alternative**
Traffic and Transportation	Similar impacts	Greater impacts due to longer route and resulting disturbance			Similar impacts	Similar impacts
Transmission Line Safety and Nuisance	Similar impacts	Greater impacts due to longer length of the transmission lines			Slightly greater impacts; higher voltage transmission line	Slightly greater impacts; longer transmission line required
Visual Resources	Greater impacts; proximity to I-10 and Joshua Tree NP	Greater impacts; larger towers and longer route [Note: Potential impacts to visual resources for D-PV2 would be significant]		Slightly greater impacts; longer short-term construction impacts	Less impacts; reduction of cumulative impacts of multiple lines	Greater impacts; closer to sensitive receptors
Waste Management	Similar impacts; greater impacts with alternative variation due to disposal of existing towers	Similar impacts	Similar impacts	Greater impacts; due to disposal of existing towers	Similar impacts	Similar impacts
Worker Safety and Fire Protection	Similar impacts					
Engineering Assessment						
Geology, Mineral Resources, and Paleontology	Similar impacts	Greater impacts due to longer route and resulting ground disturbance			Similar impacts	Similar impacts
Transmission System Engineering	Similar impacts; Greater impacts with the alternative variation due to insufficient capacity	Less impacts; greater transmission capacity		Less impacts; would provide adequate capacity	Less impacts; greater transmission capacity and could form part of D-PV2	Similar impacts

ALTERNATIVES EVALUATED IN DETAIL

This section presents the detailed analysis of alternatives to the BEPTL, to the extent that detailed information is available on the selected alternatives. These alternatives were selected based on CEQA Guidelines and NEPA requirements, using the process described above. Each alternative is described below, followed by analysis of the environmental impacts and engineering constraints of that alternative.

After study of the alternatives suggested by the sources described above, the following six alternatives have been retained for detailed analysis:

- **Eagle Mountain Alternative**. Construction of a new 71-mile transmission line parallel and adjacent to the SCE Blythe-Eagle Mountain 161-kV line and the Eagle Mountain-Julian Hinds 230-kV line for its entire length. An alternative variation is also considered, which would include replacement and upgrades to the existing lines and consolidation onto a single set of towers. The alternative variation would require approximately 4 percent more towers and removal of approximately 400 H-frame structures.
- **Desert Southwest Transmission Project (DSWTP) Alternative.** Construction of a new 118-mile 230-kV or 500-kV line between SCE's Devers Substation and Buck Boulevard Substation or a new Hobsonway Substation in the vicinity of Buck Boulevard, as proposed in an EIS/EIR published by Imperial Irrigation District and BLM in March 2003 (IID & BLM 2003). An alternative variation was also considered, which would be similar to DSWTP, but would be built by Blythe Energy and would terminate at either Devers or Mirage Substation.
- **Devers-Palo Verde 500-kV No. 2 (D-PV2) Project Alternative**. Construction of a new 500-kV line from Harquahala (AZ) to Devers Substation (CA) paralleling SCE's existing D-PV1 ROW, as proposed by SCE[2]. The D-PV2 project also includes upgrades to an additional 50 miles of 230-kV lines west of the Devers Substation to SCE's San Bernardino and Vista Substations. The Buck Boulevard Substation to Midpoint Substation transmission line component of the proposed BEPTL project would still need to be constructed.
- **Buck to Julian Hinds with Reconductoring Alternative**. Construction of a new line between Buck Boulevard Substation and Julian Hinds Substation (as proposed). Reconductor between Julian Hinds Substation and Mirage or Devers Substations. The Buck Boulevard Substation to Midpoint Substation transmission line and substation construction components of the proposed project would be eliminated.
- **Larger Capacity Line Alternative**. Construction of the proposed project, but with double-circuit-capable 230-kV transmission towers and lines (Option A) instead of single-circuit; or construction of the proposed project to accommodate 500-kV, but initially energized at 230-kV (Option B).

[2] Los Angeles Department of Water and Power (LADWP) has petitioned the CPUC to stop work on SCE's Certificate of Public Convenience and Necessity (CPCN) for the D-PV2 Project because LADWP claims to have the legal right to build and operate the line, which would not be a CAISO-controlled line. Resolution of this issue does not affect this analysis because the analysis is based upon the properties of the line itself and not the identity of the line's eventual owner/operator.

- **Wiley Well Substation Alternative.** This alternative substation location would be to the east of Wiley Well Road north of the existing D-PV1 and proposed D-PV2 corridors along the proposed project corridor. This substation alternative could be used with either the proposed transmission line route or with the Mesa Verde Sub-Alignment.

ALTERNATIVES Figure 1 shows the regional location of all of the alternatives that are evaluated. **ALTERNATIVES Figure 2** shows the alternatives in the area between Blythe and Julian Hinds Substation, and **ALTERNATIVES Figures 3 and 4** show the Devers-Palo Verde 500-kV No. 2 Project Alternative, and **ALTERNATIVES Figure 5** illustrates the location of the Wiley Well Substation Alternative.

The majority of the alternatives analysis and discussion is based on information found in the following documents: Blythe Energy's Petition for Post-Certification Amendment (99-AFC-8, BLYTHE 2004a), the Desert Southwest Transmission Project Draft EIS/EIR prepared by the BLM and Imperial Irrigation District (IID) (IID & BLM 2003), which covers a similar geographic area, information provided by Blythe Energy in response to data requests, and thorough site reconnaissance. The level of detail for analysis of specific alternatives varies due to the variety of information sources.

EAGLE MOUNTAIN ALTERNATIVE

ALTERNATIVE DESCRIPTION

The 71-mile Eagle Mountain Alternative would be parallel and adjacent to the SCE Blythe-Eagle Mountain 161-kV transmission line for the 54 miles between the Blythe and Eagle Mountain Substations, and then would follow the Metropolitan Water District (MWD) Eagle Mountain-Julian Hinds 230-kV transmission line for its entire length (17 miles between those two substations). The alternative route is shown in **ALTERNATIVES Figure 2**.

The Eagle Mountain Alternative would leave Buck Boulevard Substation following the proposed transmission line route, crossing Hobsonway and I-10 to the south and traveling along the western edge of existing orchards. There is one residence located approximately 0.25-mile west of the transmission line ROW approximately 0.5-mile west of the existing BEP power plant site.

At the northern boundary of the southernmost orchard property where the proposed route would turn to the west and then to the south, the Eagle Mountain Alternative would continue west, parallel to I-10. It would continue in this westerly direction for four miles until it would cross to the northern side of I-10. The route would continue to parallel I-10 on its northern side for approximately 11 miles to a point just east of the Ford Dry Lake exit where it would cross to the southern side of I-10 by continuing due west while I-10 turns slightly to the northwest.

Once south of I-10, over the course of 7.5 miles the Eagle Mountain Alternative would slowly converge with the proposed project/D-PV1 corridor, roughly paralleling Chuckwalla Road to that point. As Chuckwalla Road turns to the northwest, the Blythe-

Eagle Mountain and proposed project/D-PV1 corridors would run adjacent to each other and Chuckwalla Road for approximately 7.5 miles to the intersection with Corn Springs Road.

At that point the two corridors would diverge and the Eagle Mountain Alternative would cross to the north side of I-10 in a northwestern direction following an existing line and corridor, diverging from I-10 and to the north of Desert Center for approximately 20 miles toward Eagle Mountain Substation. The route would cross Highway 177 (Desert Center-Rice Highway) and R2 (Kaiser Road) to the north of Victory Pass (elevation 1,253 feet) on Eagle Mountain Road and into the Eagle Mountain Substation, which is adjacent to the MWD Eagle Mountain Pumping Plant and near the southeastern boundary of Joshua Tree National Park.

Exiting south out of Eagle Mountain Substation, the Eagle-Mountain Alternative route would slowly curve to the west following the southern boundary of Joshua Tree National Park and the southern edge of the Eagle Mountains for approximately 17 miles into MWD's Julian Hinds Substation adjacent to Julian Hinds Pumping Station off of Hayfield Road. MWD owns the land at the Eagle Mountain and Julian Hinds pumping plants, however, it does not own the land between the Eagle Mountain and Julian Hinds Substations along the Eagle Mountain-Julian Hinds 161-kV transmission ROW. Furthermore, MWD's easement does not allow it to grant additional uses, which would be subject to jurisdiction by BLM (MWD 2005).

The community of Hayfield, located adjacent to the Julian Hinds Substation, has approximately eight homes and various recreational structures. The community was established for the employees who are employed to maintain the water pumping station that provides water to the Los Angeles basin and their families. An existing transmission line is approximately 1,000 feet north of the existing community, and the Eagle-Mountain Alternative transmission line would be placed within a 100-foot wide dedicated ROW adjacent to the existing transmission corridor, closer to the residences.

Rationale for Consideration

The Eagle Mountain Alternative is being considered for the following reasons:

- It would cross approximately 31.7 miles of desert tortoise habitat compared to 52 miles for the proposed route.
- It would avoid the Alligator Rock Area of Critical Environmental Concern (ACEC) (cultural resources) and visual impacts associated with that protected area.
- It would use an existing transmission ROW
- It would avoid use of the major existing east-west D-PV1 corridor for a relatively low-capacity (230-kV single-circuit) transmission line, retaining space in that corridor for a line that would carry more electricity.

Eagle Mountain Alternative Variation

A variation to the Eagle Mountain Alternative would be to replace or upgrade the existing 161-kV line from the Blythe Substation to the Eagle Mountain Substation and from Eagle Mountain to Julian Hinds with a 230-kV line along the same alternative route

described above, a distance of 71 miles, rather than adding a new line adjacent to the existing line. BLM's land use plan does not address upgrades of existing lines located outside of corridors. Therefore, a plan amendment may still be required. However established planning/siting principles suggest that upgrades to existing transmission lines should be considered where feasible. While not in a designated corridor, this modification would meet BLM's objectives of minimizing impacts by consolidating transmission lines within an existing corridor, and also meet general planning/siting principles. Due to tower and line consolidation, this variation would lessen permanent visual resources impacts over the proposed project and the Eagle Mountain Alternative.

Although not a CEQA issue, the Eagle Mountain Alternative would cost approximately 20 percent more to build along the Blythe to Eagle Mountain alignment. The alignment would require approximately 4 percent more new structures, and would require the removal of about 400 existing H-frame structures along the Blythe-Eagle Mountain Alignment (SCE 2005).

ENVIRONMENTAL AND ENGINEERING ASSESSMENT OF THE EAGLE MOUNTAIN ALTERNATIVE

Air Quality

Construction emissions associated with the project would be created by on-site and off-site mobile sources. On-site construction emissions typically consist of exhaust emissions from heavy-duty diesel- and gasoline-powered construction equipment, as well as fugitive particulate matter from soil disturbed during ground disturbing operations (e.g., grading, excavating, etc.).

Off-site exhaust emissions during construction would result from workers commuting to and from the job site, as well as from trucks delivering material and equipment to the staging area(s).

Each local air quality district in California establishes its own significance criteria for environmental review of projects based on the specific conditions within each air basin. Similar to the proposed transmission line, emissions from the Eagle Mountain Alternative would need to be controlled to satisfy the air permitting requirements of the Mojave Desert Air Quality Management District (MDAQMD) and the South Coast Air Quality Management District (SCAQMD).

Air pollution emissions from the Eagle Mountain Alternative would be short-term and would occur during construction only. Construction related emissions that would reduce local ambient air quality would consist of CO, NO_x, SO_2, and PM10 and would be attributed to exhaust from construction equipment; fugitive dust from grading, earth moving, and equipment traveling on paved and unpaved roads; and construction crew vehicle traffic.

Implementation of standard construction mitigation measures to reduce exhaust emissions, such as properly tuning and maintaining heavy duty off road diesel equipment and the utilization of water and chemical dust suppression would reduce these impacts to less than significant levels. Construction and operation of the Eagle Mountain Alternative would be subject to permit requirements and it would require

Energy Commission mitigation, similar to that of the proposed project, to avoid significant air quality impacts. Mitigated construction emissions would be similar to those of the proposed project.

The Eagle Mountain Alternative Variation would have greater impacts than the alternative itself, due to the additional construction required to remove existing towers after the new line was constructed. However, like the proposed project and the alternative itself, impacts would be less than significant after implementation of required mitigation.

Biological Resources

Both the Eagle Mountain Alternative and the proposed project would be constructed adjacent to existing transmission lines and in largely similar desert habitat. The habitat is described in the Biological Resources section of this SA/DEA.

Blythe Energy conducted general biological resources surveys 1,000 feet on either side of the centerline of this alternative. According to Blythe Energy (BLYTHE 2004a), the Eagle Mountain Alternative would cross approximately 31.7 miles of USFWS critical habitat for the desert tortoise, compared to 52 miles for the proposed Buck Boulevard to Julian Hinds route, even though the alternative is four miles longer than the proposed route. In addition, the Eagle Mountain Alternative would avoid the Chuckwalla Valley Dune Thicket Area of Critical Environmental Concern (ACEC), which is a 2,273-acre area managed for wildlife habitat south of I-10 that the proposed project would pass through for 1.2 miles. Overall, the Eagle Mountain Alternative would likely have less impact to desert tortoise habitat and other biological resources than the proposed route.

The alternative variation would require construction in a wider ROW due to the requirement that the existing towers be removed after the new line was installed. Therefore, this variation would have greater impacts to desert tortoise habitat and biological resources than the Eagle Mountain Alternative itself. However, despite its wider ROW requirements and disturbance, the alternative variation would be located in less valuable desert tortoise and biological habitat than the proposed project, which would also have greater impacts than the Eagle Mountain Alternative. Thus, the impacts of the alternative variation may be similar to those of the proposed project.

Cultural Resources

The Eagle Mountain Alternative would be subject to both CEQA and section 106 of the National Historic Preservation Act. Generally speaking, section 106 standards are more stringent than those of CEQA and section 106 requires Native American consultation. Native American involvement in CEQA projects is necessary in order to identify all the cultural resources and to provide additional information regarding significance when cultural resources are evaluated. For section 106, the California Office of Historic Preservation (SHPO) is the primary administrator of the regulation process. That is, as lead governmental agencies in the project, BLM and Western receive concurrence from SHPO regarding their proposed cultural resources management measures in order to achieve compliance with section 106. Under CEQA, the lead state agency, in this case the Energy Commission, determines significance and is responsible for ensuring mitigation.

Within the vicinity of the Eagle Mountain Alternative, there are historic sites attributed to early settlement of the area, which include military camps, mining sites, house locations, and Colorado River Aqueduct construction camps. Much of this region was used as a desert training area during World War II and numerous military camps and training positions have been left behind.

This alignment would avoid the Alligator Rock ACEC that would be crossed by the proposed route. However, this alternative would pass through three areas that are considered to have high sensitivity for cultural resources (see Map VI-1 in Volume 2 Appendix D-1 from BLYTHE 2004a). These three sensitive areas are near the southern portion of McCoy Mountain Complex (along 2 miles of the alternative alignment), south of Ford Dry Lake (along 3 miles of the alternative alignment), and east of Julian-Hinds Substation. These areas have been identified as zones of archaeological sensitivity because they are large and contain numerous sites

A records search and cultural resources survey was completed by Mooney/Hayes Associates, LLC for the Eagle Mountain Alternative route. The surveys at times, consisted of “windshield” review and some small area judgmental surveys with some limited areas receiving intensive survey coverage. To fully assess potential impacts to cultural resources, a pedestrian survey of the entire route would supply the necessary information, but this was not completed for this analysis. In addition, should this route be selected Native American consultation would need to be conducted to identify all the cultural resources including Traditional Cultural Properties (TCPs). Cultural resources work was completed for the Blythe-Eagle Mountain 230-kV Alternative examining a four hundred foot corridor using a variety of methods. Forty-one cultural resources were identified within that corridor, consisting of three trail segments, two temporary encampments and one rock ring feature, two ceramic scatters, four lithic scatters and two cobble quarry workshops, one rock art site and one rock art district, ten historic foundations or features, two historic mining prospects, 12 historic trash deposits, and one prehistoric isolated find (BLYTHE 2004a). Upgrading or replacing an existing line would probably cause less impact to cultural resources than installation of a new line. (BLYTHE 2004a, Appendix D).

The Eagle Mountain Alternative could result in direct effects to prehistoric and historic archaeological sites. Unavoidable direct impacts to these resources could occur as a result of surface or subsurface disturbance and activities during transmission line construction, operation, and/or maintenance. In addition, construction activities could result in the discovery of previously unknown prehistoric and historic resources. Mitigation, such as the preparation of a Treatment Plan for avoiding and mitigating unavoidable direct adverse effects on resources eligible for National Register listing, consultation with Native American groups, and having a cultural resource specialist present during construction, would help to reduce impacts. However, since the area was not assessed for cultural resources at the same level as the proposed alternative route, it is not possible to fully compare the impacts of this alternative to those of the proposed project. However, cultural resources impacts of a transmission line can generally be mitigated to less than significant levels with implementation of comprehensive mitigation measures.

Hazardous Materials

Potential sources of existing hazardous materials within the ROW would be (1) pesticide use from nearby agricultural activities, or (2) historical or illegal disposal of hazardous materials within the project area. However, existing and previous land uses within the area of the Eagle Mountain Alternative do not indicate a high likelihood that hazardous materials would be encountered within the alignments.

The use of hazardous materials for construction, operation, and maintenance of this alternative transmission line could create potential exposure for workers and the public. To mitigate potential impacts, the project would comply with all pertinent LORS that would define procedures for vehicle refueling and servicing, transportation and storage of hazardous materials, and disposal of hazardous wastes. In addition, the use of standard Conditions of Certification (COCs) would ensure that impacts were less than significant.

The project would be expected to generate small amounts of solid waste during construction of transmission towers and substation modifications. Waste disposal is discussed under Waste Management below. Overall, the Eagle Mountain Alternative is expected to create impacts on public health and safety and hazardous materials similar to those of the proposed project.

The Eagle Mountain Alternative variation would have slightly greater potential for impacts from hazardous materials, because it would require removal and disposal of the existing towers, hardware, and conductors, which is discussed under Waste Management. This additional construction and excavation could result in encountering of historic contamination. Compliance with LORS and COCs would ensure that impacts were less than significant.

Land Use

The Eagle Mountain Alternative would be located in open space adjacent to an existing transmission line for its entire route. From the Buck Boulevard Substation to the Eagle Mountain Substation, the alternative route would follow the existing SCE Blythe-Eagle Mountain 161-kV transmission line for the 54 miles between the Blythe and Eagle Mountain Substations, and then would follow the Metropolitan Water District (MWD) Eagle Mountain-Julian Hinds 230-kV transmission line for the remainder of the 71-mile route. There are no residences adjacent to the alternative route. The residences in the community of Hayfield would be slightly farther from this alternative than the proposed route because the Eagle Mountain Alternative would enter Julian Hinds Substation from the east.

Like the proposed project, the construction and presence of the Eagle Mountain transmission line has the potential to reduce the quality of wilderness and recreation experiences. There are nearly 20 recreation areas in the vicinity of the Eagle Mountain Alternative managed either individually or collectively by the following entities: BLM, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Parks and Recreation, California Department of State Parks, the Center for Natural Lands Management, and the Nature Conservancy. Wilderness Areas in the vicinity include: Palen-McCoy Wilderness, Little Chuckwalla

Mountains Wilderness, Orocopia Mountain Wilderness, Mecca Hills Wilderness, Indian Pass Wilderness, Chuckwalla Mountains Wilderness, Palo Verde Mountains Wilderness, and North Algodones Dunes Wilderness.

The Eagle Mountain Alternative would be adjacent to the Joshua Tree National Park for approximately 22 miles and would be visible from several areas in the eastern part of the park. This visual impact would be less than significant, however, because the transmission line would be located within an existing utility corridor and would parallel other transmission lines and utilities.

In addition, construction of the Eagle Mountain Alternative may reduce access and visitation to certain wilderness and recreation areas during construction. However, any construction activity adjacent to these roads would not block or restrict access to recreation areas and would be short-term in nature. As a result, impacts to accessing recreation areas are expected to be less than significant.

Approximately 11 miles of this alternative route would be located outside the established BLM utility corridor (in the area north of Desert Center). In the California Desert Conservation Area (CDCA) Plan, utility corridors were established to confine new transmission lines to established corridors, where possible. Therefore, construction and operation of a new transmission line along this portion of the alternative alignment would require an amendment to the CDCA Plan. Because there is an existing line in the corridor and substantial issues would not likely arise, a plan amendment would not create a significant regulatory feasibility problem for this alternative.

Overall, the Eagle Mountain Alternative would be consistent with applicable land use plans and policies of the Federal, state, and local governments with jurisdiction over the land in the project area. The line would not be within an established BLM utility corridor for its entire length as the proposed project would be, so it would require an amendment to the CDCA Plan. In addition, the alternative route would pass at a similar distance or slightly farther from the same residences affected by the proposed project near BEP and Julian Hinds Substation. Similar to the proposed project during this segment, the alternative line would pass through agricultural lands (undeveloped and abandoned orchard and jojoba) for its first 2.9 miles. Overall, land use impacts of the Eagle Mountain Alternative would be greater than those of the proposed project due to recreation impacts and the required CDCA amendment.

Although short term construction impacts would be longer and thus greater due to the removal of existing towers, overall, the land use impacts of the Eagle Mountain Alternative Variation would be slightly less than those of the alternative itself because the consolidation of lines would meet BLM’s stated need to minimize the duplication or proliferation of multiple similar facilities.

Noise and Vibration

The Eagle Mountain Alternative would be located almost entirely in areas that have no permanent residents, except for the small employee community of Hayfield near Julian Hinds Pumping Station and Substation. However, there is recreational use of BLM lands along the ROW.

There are few activities that would generate substantial sustained noise events. Existing noise in the area of the Eagle Mountain Alternative would include:

- Traffic on major roadways (I-10, R2, SR-177) and secondary/feeder roadways
- Off-highway vehicle (OHV) recreational activities at various locations along the ROW
- Corona noise (humming or crackling) and other sounds associated with transmission line/substation operation.
- Vehicles and equipment used for operation and maintenance of electrical facilities

Noise generated during construction of the project could result in temporary increases in noise levels to sensitive receptors, such as the few residences and recreational users, who are short-term and mobile and may be riding on ORVs, which are loud in and of themselves. However, COCs would require noise reduction near sensitive receptors. With this mitigation, and because construction activities would be temporary and of short duration, noise impacts from the Eagle Mountain Alternative are expected to be less than significant.

Blasting is not anticipated, though it may be necessary at occasional locations. If blasting did occur, it would be of short duration and would be considered as having a less than significant impact on sensitive receptors. Even if blasting were required near the community of Hayfield, mitigation would include restrictions on use of blasting only as a last resort, and during restricted times, which would reduce impacts to less than significant and would be similar to the proposed project.

Operational noise from the transmission facilities would be below regulatory limits, and noise from maintenance activities would be low and of short duration. Operational noise impacts would be similar to those of the proposed project; both would be less than significant.

The Eagle Mountain Alternative Variation would have greater construction noise impacts than the Eagle Mountain Alternative itself due to more extensive construction activity and longer construction duration associated with removal of the existing towers. Impacts would remain less than significant.

Socioeconomics

Socioeconomic impacts include impacts on the population, employment, and housing of communities along the alternative route. These impacts can be caused by use of non-local construction workers, and by the potential for project-induced population growth. The alternative project may create the following various types of socioeconomic impacts:

- Population In-migration and Employment Impacts: Population in-migration to the communities in the study area caused by local expenditures and temporary construction employment due to the proposed project.
- Temporary Housing Impacts: Short-term impacts on temporary housing from non-local workers who commute to the project construction area from outside the study area.

- Business Impacts: Impacts to businesses adjacent to the project route due to construction activities. These disruption impacts are discussed under air quality, traffic, and noise.

The Eagle Mountain Alternative would generally have the same socioeconomic setting as the proposed project and would not have a significant effect on employment in the overall project area. The number of project-related positions created would be negligible relative to the overall number of construction jobs in eastern Riverside County.

The construction of the project would temporarily increase the population in the project area. Similar to the proposed project, the workforce would reach its peak at approximately 162 individuals with an average of approximately 60 workers. However, the impacts from a temporary increase are not expected to be significant because the population increase would be short-term, not requiring additional government services, and there is adequate short-term housing in the area so there would be no effect on housing availability.

The project would also contribute to a positive short-term impact on the local economy and on the fiscal resources of local governments in Riverside County. Specifically, Riverside County and the Chuckwalla Valley would gain some economic benefit from construction expenditures. However, the Eagle Mountain Alternative would not place a significant demand on public services or facilities.

The Eagle Mountain Alternative would not be expected to have a disproportionately adverse environmental justice impact on minority, low-income, or American Indian populations, since the project would not have any significant impacts that would affect local populations. Overall, socioeconomic impacts would be similar to the proposed project.

The alternative variation would have similar socioeconomic impacts to those of the Eagle Mountain Alternative.

Soil and Water

Similar to the proposed project, the Eagle Mountain Alternative would be located within the Mojave Desert and within the Colorado, Chuckwalla, and Hayfield hydrologic basins.

Within these basins the transmission line would cross dry desert washes. There are no permanent water bodies or perennial streams along the Eagle Mountain Alternative route. Impacts on dry washes would be limited to temporary alteration of bed and banks (where they would intersect new access and spur roads) and increased sediment load during initial storm events following construction.

Groundwater throughout the project area is too deep to be affected by project construction or operation. The use or storage of hazardous material or fueling or lubrication of construction equipment would be prohibited within 200 feet of a well or spring. Potential impacts to groundwater from construction would be similar to the proposed project and less than significant.

Permanent and temporary soil disturbance would result from construction activities associated with access roads, spur roads, pole sites, pull sites, staging/laydown areas, tension sites, temporary guard structures, and grading/earthwork associated with substation modifications. Implementation of COCs would ensure that soil impacts would be less than significant at the two substation sites and along the Eagle Mountain Alternative route. Operational impacts to soil and water resources would also be less than significant.

While impacts to soil and water resources would be similar to those of the proposed project, the additional four miles of construction required for the Eagle Mountain Alternative would create overall more impacts than for the proposed project.

The alternative variation would have slightly greater impacts than the Eagle Mountain Alternative itself, because there would be additional ground disturbance resulting from removal of the existing towers. However, impacts could still be reduced to less than significant levels with implementation of COCs.

Traffic and Transportation

All roadways in the Eagle Mountain Alternative area have relatively low traffic volumes (compared with their design capacities) with a rating of level of service (LOS) A (no congestion). Interstate 10 provides major access to the alternative route along with a few secondary roads (e.g., SR-177, Chuckwalla Road, Eagle Mountain Road, Hayfield Road, and Hobsonway, etc.).

There are three airports located within the vicinity of the Eagle Mountain Alternative. The Blythe Airport is located in the eastern portion of the project area, approximately 1.2 miles west of Buck Boulevard Substation. Desert Center Airport has two runways and is located less than one mile north of the Eagle Mountain Alternative route. One minor airport, the Julian Hinds Pump Plant Airstrip, which does not have a control tower, is located 0.5 miles southwest of the Julian Hinds Substation. The Eagle Mountain Alternative would not be expected to effect the operation of airport facilities.

There are two railways in the project vicinity, the Arizona & California (A&C) Railroad near the center of Blythe and the Eagle Mountain Railroad line, which roughly parallels the Eagle Mountain Alternative to the south from Eagle Mountain Substation to Red Cloud Road. The transmission line would cross the Eagle Mountain Railroad just east of the Eagle Mountain Substation. The railroad line is intended in the future to accommodate transport of non-hazardous solid waste to the Eagle Mountain Landfill. Since the transmission line would cross the railroad line overhead, the alternative project would have no effect on rail operations.

Due to the number of vehicle trips for personnel and equipment movement during construction and operation, traffic volumes on area roadways would be expected to increase during construction. Vehicle trips generated for construction of the Eagle Mountain Alternative would be similar to the Buck Boulevard to Julian Hinds component of the proposed project with 59 (average) to 129 (peak) daily round trips. This impact is considered to be less than significant because of the limited traffic volumes on all roadways and the relatively low number of construction-related trips per day.

Construction activities are not expected to create traffic delays or unsafe conditions for motorists. Potential impacts would be reduced through the use of temporary guard structures, short detour routes, and other traffic controls when necessary.

Large construction vehicles could exceed the design weight capacities on local roadways, thereby damaging these roads (or their bridges or culverts). Although this impact is not found to be significant, mitigation is suggested that would require repair of any road damage either during or following construction.

Construction and operation of the Eagle Mountain Alternative would comply with all LORS pertinent to traffic and transportation. This alternative would have a slightly greater impact on traffic and transportation due to the closer proximity to the Eagle Mountain Railroad and the Desert Center Airport, and a longer construction duration of traffic impacts from four additional miles of transmission line. However, impacts remain less than significant.

The alternative variation would have similar impacts to those of the Eagle Mountain Alternative.

Transmission Line Safety & Nuisance

Induced Current and Shock. The project may cause an incremental increase in the risk of electric shock within the transmission line ROW; however, because the line would be in an existing corridor it would not create a new risk. In order to reduce these impacts to less than significant levels, suggested mitigation includes grounding nearby fences, and consulting with agricultural land managers to ensure that irrigation practices do not create a potential for water stream contact with overhead transmission lines. The first 2.9 miles of both the proposed project and this alternative would cross and travel adjacent to agricultural lands; however, the lands are undeveloped or abandoned orchards/jojoba. The Eagle Mountain Alternative would have a similar risk of electric shock to that of the proposed project.

Effects on Pacemakers. An energized transmission line also creates potential disruptions to pacemaker operation within and immediately adjacent to the transmission line ROW. The biological consequences of a brief, reversible pacemaker malfunction are considered to be mostly benign, with the chance of a life-threatening malfunction considered to be a rare event. Disruption impacts to pacemaker operation of the Eagle Mountain Alternative would be similar to the proposed project and would not cause a significant change to the baseline conditions within the existing transmission line corridor.

Blasting. Transportation and the use of blasting materials (if necessary) would be expected to create a small increased risk of injury to workers and the public. The use of a licensed contractor with a valid California “Blaster License” pursuant to Cal-OSHA Article 8, Section 1550-1580 would mitigate risks to less-than-significant levels. Impacts between the proposed project and any alternative would be similar.

Magnetic Fields. This alternative could increase magnetic field levels within and in areas immediately adjacent to the ROW. The Petition states that increases in magnetic

field that would occur as a result of the project would be greatly reduced within 300 feet of the centerline. Only one permanent residence with long-term exposure potential occurs; however, the increased magnetic field levels would be less than significant at the location (BLYTHE 2004a). This residence is located on the south side of Hobsonway, approximately 900 feet from the transmission line for both the proposed project and this alternative. As there would not be other residences or activity within this area, impacts from magnetic field levels are considered less than significant and would be similar to the proposed project.

The alternative variation may result in an increased magnetic field or a reduction in the magnetic field around the new combined transmission line because the two circuits could partially cancel each other's effects. However, this would require modeling based on current and load flow in both circuits to determine the effects and to allow comparison with the proposed project. Overall, the alternative variation would have similar impacts to those of the Eagle Mountain Alternative.

Similar to the proposed project, this alternative would not be likely to cause significant transmission line safety hazards or nuisances. However, the Eagle Mountain Alternative line would be approximately four miles longer than the proposed project, showing the proposed project line as preferable in terms of the total length of the source of line fields to which individuals might be exposed.

Visual Resources

The Eagle Mountain Alternative would require construction of an additional transmission line adjacent to an existing line. The presence of the existing line creates a degraded visual setting; however this setting would be further degraded with the addition of a second set of towers, especially given the proposed concrete pole design that is different from the existing tower structures.

Similar to the proposed BEPTL project, this alternative would be located almost entirely on BLM land and would thus be subject to the BLM Visual Resources Management (VRM) classification. The VRM classification is determined by an established inventory and overlay method that consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes, each with a set of management objectives. The contrast analysis includes pre- and post-project comparisons for land and water forms, vegetation, and structures. Impacts from this alternative would be based on this system.

BLM does not have established VRM classifications for its lands covered by the Eagle Mountain Alternative. "Interim VRM Classifications" were presented in the DSWTP EIS/EIR and the final assessment of visual sensitivity for the proposed project was based on direction provided in the BLM Manual Handbook (BLM 1981) and the Blythe Energy's professional judgment. Therefore, these "Interim VRM Classifications" may need to be refined to more accurately reflect the landscape variability that occurs throughout the I-10 corridor before thorough analysis on this alternative can be performed and consistency with the applicable VRM objectives can be determined.

The alternative route would cross I-10 at four locations (compared to two with the proposed project), and approximately 25 miles of the alignment would be in close proximity (300 to 500 feet) of I-10. Additionally, the Eagle Mountain alignment would be immediately adjacent to the Joshua Tree National Park (NP) boundary for approximately 22 miles and would be visible from several areas in the eastern portion of the National Park.

Due to the visual impacts created at the four crossings of I-10 and the length of alignment close to I-10, as well as the visibility of the alternative route to viewers within the National Park, this alignment would have substantially greater visual impacts than the proposed route alignment. Additional analysis (e.g., simulations of new towers) would be required to determine whether impacts would be less than significant.

The alternative variation would have less visual impacts than the Eagle Mountain Alternative itself, because this variation would result in only one set of towers in the corridor rather than the two that would exist with the alternative. Despite the route's increased visibility from I-10 and from Joshua Tree NP, when consolidated to a single set of towers, the Eagle Mountain Alternative variation would have similar impacts to the proposed project, which would be on a new additional set of towers.

Waste Management

The primary waste generated during transmission line construction would be solid non-hazardous waste (e.g., metal, wood, packing materials, plastics, and cardboard). Some non-hazardous liquid waste, solid hazardous waste (e.g., welding materials, dried paint, joint sealing compounds), and liquid hazardous waste (e.g., cleaning solvents and chemicals) would also be generated during construction.

The Blythe Sanitary Landfill is a permitted Class III (non-hazardous) facility about seven miles north of Blythe. It is projected to remain operational until 2073 and accepts an average daily load of about 50 tons/day. The volume of non-hazardous waste expected to be generated from construction and operation of this alternative would be similar to that of the proposed transmission line, and less than one percent of Blythe Landfill's annual capacity. This amount is not significant relative to the existing disposal capacity.

The following three Class I landfills in California are permitted to accept hazardous waste: Kettleman Hills in King County, Buttonwillow in Kern County, and Westmoreland in Imperial County. The generation of hazardous waste from this alternative would be a small fraction (less than one percent) of existing capacity and would not significantly impact the capacity or remaining life of any of the State's Class I landfills.

Similar to the proposed project, for the Eagle Mountain Alternative Blythe Energy would need to implement a comprehensive program to manage hazardous wastes and obtain a hazardous waste generator identification number (required by law for any generator of hazardous wastes) and would comply with all LORS. The environmental impact of waste disposal would be less than significant, similar to the proposed project.

The alternative variation would have greater impacts to those of the Eagle Mountain Alternative due to the removal and disposal of the existing transmission line structures

and components; however, the alternative variation would comply with all LORS and impacts would still be less than significant.

Worker Safety & Fire Protection

The project area is located across three fire management categories according to the BLM's Field Office Fire Management Plan (BLM/CDFG 2001): Category 2 (areas where fire is not desired, but natural burns may be permitted), Category 3 (areas where fire is desired naturally but there may be social, political, or ecological constraints that must be considered), and Category 4 (areas where fire is naturally desired and there are few to no constraints to its use). Category 2 areas are generally found in scattered agricultural lands and Categories 3 and 4 are found in local foothills and mountains.

The analysis found that project activities associated with construction, operation, and maintenance would increase the potential for accidental fire ignition. The implementation of a Fire Prevention and Response Plan would be expected to mitigate the risks of fire ignition.

In addition, the energized transmission line is expected to increase the potential for accidental fire ignition. However, the occurrence of accidental ignition would result from a series of unlikely events, and therefore impacts to fire hazards are expected to be adverse but not significant.

Transportation and the use of blasting materials, if required, would be expected to create an increased risk of injury to workers and the public. The use of a licensed contractor with a valid California "Blaster License" pursuant to Cal-OSHA Article 8, Section 1550-1580 would mitigate risks to less-than-significant levels.

Worker safety would be protected by adherence to LORS, which include Cal-OSHA regulations. Fire protection would also be assured by following LORS including the California Fire Code. Therefore, this alternative would have a similar impact in the areas of worker safety and fire protection than the proposed BEPTL.

The alternative variation would have slightly greater impacts related to worker safety and fire protection to those of the Eagle Mountain Alternative due to the removal and disposal of the existing transmission line structures and components; however, the alternative variation would comply with all LORS and impacts would still be less than significant.

Geology, Mineral Resources, and Paleontology

The Eagle Mountain Alternative lies primarily on alluvial-filled areas within the Palo Verde Mesa, Chuckwalla, and Orocopia Valley basins. Although the transmission line route is generally flat, some steeper terrain exists along the route near the Eagle Mountains.

There is no recent seismic activity in the Palo Verde Valley or Mesa area. Earth movement has been felt in the Palo Verde region from earthquake activities outside of the area, but significant earthquake damage in the region has not occurred. To the west, the most recent seismic activity in the Julian Hinds vicinity was the magnitude 6.0

North Palm Springs Earthquake on July 8, 1986 occurring along the Banning Fault and the Garnet Hill Fault. This earthquake resulted in significant damage to the Devers Substation, but subsequent upgrades were added that meet Uniform Building Code (UBC) Seismic Zone 4 design criteria (IID & BLM 2003). Seismic activity could pose a risk to the project area and could damage project facilities. Suggested mitigation includes avoiding sites within known fault zones, and to construct facilities to withstand projected ground shaking. In addition, both the proposed project and the Eagle Mountain Alternative would be designed in accordance with UBC Seismic Zone 3 requirements that would minimize the exposure of people to the risks associated with large seismic events to less than significant.

Hazards from unstable slopes and seismic hazards could affect roads used for construction. Also, some tower sites would be subject to geotechnical hazards that would need to be corrected prior to construction. However, impacts to roads or the local environment from excavations and fill were considered less than significant. Site-specific geologic conditions have yet to be determined and may create a significant disturbance on project facilities. The transmission line for both the proposed project and the Eagle Mountain Alternative would be designed in accordance with California Building Code (CBC) (CCR Title 24) and impacts would be similar and less than significant.

Mineral Resources. Although there are a number of mines in the area of the Eagle Mountain Alternative, such as the Eagle Mountain Mine, the transmission line would not obstruct access to mineral resources or to transportation routes to mines. Therefore, the Eagle Mountain Alternative would not create impacts to mines or mineral resources and, in fact, could bring necessary power closer to potential mine sites.

Paleontology. The Buck Boulevard Substation site is on the Palo Verde Mesa and is underlain by one mappable lithologic unit consisting of Pleistocene age older alluvium (Qc) of Jennings (1967) and subsequently revised and placed in the Chemehuevi Formation by Bell, Ku, and Kukla (1978) and Agenbroad, Mead, and Reynolds (1992) (BLYTHE 2004a). The paleontological resources of a sedimentary formation may include preserved hard parts of organisms, impressions of leaves and soft parts, tracks, burrows, coprolites, seeds, pollen or other microfossils. Pleistocene older alluvium is considered to have a moderate potential to contain fossils (FERC 2002, as cited in BLYTHE 2004a). This portion of the project would be identical for the proposed project and the Eagle Mountain Alternative. Excavation in conjunction with construction of the transmission line alternative has the potential to discover previously unknown fossil resources and/or to adversely impact significant paleontologic resources. In order to fully assess potential impacts to paleontological resources, a search of the survey of the route would be required, but this could not be completed for this analysis. Therefore, it is not possible to fully assess impacts to paleontological resources from this alternative and compare them to those of the proposed project. In general, in order to mitigate potential impacts, a qualified vertebrate paleontologist would develop a program that includes pre-construction surveys; monitoring; preparation, identification, and curation of recovered specimens; and preparation of a report of findings.

Conclusions. Overall impacts to geology, mineral resources, and paleontology of the Eagle Mountain Alternative would most likely be less than significant and similar to the

proposed project with the implementation of proper engineering design, mitigation measures, and Best Management Practices implemented for the proposed project. The alternative variation would have similar impacts related to geology, mineral resources, and paleontology to those of the Eagle Mountain Alternative discussed above.

Transmission System Engineering

The Eagle Mountain Alternative would result in construction of a new single-circuit 230-kV transmission line from the Buck Boulevard Substation to the Julian Hinds Substation, creating a similar regional transmission effect as that of the proposed project. Therefore, the Eagle Mountain Alternative would have similar impacts to the proposed project.

According to SCE, the existing transmission towers cannot be used for upgrades under the Eagle Mountain Alternative variation (SCE 2005). Therefore, an upgrade scheme on the existing alignment would require an extensive outage lasting at least six months. However, it would be possible to construct a new line parallel to the existing alignment under the Eagle Mountain Alternative, which would eliminate the outage requirement. MWD stated that it would support joint use of its easement from Eagle Mountain to Julian Hinds substation if necessary under the Alternative (either as a DCTL or a separate parallel line), but it would prefer not to upgrade the existing conductor under the Eagle Mountain Alternative variation, which would result in outage time on the Colorado River Aqueduct (CRA) pumping system and could subject it to long-term contractual requirements (MWD 2005). If either Eagle Mountain or Julian Hinds pumping plant had to be shut down to replace bus/disconnect switches or upgrade the transmission line, MWD would have to shut down the entire aqueduct since there are no water storage facilities on their aqueduct except near the Colorado River. Therefore, work would have to be scheduled during the annual two-week CRA outage (MWD 2005).

In addition, SCE stated that the outage of the Blythe-Eagle Mountain 161-kV transmission line would have a negative impact on Western's 161-kV transmission line or IID's transmission lines. For example, with the outage of the Blythe-Eagle Mountain 161-kV transmission line, the Blythe-Niland 161-kV transmission line would exceed its operating capability and would not be able to support this extended outage. Coordination with Western would be necessary (SCE 2005).

Because of the above impacts and because the alternative variation would not provide sufficient additional capacity with a 230-kV transmission line all the way to Julian Hinds (due to the existing 161-kV line load already present), based on TSE analysis it is inferior to the proposed project.

The design and construction of the project shall be in compliance with applicable engineering laws, ordinances, regulations and standards for both the alternative and the alternative variation. Impacts related to facility design would be similar to the proposed project.

DESERT SOUTHWEST TRANSMISSION PROJECT ALTERNATIVE

ALTERNATIVE DESCRIPTION

The Desert Southwest Transmission Line Project (DSWTP) Final EIS/EIR, published by the Imperial Irrigation District (IID) and BLM in October 2005, analyzes a proposed new 118-mile 500 kV line between Blythe and SCE's Devers Substation. The line would originate at a new 25-acre Keim Substation/Switching Station on the south side of Hobsonway east of the center of Blythe near the Blythe Energy Project (BEP) power plant. In addition, the DSWTP would include a new Midpoint Substation/Switching Station, located at the eastern intersection of the proposed line with the existing D-PV1 line[3]. The new line from the new Keim Substation/Switching Station to the new Midpoint Substation/Switching station would be constructed as a double-circuit line or two parallel lines. However, in this alternatives analysis, it is assumed that the line could also terminate at the existing Buck Boulevard Substation east of Blythe Power Plant on Blythe Energy property (like the proposed project)[4]. Also, in the future, a new substation could be built near Indio west of Dillon Road, adjacent to the existing transmission line facilities, to connect the proposed transmission line to IID's existing Coachella Substation.

As shown on **ALTERNATIVES Figure 2**, the DSWTP transmission line alignment would follow a generally east/west alignment from the new substation/switching station to the Devers Substation. Much of this alternative route would be in the same corridor as both the proposed project and SCE's D-PV1 transmission line. Because the proponents of the California DSWTP are proposing to construct a 500 kV transmission line from Blythe to Devers adjacent to SCE's proposed D-PV2 Devers-Harquahala 500 kV transmission line for the majority of the alignment, SCE is exploring a joint project proposal with DSWTP, where only one instead of two 500 kV transmission lines would be constructed since the parties would share a single 500 kV transmission line in the proposed D-PV2 ROW. The joint project would include the construction of a 500 kV substation.

The DSWTP transmission line would originate at the new Keim Substation/Switching Station and would traverse southwest along existing transmission line ROWs in western Blythe for approximately 1.8 miles. At this point it would turn west and proceed approximately 7 miles to the point where it would meet the corridor of SCE's existing 500 kV D-PV1 and proposed D-PV2 ROWs. A proposed new 25- to 50 acre Midpoint Substation/Switching Station would be developed at this location, which would provide a connection point for DSWTP, D-PV1, D-PV2, and the 230 kV BEPTL. The proposed line would be built as a double-circuit or two parallel 500 kV lines between Keim and Midpoint Substations.

[3] A proposed new substation in the Blythe area is referred to as "Midpoint" by both DSWTP and BEPTL in their respective applications; however, the actual locations of their respective Midpoint Substations differ as shown on **ALTERNATIVES Figure 2**, (DSWTP's Midpoint Substation would be approximately 5 miles northwest of BEPTL's proposed Midpoint Substation location).

[4] The Buck Boulevard Substation is presently owned by Western, but it is located within the basic fenceline of the BEP project.

From Midpoint, the line would parallel D-PV1 until approximately 3 miles southeast of Desert Center. At this point, the line would shift to the north to minimize impacts to the Alligator Rock ACEC near Interstate 10 (I-10). After passing the north end of Alligator Rock, the line would again shift back to the south to return to its parallel alignment adjacent to the existing D-PV1 transmission line and proposed D-PV2 ROW. If the projects were to be joined, then the DSWTP alignment would follow the proposed D-PV2 route through Alligator Rock ACEC.

The DSWTP Alternative would differ from the proposed route in the following locations:

- The DSWTP Alternative would follow the Mesa Verde Sub-Alignment Alternative illustrated by Blythe Energy, LLC in its Petition (see **ALTERNATIVES Figure 5**; for a description of this route segment, see Alternatives Eliminated from Full Consideration). This route segment would be north of the proposed transmission line route and south of I-10, generally parallel to the I-10. The DSWTP/Mesa Verde Sub-Alignment would diverge from the proposed route approximately 2.5 miles south of Blythe Power Plant at the northern boundary of the southernmost orchard where the proposed route turns to the west then south around the orchard property. The sub-alignment would continue west through desert open space, north of the D-PV1 corridor. This segment would be approximately 3.25 miles shorter than the proposed Buck Boulevard-Julian Hinds transmission line route, but would require the construction of a new access road. At the point where the proposed project turns from a northwest to a west direction, the two routes rejoin one another and parallel I-10 to the west.
- Like the proposed project, the DSWTP would remain to the north of the D-PV1 corridor adjacent to I-10 by Desert Center in order to avoid Alligator Rock ACEC (7,726-acre area of archaeological significance). However, when the proposed project would turn southwest to rejoin the D-PV1 corridor 4.7 miles later, the DSWTP would continue west adjacent to and paralleling I-10. The two routes rejoin one another when the proposed project rejoins the I-10 corridor east of Red Cloud Road.
- At Hayfield Road the DSWTP would continue east on the south side of I-10 towards Devers Substation, whereas the proposed transmission line would cross I-10 and parallel Hayfield Road to the north for approximately 4.75 miles into Julian Hinds Substation.

The remainder of the DSWTP would parallel the D-PV1 corridor (see also the description of the D-PV2 Alternative below) and I-10. Approximately 2.5 miles east of the Cactus City rest area, DSWTP Alternative and D-PV1 would cross to the north side of I-10 and would continue west-northwest into Devers Substation, 10 miles north of Palm Springs.

Because the DSWTP transmission line would be located along existing SCE D-PV1 transmission line ROW for much of its alignment, the alternative project would utilize existing access roads, requiring a limited amount of new access road construction. In addition to the Midpoint Substation, DSWTP includes the construction of two new substation/switching stations (Keim and on Dillon Road) that would not be required with the BEPTL Proposed Project. Modifications at the Devers Substation would also be necessary.

Rationale for Consideration

This alternative is being considered for the following reasons.

- It is a separately proposed project for which a Final EIS/EIR has already been prepared. Because the DSWTP would carry electricity from the Buck Boulevard Substation (or Keim Substation) to SCE's Devers Substation, it would serve the basic objectives of the BEPTL and eliminate the need for the BEPTL.
- DSWTP as an alternative provides a major 500-kV hub for potential transmission expansion, because adding a 500-kV line from Buck Boulevard, Keim, or the Midpoint Substation could provide a location for a second 500-kV line from Arizona (perhaps D-PV2). The substation would be large, in an isolated area, and capable of terminating several 500-kV lines. It could be a natural endpoint for a future 500-kV line south to the Imperial Valley or the Devers Substation.
- At 500-kV, the DSWTP could be constructed as the western portion of the Devers-Palo Verde 500-kV No. 2 Project, eliminating separate impacts from that project and cumulative impacts of both projects together. In a letter from Gail Acheson (BLM) to Gary L. Palo (Blythe Energy) dated January 6, 2005, BLM states that the "BLM has a need, in the public interest, to optimize use of the utility corridor so as to best accommodate multiple existing and future projects, minimize adverse environmental impacts, and to minimize duplication or proliferation of similar facilities." This alternative would be consistent with that stated need.

In addition, one of the stated objectives of the DSWTP, as stated in the Final EIS/EIR is as follows:

- "Provide improved transmission access to new generation sources (e.g., the Griffith Energy Project [in Kingman, AZ], the South Point Energy Project [in Bullhead City, AZ], *and the Blythe Energy Project*) to meet the increased demands for electrical power in IID's service area and to respond to transmission service and interconnect requests" [emphasis added] (IID & BLM 2005, p. 1-4).

Buck to Mirage/Devers Alternative Variation

This alternative modification would be similar to the DSWTP and would include a longer new 230-kV double-circuit transmission line or a 500-kV line, extending from the Buck Boulevard Substation to either the SCE Mirage or Devers Substation. Although the majority of the transmission line route would be similar to that of the DSWTP, because Blythe Energy would build the project themselves under this alternative variation, they would retain control of the project, its schedule, and the transmission rights. The environmental impacts and conclusions of this alternative variation would be the same as the DSWTP Alternative for the Buck Boulevard to Devers variation, and, therefore, it is not specifically discussed in the analysis below. An endpoint at Mirage Substation would also be similar to the DSWTP Alternative but would have slightly lesser impacts because the route would be approximately 14 miles shorter and would eliminate potential impacts between Mirage and Devers Substations.

This variation of the Buck to Mirage/Devers Alternative is being considered for the same reasons as the DSWTP, defined above. However, for this variation Blythe Energy would

be in control of the project (versus DSWTP), thus eliminating the project's uncertainty and maintaining site control.

ENVIRONMENTAL AND ENGINEERING ASSESSMENT FOR DSWTP ALTERNATIVE

The following discussion draws from the EIS/EIR for the DSWTP and incorporates Energy Commission Staff's input. When appropriate, the DSWTP alternative is contrasted with the proposed project.

Air Quality

The DSWTP Alternative would be located in the Mojave Desert region of southern California. Air basins affected by the DSWTP alternative include Mojave Desert Air Basin (MDAB) and the Salton Sea Air Basin (SSAB). Sources of emissions would be similar to those discussed for the proposed project and under the Eagle Mountain Alternative above. Existing air quality is generally impaired in the alternative area relative to California standards for both ozone and PM10. Ozone formation is influenced by regional meteorological conditions that transport significant amounts of ozone forming pollutants into the region from the Los Angeles Basin. Ambient PM10 concentrations exceeding both Federal and state standards in the Coachella Valley project area are likely due to high levels of naturally produced particulate dust matter combined with regional man-made emissions. The CO and NO_2 ambient levels do not exceed Federal or state standards. Segments of this alternative would be located within regions classified federally as attainment or unclassified attainment and designated by CARB as non-attainment (BLM & IID 2005).

Construction and operation of the proposed DSWTP Alternative would not require any air quality permits from SCAQMD or MDAQMD, but permits to operate would be required by the Imperial County Air Pollution Control District (ICAPCD) for each mobile air pollutant source that cannot move under its own power, such as air compressors. Air pollution emissions from the DSWTP project were determined in the EIS/EIR to be short-term and would occur during construction only (BLM & IID 2005). Construction related emissions would consist of CO, NO_x, SO_2, and PM10 and would be attributed to exhaust from construction equipment; fugitive dust from grading, earth moving, and equipment traveling on paved and unpaved roads; and construction crew vehicle traffic.

Emissions from construction of the DSWTP would exceed MDAQMD and/or SCAQMD significant thresholds for CO, NO_x, Volatile Organic Compounds, and PM10. The EIS/EIR summarizes the projected construction emissions (in pounds/day) relative to significant emission thresholds for MDAQMD and SCAQMD. The DSWTP project is also expected to exceed Federal *de minimus* thresholds established by the General Conformity rule (BLM & IID 2005). Implementation of construction mitigation measures, such as properly tuning and maintaining heavy duty off road diesel equipment and the utilization of water and chemical dust suppression, would reduce exhaust emissions to less than significant levels.

Although the DSWTP would be required to meet all District rules and requirements of the Mojave Desert Air Quality Management District (MDAQMD), South Coast Air Quality Management District (SCAQMD), and ICAPCD, the alternative would generate more air

emissions because construction would extend along a longer route and for a greater duration and would include construction of two additional substations, thereby creating greater air quality impacts than the proposed project. However, like the proposed project and the alternative itself, impacts would be less than significant after implementation of required mitigation.

Biological Resources

As with the proposed project route, this alternative would cross substantial desert tortoise habitat and areas with sensitive plant species. Much of this route (approximately 50 miles) would be within the Chuckwalla Desert Wildlife Management Area (DWMA) for west of BEP to approximately 4 miles west of the Cactus City Rest Area exit off of I-10.

Reconnaissance level habitat assessments and focused protocol surveys were conducted for the DSWTP route between June 13 and June 25, 2002. These surveys included the plant communities/wildlife habitat type identification, incidental sensitive plant and wildlife species observations, and protocol surveys for special-status species including desert tortoise, flat-tailed horned lizard, and Coachella Valley fringe-toed lizard. Ten special-status species were observed during the 2002 surveys, including two listed species (the desert tortoise and the Coachella Valley fringe-toed lizard) and the following eight sensitive (e.g., non-listed) species: foxtail cactus (*Escobaria vivipera alversonii*), Colorado Desert fringe-toed lizard (*Uma notata*), chuckwalla (*Sauromalus obesus*), black-tailed gnatcatcher (*Polioptila melaneura*), burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanus ludovicianus*), prairie falcon (*Falco mexicanus*), and Coachella Valley round-tailed ground squirrel (*Spermophilus tereticaudus chlorus*) (BLM & IID 2005).

The EIS/EIR indicated that 38 special-status species may inhabit the DSWTP area ROW or areas immediately adjacent to the ROW. Special-status species that may be expected to occur include:

- **Special-Status Plants**: Abram's spurge, Algodones Dunes sunflower, ayenia, Coachella Valley milkvetch, Cove's cassia, crown-of-thorns, crucifixion thorn, desert sand parsley, fairyduster, foxtail cactus, giant Spanish needle, glandular ditaxis, Harwood's milkvetch, las animas colubrina, Little San Bernardino Mountains gilia, mesquite nest straw, Munz's cholla, orocopia sage, Pierson's milkvetch, saguaro, sand food, slender woolly-heads, spearleaf, Wiggins's croton
- **Special-Status Fish**: razorback sucker
- **Special-Status Birds**: American peregrine falcon, black-tailed gnatcatcher, Bendire's thrasher, brown-crested flycatcher, burrowing owl, California horned lark, crissal thrasher, elf owl, ferruginous hawk, Gila woodpecker, gilded northern flicker, golden eagle, LeConte's thrasher, loggerhead shrike, merlin, mountain plover, prairie falcon, southwestern willow flycatcher, Sonoran yellow warbler, vermilion flycatcher
- **Special-Status Reptiles**: Chuckwalla, Coachella Valley fringe-toed lizard, Colorado desert fringe-toed lizard, desert tortoise, desert rosy boa, flat-tailed horned lizard, red diamond rattlesnake

- **Special-Status Amphibians**: Couch's spadefoot toad
- **Special-Status Insects**: Andrew's dune scarab beetle
- **Special-Status Mammals**: Nelson's bighorn sheep, Coachella Valley round-tailed ground squirrel, Palm Springs pocket mouse, Yuma puma
- **Special-Status Bats**: California leaf-nosed bat, cave myotis, greater western mastiff bat, Townsend's big-eared bat, pallid bat, southern yellow bat, pocketed free-tailed bat, spotted bat, western small-footed myotis bat

Impacts to Vegetation. The EIS/EIR found that construction and operation of the DSWTP at 230 kV would result in a loss of lands within the following vegetation communities[5]: Sonoran Creosote Brush (464 temporary acres and 23 permanent acres), Desert Dry Wash (289 temporary acres and 38 permanent acres), Agricultural Land (15 temporary acres and 2 permanent acres), Sonoran Desert Mixed Scrub (212 temporary acres and 10 permanent acres), and Mojave Creosote Brush Scrub (239 temporary acres and 39 permanent acres). Due to the large amount and general distribution of their habitats, this loss was considered less than significant. The EIS/EIR recommended mitigation measures to reduce vegetation disturbance during construction. The EIS/EIR also found that the project could result in the introduction and dispersal of noxious weeds, and recommended mitigation to prevent their spread. Because the proposed DSWTP could remove or disturb riparian communities, actions to incorporate riparian area avoidance and permit measures were suggested.

Impacts to Wildlife. The EIS/EIR found that the DSWTP could create temporary and permanent losses of wildlife habitat and habitat fragmentation, and could result in direct wildlife mortality and temporary displacement of wildlife. Specifically, raptor species may be at a greater risk during the life of the project as a result of collision with conductors. The analysis recommends that the project design minimize collision potential. It also recommends coordination with responsible resource agencies. Additional impacts to wildlife include increased disturbance of resident wildlife species through the construction of new access roads, and the disturbance of nesting raptors and migratory birds. In order to minimize these disturbances, suggested mitigation includes the use of construction activities that would minimize potential wildlife disturbance, the restriction of public access, and the use of pre-construction surveys.

Impacts to Special-Status Species. The EIS/EIR found that the DSWTP may potentially disturb special-status plants. This impact could be mitigated by surveying to avoid or salvage these plants. Construction and operation of the project could also have direct impacts on species such as the desert tortoise, Coachella Valley fringe-toed lizard, flat-tailed horned lizard, desert rosy boa, Couch's spadefoot toad, burrowing owl,

[5] Acreages are approximate and would vary dependent upon final transmission line configuration (500 kV or 230 kV), location of structures, and ROW alignment. Temporary disturbance acreage for tower footings was estimated to be 300 feet by 300 feet and permanent tower footing disturbance acreage was estimated to be 50 feet by 50 feet. Pulling and tensioning sites were estimated to occur every 10,000 linear feet and would require a disturbance area of 300 feet by 150 feet. New spur road construction was assumed to be 100 feet of linear distance by 24 feet width at each tower location. Additional temporary and permanent disturbance would occur at the Substation/Switching Station at Hobsonway, and with modifications at Devers Substation and Dillion Road Substation.

loggerhead shrike, LeConte's thrasher, black-tailed gnatcatcher, prairie falcon, chuckwalla, and Coachella Valley round-tailed ground squirrel. The analysis recommends implementing measures that decrease the habitat loss and incidental take of these species. With the implementation of this mitigation, the EIS/EIR found the impacts to be less than significant.

Impacts to Waters of the U.S. The EIS/EIR found that the DSWTP may create short-term disturbances to "waters of the U.S." Suggested mitigation to reduce these disturbances includes obtaining a Nationwide 12 Permit from the U.S. Army Corps of Engineers and restoring the body of water to encourage the return of riparian vegetation to its pre-construction condition. With the implementation of this mitigation, the EIS/EIR found the impacts to waters of the U.S. to be less than significant.

Conclusion. Overall, biological impacts would be less than significant with mitigation. However, because the route is approximately 51 miles longer than the BEPTL and would involve construction of two additional substations, there would be much greater biological resources impacts. Therefore, the proposed BEPTL project is preferred over the DSWTP Alternative.

Cultural Resources

As discussed in more detail under the Eagle Mountain Alternative above, the DSWTP alternative would be subject to both CEQA and section 106 of the National Historic Preservation Act. Within the DSWTP Alternative area, there are historic sites attributed to early settlement of the area, which may include military camps, mining sites, house locations, and Colorado River Aqueduct construction camps. Much of this region was used as a desert training area during World War II and numerous military camps and training positions have been left behind. Historic roads and trails within the DSWTP area include the Bradshaw Trail and the Southern Pacific Railroad.

Five Native American groups principally associated with this area by occupation, resource use and oral history include the Cahuilla, Chemehuevi, Mohave, Halchidhoma, and Quechan. The EIS/EIR details the local history and cultural practices of each group.

The EIS/EIR uses existing archaeological and ethnographic survey reports to predict the number of historic sites that might be encountered, their distribution, and areas of high sensitivity. The EIS/EIR anticipates that some cumulative indirect impacts resulting from increased access or activity along the existing ROW may have occurred since the previous surveys, particularly along the I-10 corridor.

There are 194 archaeological sites that have been previously recorded within or in close proximity to the four project alternatives and two optional routes evaluated in the DSWTP EIS/EIR. Additional sites or locations within 1 to 2 miles of the proposed route have been identified by previous studies or the California State Native American Heritage Commission as either Traditional Cultural Properties (TCPs) or areas of special Native American concern.

The EIS/EIR found that the DSWTP could result in direct effects to prehistoric and historic archaeological sites. Unavoidable direct impacts to these resources could occur

as a result of surface or subsurface disturbance and activities during transmission line construction, operation, and/or maintenance. The EIS/EIR requires the preparation of a Treatment Plan for avoiding and mitigating unavoidable direct adverse effects on resources eligible for National Register listing.

The EIS/EIR also finds that construction activities could result in the discovery of previously unknown prehistoric and historic resources. This report recommends that a cultural resource specialist should be available during construction to evaluate any resources discovered. Additional cultural resources impacts from the DSWTP include: the potential to affect resources within sensitivity zones; and the impacts of construction activities, disturbance, and the placement of project-related facilities on TCPs. The EIS/EIR also recommends consultation with concerned Native American groups to determine if the archaeological sites have additional sensitivities as TCPs. The EIR/EIS concludes that, with implementation of mitigation, impacts to cultural resources would be less than significant. CEQA requires that the lead agency develop mitigation that will reduce impacts to cultural resources to below a level of significance.

A records search was completed for the Desert Southwest Transmission Line Alternative route and for an alternate route that runs slightly to the north of the DSWTP Alternative. The records search extended approximately one mile from the center line of both projects. Areas that had been previously surveyed were noted. Areas that had not been previously surveyed or that were not well documented were surveyed. Thirty-five cultural sites (both prehistoric and historic) have been recorded within this study area. There are Traditional Cultural Properties (TCPs) in the vicinity of Devers Substation, and along the route 15 TCPs have been confirmed by elders of several different tribes. Three zones of archaeological sensitivity were identified along this route. They were identified as the Alligator Rock Complex, Camp Young, and the Indio Hills Complex TCP. Final design of the project would avoid any sites that were determined eligible to the National Register of Historic Places. The areas are identified as zones of archaeological sensitivity because they are large and contain numerous sites (BLYTHE 2004e, Desert Southwest Route Survey and BLYTHE 2004a, Appendix D).

Overall, cultural impacts to known and unknown resources would be less than significant with mitigation, however, because the route is approximately 51 miles longer and would include the construction of two additional substations, there would be much greater cultural resources impacts and the proposed project is preferred over the DSWTP Alternative.

Hazardous Materials

There has been no indication that hazardous materials have been present within the DSWTP ROW. Potential contamination sources would be (1) pesticide use from nearby agricultural activities, or (2) historical or illegal disposal of hazardous materials within the project area.

In addition the route would pass through the Desert Training Center (DTC). The DTC was an 18,000 square-mile Army training ground used from 1942-1944 to train U.S. troops in desert survival and warfare in anticipation of battle with General Rommel's Africa Corps. General Patton created and commanded the DTC; a memorial museum to

him and the DTC is located off I-10 at Chiriaco Summit at the site of Camp Young, one of 12 World War II training camps that were part of the DTC. Remnants from many of the 12 fields camps remain, mostly rock mosaics, altars and road alignments. In addition, the area was used to test ammunition/weapons and supplies in a desert environment and to make training as realistic as possible by using live ordnance. Although ordnance is supposed to have been removed from the areas near the proposed DSWTP route, ordnance debris may still exist. There is a small likelihood that it could be uncovered during project construction, requiring that the Army be called in to remove it.

The DSWTP Draft EIS/EIR found that the use of hazardous materials for construction, operation, and maintenance of the DSWTP project would create potential exposure for workers and the public. To mitigate potential impacts, the project would implement a Construction, Operation, and Monitoring (COM) Plan to be submitted to BLM that would define procedures for vehicle refueling and servicing, transportation and storage of hazardous materials, and disposal of hazardous wastes.

Construction of the DSWTP would be expected to generate solid waste, which would be disposed at a site listed in the COM Plan. This alternative would have a slightly higher likelihood of encountering hazardous materials during construction, because of its longer route and construction of two additional substations. In addition, the greater line length and substation construction would result in generation of more hazardous and non-hazardous waste during construction. In addition, this route crosses nearby rural and suburban residences in closer proximity, which would result in the transport and use of hazardous materials during construction closer to residences than with the proposed project.

Overall, the DSWTP Alternative, with appropriate mitigation, would not result in significant impacts as a result of hazardous materials.

Land Use

The transmission line would be located primarily in undeveloped open space along the established transmission line corridor. Sensitive land uses along the DSWTP corridor would consist primarily of residents and seasonal campers scattered throughout the project area. The DSWTP is located primarily in areas that have few permanent residents, except in the vicinity of North Palm Springs and Thousand Palms.

In the California Desert Conservation Area (CDCA) Plan, utility corridors were established to confine new transmission lines to established corridors, where possible. The DSWTP Alternative route would be located almost entirely within the established BLM utility corridor, in the Northern and Eastern Colorado Planning Area and the Coachella Valley Planning Area, two of seven planning sub-areas for the CDCA. Even though the proposed project would meet the requirements as described in the BLM ROW regulations at Title 43, CFR Sec. 2802.3, by replacing the proposed project, this alternative would also eliminate multiple transmission lines within the same corridor and the associated cumulative impacts, which is a stated goal of the BLM.

The DSWTP would cross parcels designated as important farmlands in areas near Blythe and in isolated locations within the Western Coachella Valley. This includes two small Williamson Act parcels. The DSWTP EIR/EIS analysis finds that the project is compatible with agricultural uses and would not have a significant impact on important farmlands.

Like the proposed project, the construction and presence of the DSWTP transmission line has the potential to reduce the quality of wilderness and recreation experiences. Eight wilderness areas are located within five miles of the DSWTP project. The following wilderness areas are located within one mile of the project: Chuckwalla Mountains Wilderness, Palo Verde Mountains Wilderness, and North Algodones Dunes Wilderness. The following are located one to five miles from the project site: Palen-McCoy Wilderness, Little Chuckwalla Mountains Wilderness, Orocopia Mountain Wilderness, Mecca Hills Wilderness, and Indian Pass Wilderness. Although the line would not directly impact any of the wilderness areas, it would be visible from areas along their boundaries. The DSWTP EIR/EIS considers this to be a minimal visual impact because the transmission line would be located within an existing utility corridor and would parallel other transmission lines and utilities (BLM & IID 2003).

In addition, there are nearly 20 recreation areas in the vicinity of the DSWTP managed either individually or collectively by the following entities: BLM, National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, California Department of Parks and Recreation, California Department of State Parks, the Center for Natural Lands Management, and the Nature Conservancy. Construction of the DSWTP may reduce access and visitation to wilderness and recreation areas during construction. However, any construction activity adjacent to these roads would not block or restrict access to recreation areas and would be short-term in nature. As a result, impacts to accessing recreation areas are expected to be less than significant.

Overall, the DSWTP project would be consistent with applicable land use plans and policies of the Federal, state, and local governments with jurisdiction over the land in the project area (BLM & IID 2003). The DSWTP Alternative would include construction of two additional substations, along a longer route, closer to residences (e.g., in North Palm Springs and Thousand Palms), and for a greater duration, thereby creating greater land use and recreational impacts than the proposed project. However, all impacts would still be less than significant.

Noise and Vibration

Sensitive land uses along the DSWTP corridor are described in the previous section, and would consist primarily of residents and seasonal campers scattered throughout the project area. The DSWTP is located primarily in areas that have few permanent residents, except in the vicinity of North Palm Springs and Thousand Palms. Few activities along the corridor generate substantial sustained noise events. Such activities would include:

- Traffic on major roadways (I-10, SR-78, SR-111) and secondary/feeder roadways.
- OHV activities at various locations along the ROW.
- Rural and suburban residential areas (North Palm Springs, Thousand Palms).

- Isolated residential areas, communities, and camping areas near project.
- Agricultural activities.
- “Humming” and other sounds associated with transmission line/substation operation.
- Vehicles and equipment used for operation and maintenance of electrical facilities.

Noise generated during construction of the project could result in temporary increases in noise levels to sensitive receptors. However, because construction activities would be temporary and of short duration, impacts are expected to be less than significant.

Blasting is not anticipated for the DSWTP project, though it may be necessary at occasionally. If blasting were to occur, it would be of short duration and would be considered as having a less than significant impact on sensitive receptors. Mitigation would include using blasting only as a last resort, and during restricted times.

The EIS/EIR analysis finds that operation noise from project facilities would be below regulatory limits and that noise from maintenance activities would be low and of short duration. Therefore, no significant and unmitigable impacts are identified. However, due to the longer route and construction duration, substation construction, and the closer proximity to rural and suburban residences, noise impacts would be greater than for the proposed project.

Socioeconomics

Incorporated cities within the vicinity of the DSWTP Alternative include Blythe, Indio, Coachella, and Thousand Palms. The project would also pass through two parcels of land owned by the Agua Caliente Band of Cahuilla Indians. Greater than 95 percent of the area population is Caucasian and/or Hispanic (BLM & IID 2003).

While there has been no recorded growth in the civilian labor force in Imperial County in recent years, there has been growth in non-farm wage and salary employment, and the unemployment rate has been declining (BLM & IID 2003). However, Riverside County’s unemployment rates have consistently exceeded the State’s rates, and Imperial County’s annual average unemployment rate has consistently been the highest in the State.

According to the EIS/EIR, the DSWTP would not have a significant effect on employment in the overall project area. The number of project-related positions created would be negligible relative to the overall number of construction jobs in eastern Riverside County. The project would temporarily increase the population in the project area. However, the impacts from a temporary increase were not expected to be significant. The project was expected to also create an increased demand for housing in the Blythe, Coachella Valley, and/or Niland areas. This increase in demand was not expected to cause any significant negative short-term impacts to housing availability in the project area.

The project would contribute to a positive short-term impact on the local economy and on the fiscal resources of local governments in Riverside and Imperial Counties.

Specifically, Riverside County and the Palo Verde Valley would gain some economic benefit from construction expenditures.

According to the EIS/EIR analysis, the DSWTP Alternative would not place a significant demand on public services or facilities.

The DSWTP Alternative was not expected to have a disproportionately adverse environmental justice impact on minority, low-income, or American Indian populations, since the project was not found to have any significant impacts that would affect local populations. Overall, socioeconomic impacts would be similar to the proposed project and less than significant.

Soil and Water

The following hydrologic basins are located in the DSWTP area: Chuckwalla, Orocopia, Coachella (Indio Subbasin), East Salton Sea Basin, Amos Valley, Arroyo Seco Valley, and Palo Verde Mesa. The predominant character of groundwater in the Colorado Desert is sodium sulfate or sodium chloride, with significant concentrations of calcium and bicarbonate in some areas. All of the groundwater basins within the DSWTP area were found to have localized problems with poor water quality due to sulfate, chloride, fluoride, or high total dissolved solids (BLM & IID 2003).

Construction activities could result in a discharge of hazardous materials (e.g., gasoline, diesel, oil, lubricants, paint solvents) into a watercourse or wash in addition to sediment discharge during construction. The EIS/EIR analysis recommends the implementation of a Stormwater Pollution Prevention Plan (SWPPP) to mitigate the impacts of potential sediment discharges. In addition, wells and springs adjacent to construction areas could be disturbed or contaminated, which may be mitigated by limiting construction activities and the use of hazardous material near wells. Future tower locations located in areas subject to flood events could result in damage and risk of failure of project facilities. Towers should not be placed near watercourses or other high-risk flood areas. The Draft EIS/EIR finds that the use of water during construction would not have a significant impact on available resources (BLM & IID 2003).

The potential for increased soil compaction and rutting in the transmission line corridor was expected in only a limited or localized area of the project, and was therefore found to be a less than significant impact. Suggested mitigation includes restricting construction in or avoiding areas that are too wet.

The DSWTP Alternative would require reclamation of soils to prevent subsequent erosion. Success of such reclamation can be reduced in coarse to very coarse textured soils, soils with shallow depth to bedrock, and alkaline/saline soils. This impact is considered in the EIS/EIR to be less than significant with mitigation that would minimize vegetation removal and soil disturbance in areas with soil constraints.

The EIS/EIR finds that shrink and swell of expansive soils would have a less than significant impact on equipment foundations if expansive soils are excavated and replaced with backfill material. The analysis also concluded that future reclamation of

disturbed areas would minimize soil erosion, resulting in a less than significant impact on erosion.

Overall, the impacts of both the DSWTP Alternative and the proposed BEPTL project would be less than significant with mitigation. However, the potential impacts to soil and water resources from the DSWTP Alternative would be greater than for the proposed project due to two additional new substations and 51 additional miles of tower and transmission line construction.

Traffic and Transportation

All roadways within the DSWTP area have relatively low traffic volumes (compared with their design capacities). Roadways located near the project area include: I-10, SR-78, SR-111, and SR-115. The western portion of the route near Devers Substation is slightly more congested because the area is more developed and more heavily populated.

There are five airports located within the vicinity of the DSWTP project. The Blythe Airport is located in the northeast portion of the project area, approximately 1.2 miles west of the new substation/switching station on Hobsonway. Two minor airports include the Julian Hinds Pump Plant Airstrip and the Chiriaco Summit Airport, neither of which has a control tower. The Bermuda Dunes Airport is located three miles south of the DSWTP route. The Palm Springs International Airport is situated six miles south of the DSWTP project. The project would not be expected to have any impact on the operation of airport facilities (BLM & IID 2003).

The UPRR railroad line is situated within the western portion of the DSWTP project area and runs south of I-10 from Palm Springs to Indio where it turns south along the eastern side of the Coachella Valley and Salton Sea to Yuma, Arizona, and points east. The railroad is used extensively for transporting rail stock between California and points east.

Due to the number of vehicle trips for personnel and equipment movement during construction and operation, traffic volumes on area roadways would be expected to increase during the construction timeframe. This impact is considered in the EIS/EIR to be less than significant because of the limited traffic volumes on all roadways and the low number of construction-related trips per day.

Construction activities could create traffic delays and unsafe conditions for motorists, but the EIS/EIR determines that these impacts would be less than significant. The analysis suggests the use of temporary guard structures, short detour routes, and other traffic controls when necessary to reduce any potential impacts.

In addition, construction traffic may exceed the design weight capacities on local roadways, bridges, or culvert crossings, thereby damaging these roads or facilities. Although this impact was not found to be significant, mitigation would reduce this impact by requiring repair of any road damage either during or following construction.

Construction and operation of the DSWTP Alternative would comply with all LORS pertinent to traffic and transportation and would thus create less than significant impacts. This alternative would have a greater impact on traffic and transportation than the proposed transmission line because of the 51 additional miles of construction and two additional new substations. Construction along the western portion of the route would be in more developed areas near Palm Springs, which could create greater traffic impacts during construction activity and temporary road closures because the area is more congested.

Transmission Line Safety & Nuisance

Induced Current and Shock. The project may cause an incremental increase in the risk of electric shock within the transmission line ROW; however, because the line would be in an existing corridor it would not create a new risk. In order to reduce these impacts to less than significant levels, suggested mitigation includes grounding nearby fences, and consulting with agricultural land managers to ensure that irrigation practices do not create a potential for water stream contact with overhead transmission lines. The first 2.9 miles of both the proposed project and this alternative would cross agricultural lands; however, the lands are undeveloped or abandoned orchards/jojoba. The DSWTP Alternative would have a similar risk of electric shock to that of the proposed project, but could be slightly greater with the construction of a 500-kV line

Effects on Pacemakers. An energized transmission line also creates potential disruptions to pacemaker operation within and immediately adjacent to the transmission line ROW. The biological consequences of a brief, reversible pacemaker malfunction are considered to be mostly benign, with the chance of a life-threatening malfunction considered to be a rare event. Disruption impacts to pacemaker operation of the DSWTP Alternative would be similar to the proposed project and would not cause a significant change to the baseline conditions within the existing transmission line corridor.

Blasting. Transportation and the use of blasting materials (if necessary) would be expected to create an increased risk of injury to workers and the public. The use of a licensed contractor with a valid California “Blaster License” pursuant to Cal-OSHA Article 8, Section 1550-1580 would mitigate risks to less-than-significant levels. Impacts between the proposed project and any alternative would be similar.

Magnetic Fields. Computer modeling software, including a program developed by Bonneville Power Administration, was used for the DSWTP EIS/EIR analysis to estimate existing electric and magnetic fields at points within the project area. The EIS/EIR used levels established by the American Conference of Governmental Industrial Hygienists (1999) and the International Commission on Non-Ionizing Radiation Protection (1998) as a benchmark for potentially significant impacts

The analysis found that the project could increase EMF levels within and in areas immediately adjacent to the ROW. Increases in EMF were found to occur within 300 feet of the centerline (IID & BLM 2003). As there would be few residences or other activity within this area, impacts from EMF levels are considered less than significant.

Similar to the proposed project, this alternative would not be likely to cause significant transmission line safety hazards or nuisances. However, the length of the DSWTP Alternative line would be approximately 51 miles longer than the proposed project, resulting in the proposed project line as preferable in terms of the total length of the source of line fields to which individuals might be exposed.

Visual Resources

The 118-mile DSWTP Alternative transmission line would be located almost entirely within a BLM-designated utility corridor, and, as such, would be subject to the BLM VRM System. The alternative route is addressed in two segments in the following paragraphs.

Visual Setting of the Eastern End of DSWTP Alternative Corridor to Chuckwalla Mountains. The landforms in this area consist of flat valley bottoms, dry lake beds, and low rolling terrain with few interesting landscape features. Vegetation in this area is generally sparse and features little variety of contrast. Water features are not present in this region. Color variations in this area are subtle with little contrast. Adjacent scenery, comprised of distant mountain ranges, has little influence on the overall visual quality in this broad valley bottom setting. The scenery is quite common in this region. Finally, cultural modifications consisting of I-10 and various transmission lines, roads, and other linear features add variety, but are discordant with the natural landscape. This area of the alternative route from the eastern end of the DSWTP Alternative to the Chuckwalla Mountains was assigned an Interim VRM Classification of IV. The management objective for Class IV states that any contrast may attract attention and may be a dominant feature of the landscape in terms of scale, but should repeat the form, line, color, and texture of the characteristic landscape (IID & BLM 2003).

Visual Setting of the Central DSWTP Alternative Area from the Chuckwalla Mountains to the CVPA Planning Area. The landforms in this area consist of several mountain ranges that lie to the north and south of the I-10 corridor at varying distances. This landscape features desert mountain ranges, canyons, and buttes, featuring interesting geologic and erosional patterns. These mountain ranges are dominant in this landscape, but are not exceptional in character. Vegetation in this area exhibits some variety, but is comprised of just one or two major types or communities. Water features are not present in this region. Color variations in this area provide some variety, given the geology of the mountain ranges present; the color contrasts between soils, geology, and vegetation in this region are not a dominant scenic element. Adjacent scenery, comprised of adjacent mountain ranges, greatly enhances visual quality in this area. This scenery is quite common in the California Desert, and although it is distinctive, is not considered exceptional as viewed from the I-10 corridor. Finally, cultural modifications consisting of I-10 and various transmission lines, roads, and other linear features add variety, but are discordant with the natural landscape. This area of the alternative route from the Chuckwalla Mountains to the CVPA Planning Area is assigned an Interim VRM Classification of III in the EIS/EIR. The management objective for Class III states that changes to the basic elements caused by management activity may be evident but should remain subordinate to existing landscape (IID & BLM 2003).

There are very few rural residences and commercial businesses that would be sensitive to visual impacts associated with the DSWTP Alternative. There are areas utilized for designated and dispersed recreational uses in areas adjacent to the various project transmission routes. Special areas, consisting of designated wilderness areas, are located adjacent to, but outside of this alternative transmission line corridor.

There are a number of scenic roadways that traverse near the project area. Highway 62 is located west of the Devers Hill and Devers Substation and is designated as a State Scenic Highway. SR-111 is an eligible State Scenic Highway, but is not officially designated (U.S. DOT State Scenic Highways 2002). The Bradshaw Trail is designated a National Scenic Byway (U.S. DOT National Byways 2002) and a National Back County Byway by the BLM.

Visual Resources Impact Analysis. According to the DSWTP EIS/EIR, potential visual impacts during construction, such as from temporary spur roads and vegetation removal, would have only a short-term adverse visual impact, which would not be significant with mitigation, such as restoring both the original condition and grade to ground surfaces within the ROW; and revegetation of disturbed areas.

A total of nine Key Observation Points were analyzed, and the EIS/EIR finds that the visual contrast rating conforms with the BLM VRM classification. Therefore, the analysis found that the project would not conflict with BLM's VRM goals and objectives. The EIS/EIR finds that temporary and permanent visual impacts would be less than significant. Regardless, this alternative would be less preferred than the proposed BEPTL for visual resources because the DSWTP route would be substantially longer and the towers would be larger because the DSWTP would be a single-circuit 500-kV transmission line. Also, two additional new substations would be constructed (Keim and one near Dillon Road). However, if DSWTP were to be constructed first then there may not be a need to construct the proposed BEPTL line, whereas construction of BEPTL first would have little influence on whether DSWTP is constructed.

Waste Management

Similar to the proposed project and the Eagle Mountain Alternative discussion above, the project would need to implement a comprehensive program to manage hazardous wastes and obtain a hazardous waste generator identification number (required by law for any generator of hazardous wastes). The project would be required to comply with all LORS. The environmental impact of waste disposal would be less than significant, and similar to the proposed project.

Worker Safety & Fire Protection

Similar to the proposed project and the discussion for the Eagle Mountain Alternative above, worker safety would be protected by adherence to LORS, which include Cal-OSHA regulations. Fire protection would also be assured by following LORS including the California Fire Code. Therefore, this alternative would have a similar impact in the areas of worker safety and fire protection to the proposed BEPTL.

Geology, Mineral Resources, and Paleontology

The DSWTP project would pass through the following hydrogeologic regions:

- Palo Verde Mesa consists of an alluvial-filled structural basin, ranging from a few feet in depth to more than 1,500 feet.
- The Chuckwalla and Orocopia Valley basins contain alluvial deposits formed from the fluvial erosion from surrounding mountains. The lithologies of these ranges consist of Mesozoic granite, Tertiary volcanics, Eocene marine deposits, Oligocene and Miocene non-marine sediments, Pre-Cretaceous metasedimentary, and Precambrian igneous and metamorphic rocks.
- The Coachella Valley consists of late Pleistocene and Holocene alluvial deposits from historical flooding of the Colorado River, and lacustrine deposits from the Salton Sea.
- The Palo Verde Mountains are composed of volcanic rocks and the claystone, siltstone, and sandstone of the Bouse Formation.
- The Arroyo Seco Valley is similar to other local basins.
- The Chocolate Mountains consist of Precambrian igneous and metamorphic complexes, Mesozoic granite rocks, Tertiary volcanic and intrusive rocks, and Plio-Pleistocene sedimentary deposits.
- The Amos Valley and the East Salton Sea Basin are composed of a sedimentary fill of sands and gravels, ranging up to 15,000 ft in thickness, and contain fault lines from the San Andreas Fault system.
- The Algodones Dunes consist of eolian sand deposits from the former Lake Cahuilla.

There has been no record of land subsidence in the northeastern portion of the DSWTP area on the Palo Verde Mesa. However, existing transmission lines passing south of the Chocolate Mountains have experienced a continuous natural subsidence near the Salton Sea.

According to the EIS/EIR, seismic activity could pose a significant risk in the DSWTP project area and could damage project facilities if they were not properly constructed. The western end of the DSWTP Alternative route would be in a zone of high peak accelerations for seismic activity. The eastern end of the alternative route is classified as Seismic Zone 3, while the remaining DSWTP area is classified as Zone 4. There are neither active nor potentially active faults in the Palo Verde Mesa area, and no Alquist-Priolo Earthquake Fault Zones. However, the DSWTP would cross two complex branches of the San Andreas Fault around the City of Palm Springs. Suggested mitigation in the Draft EIS/EIR includes avoiding tower sites within known fault zones, and construction of facilities using engineering strategies that would withstand projected ground shaking.

There is a 10-mile section of the DSWTP route that is characterized with a moderate to very high liquefaction potential, which is a located north of Indio. The remainder of the

project area has a low liquefaction potential, except in areas of unconsolidated soil, which may pose a dry, liquefaction-like risk during an earthquake.

The majority of the DSWTP area would pass through valleys and mountain fringes where there is a low risk for landslides. The greatest landslide risk would occur along portions of the Palo Verde Mountains and the Chocolate Mountains.

The EIS/EIR found that hazards from unstable slopes and seismicity could affect roads used for construction. Also, some tower sites would be subject to geotechnical hazards that would need to be corrected prior to construction. However, impacts to roads or the local environment from excavations and fill were considered less than significant. Site-specific geologic conditions have yet to be determined and may create a significant disturbance on project facilities. The EIS/EIR suggested mitigation such as utilizing an engineering geologist to make recommendations for moving towers or roads, or identifying appropriate construction methods.

Mineral Resources. Although there are a number of mines in the DSWTP area, the Draft EIS/EIR states that the DSWTP would not create impacts to mines or mineral resources.

Paleontology. The EIS/EIR preparers reviewed the Regional Paleontologic Locality Inventory at the San Bernardino County Museum, and the EIS/EIR lists 66 previously recorded paleontologic resource localities that are within the general project area. However, many of these locations are outside of the area expected to be directly impacted by the project.

Excavation in conjunction with development of the DSWTP project has the potential to discover previously unknown fossil resources, but there is also a high potential to adversely impact significant paleontologic resources. The EIS/EIR recommends that mitigation be implemented to prevent paleontologic impacts, including requiring that a qualified vertebrate paleontologist develop a program that includes pre-construction surveys; monitoring; preparation, identification, and curation of recovered specimens; and preparation of a report of findings.

Conclusion. Although impacts would be less than significant, due to the alternative's greater length and the construction of two additional new substations, there is a greater potential to impact geologic, mineral, or paleontological resources.

Transmission System Engineering

The DSWTP Alternative would result in construction of a new double-circuit 230-kV or single-circuit 500-kV transmission line from the Buck Boulevard Substation to the SCE Devers Substation. According to the Blythe Area Regional Transmission (BART) Study prepared in 2002-2003, this alternative could accommodate[6] both BEP and BEP II and potentially form the western portion of the proposed D-PV2 line. From a long-range planning perspective, and optimization of the designated utility corridor and the state's

[6] The Blythe Area Regional Transmission (BART) study concluded that the DSWTP was feasible assuming implementation of mitigation measures. SISs conducted in accordance with the generation/transmission queue are required to establish feasibility and identify mitigation measures.

interests, the DSWTP is strongly preferable to the proposed project, which has only moderate transmission capacity and would utilize important corridor space. However, absent negotiation with the DSWTP project sponsor, it would not be under the control of Blythe Energy, which is a desirable, but not essential, goal. Should Blythe Energy negotiate with the DSWTP project proponent, conformity with the established planning/siting principle of "sharing" new transmission facilities would occur. Additionally, the comparative cost of this alternative has not yet been established but is an important factor in the evaluation of the alternative.

The design and construction of this alternative would have to be in compliance with applicable engineering laws, ordinances, regulations and standards for both the alternative and the alternative variation. Impacts related to facility design would be similar to the proposed project.

DEVERS-PALO VERDE 500-KV NO. 2 PROJECT ALTERNATIVE

ALTERNATIVE DESCRIPTION

The Devers-Palo Verde 500-kV No. 2 Transmission Line Project (D-PV2) as proposed by Southern California Edison (SCE)[7] includes a 230-mile new 500-kV line from the Harquahala Substation (in Arizona, near the Palo Verde nuclear power plant) to SCE's Devers Substation (in North Palm Springs, California). The project also includes upgrades to an additional 50 miles of 230-kV lines west of the Devers Substation. The 500-kV portion would be within or immediately adjacent to SCE's existing D-PV1 ROW.

This project was approved by the CAISO in February 2005 and the environmental permitting process is underway with the California Public Utilities Commission (CPUC) as the CEQA lead agency and the U.S. BLM as the lead agency under NEPA. The Draft EIR/EIS was published on May 4, 2006 (CPUC & BLM 2006).

This alternative would eliminate the need for the 67-mile Buck Boulevard to Julian Hinds component of the proposed project. However, the Buck Boulevard Substation to Midpoint Substation line would still need to be constructed in order for the Blythe generation to connect into the SCE transmission grid at the D-PV1 corridor.

Alternative Variation: Connect to D-PV1 Corridor at Proposed Midpoint Substation

An option to the D-PV2 Alternative (in which a new transmission line would be constructed between Midpoint and Devers substations) would be to construct a new transmission line only between Buck Boulevard and the proposed Midpoint Substation. Initially, this option would allow use of any available capacity in the existing D-PV1 transmission line. However, after the D-PV2 line is constructed, the electricity generated at BEP I could be transmitted to southern California via the D-PV2 line also.

[7] Los Angeles Department of Water and Power (LADWP) has petitioned the CPUC to stop work on SCE's Certificate of Public Convenience and Necessity (CPCN) for the D-PV2 Project because LADWP claims to have the legal right to build and operate the line, which would not be a CAISO-controlled line. Regardless, the identity of the line's eventual owner/operator does not affect this BEPTL SA/DEA analysis, which is based upon the properties of the line itself.

This option would require installation of a new double-circuit 230-kV line from the expanded Buck Boulevard Substation to a new Midpoint Substation or an alternative substation. Both 230-kV lines would terminate at Midpoint Substation. At the Midpoint Substation or an alternative substation a 230-kV/500-kV transformer would be installed. Initially the line would loop into the existing D-PV1 line and the station would be designed to allow for D-PV2 to also loop into Midpoint Substation when it is completed. The impacts of this option would be substantially less than those described below for the new 500-kV transmission line. However, there are limitations on the existing capacity of the D-PV1 line and it is likely that not all BEP I generation could be transmitted on this line.

D-PV2 Segments

Because of the widely varying issues and local settings along the 277-mile corridor, the alternative transmission project is described in three distinct segments:

- New 500-kV transmission line: 230 miles from the Arizona Substations to Devers Substation.
- Reconfigured 230-kV line: 40 miles from Devers Substation to San Bernardino Junction at the western end of San Timoteo Canyon.
- Reconductored 230-kV line: two separate corridors, from San Bernardino Junction to SCE's San Bernardino Substation and from San Bernardino Junction to SCE's Vista Substation.

Each of the segments is described below.

Arizona Substations to Devers Substation (New 500-kV Line)

The new 500-kV transmission line would follow the existing D-PV1 corridor from the Arizona substations to Blythe. The existing corridor in Arizona is several miles south of I-10 for much of the route and then crosses I-10 twice within the 50 miles west of the Palo Verde Nuclear Generating Station. Approximately 106 miles long, the Arizona segment is almost entirely on BLM land. There are no apparent developed areas along this segment, although the line would pass through the Kofa Wildlife Refuge.

The California portion of the new 500-kV line extends for approximately 120 miles, partially on Federal Bureau of Land Management (BLM) land and partially on private land. The line would pass through agricultural lands south and east of Blythe. In this segment as in Arizona, SCE plans to install towers for a new 500-kV transmission line, located one-for-one adjacent to the existing 500-kV towers. The new towers would be about 300 feet from the existing ones and would use existing access roads extended to the new towers.

SCE already holds an easement from BLM for the D-PV2 line (it was granted at the time of approving the existing D-PV1 500-kV line), but BLM requires that the NEPA documentation be updated since the endangered species situation has changed since the late 1980's when the original EIS was completed.

Devers Substation to San Bernardino Junction (Upgrade 230-kV Line)

This segment is approximately 40 miles long, and is within central and western Riverside County. In this segment, there are currently three sets of transmission towers: one double-circuit steel lattice 230-kV tower and two single-circuit towers (steel or wood; each with the phases arranged horizontally). SCE plans to remove the two lines of single-circuit towers in the ROW and replace them with a single double-circuit steel lattice tower line that looks like the existing double-circuit lattice tower line that the new line would parallel. As such, it is anticipated that the corridor would change from three lines of towers to two lines of towers, but the new tower line would be taller than either of the two lines removed.

The upgrade segment would begin at the Devers Substation, less than one mile east of Highway 62 and just north of Dillon Road, and cross Highway 62 roughly one mile north of I-10. The corridor continues west through wind farms, the Morongo Reservation, and the foothills of the San Bernardino Mountains. From Devers Substation to the outskirts of Banning, the transmission line would be primarily within open space with few nearby residences.

There are residential areas in this segment south of the corridor from the east end of Beaumont at Cherry Avenue (where a trailer park is adjacent to the south edge of the corridor). Passing about two miles north of central Beaumont and I-10, the corridor continues due west, and just north of Oak Valley Parkway. Through these new housing developments, the corridor is wide and well defined. Part of the corridor has been landscaped as a park. At about 10 miles from the west end of the canyon, the corridor passes through new housing developments between Cherry Valley and Beaumont, then crosses I-10, continues west-southwest, and crosses San Timoteo Canyon Road, Through much of San Timoteo Canyon, the corridor is not visible or barely visible on the ridgelines south of the canyon. After leaving the west end of the canyon, the lines diverge from each other at San Bernardino Junction, south of Loma Linda in inaccessible open space.

San Bernardino Junction to San Bernardino Substation and Vista Substation (Reconductor 230-kV Line)

This westernmost segment includes the most intensely developed portions of the D-PV2 alternative route, and has portions in San Bernardino and Riverside Counties. In this segment, SCE proposes to reconductor the existing lines on existing 230-kV towers. Some tower upgrades, such as making the existing towers taller, may be needed in this segment.

San Bernardino Junction is the point at which the 230-kV transmission lines from Devers Substation separate to go to the two different substations. San Bernardino Junction itself is not visible from public streets, but is located in the hills south of Loma Linda.

San Bernardino Junction to San Bernardino Substation

The San Bernardino Substation is on the southeast side of the City of San Bernardino, several miles north of the I-10. It is in an open space/light industrial area, immediately east

of the Mountainview Power Plant, where a new generating unit is under construction adjacent to the existing unit.

The existing transmission corridor from San Bernardino Junction to the substation is approximately four miles long, due north from the San Bernardino Junction. This segment mostly consists of two 230-kV lattice towers in a wide corridor of agricultural land. However, there are residences adjacent to the corridor in several areas: (a) new homes are being built immediately adjacent to the corridor near Mission Road; (b) north of Beaumont Avenue where the corridor has homes on both sides and a park has been recently constructed within the corridor, and (c) its southernmost segment between Beaumont Avenue and San Timoteo Wash.

San Bernardino Junction to Vista Substation

The transmission corridor from San Bernardino Junction to the Vista Substation is approximately five miles long. The Vista Substation is southwest of San Bernardino and due west of the San Bernardino Junction. Much of the corridor is in the hills south of Loma Linda and is not visible from public roads. The westernmost 1.5 miles, nearest the Vista Substation, goes through the City of Grand Terrace and passes several residences along Grand Terrace Road, east of Interstate 215 (I-215). The lines are also adjacent to an elementary school, church, and senior center along Grand Terrace Road, near Mt. Vernon Avenue. The lines cross I-215 at the substation. There are two residences northwest of the substation on Grand Terrace Road and a trailer park across from the substation entrance on Newport Avenue.

RATIONALE FOR CONSIDERATION

This alternative is being considered for the following reasons.

- This project would eliminate the need for the BEPTL because it would provide adequate transmission capacity from the Blythe area to SCE's major substations. The temporary and permanent impacts associated with 67 miles of tower construction and operation for the BEPTL would not be required.
- It would reduce corridor clutter by serving all transmission need in a single line, rather than requiring several lines.
- It would meet the basic project objective of allowing sale of all generated electricity into the CAISO system.
- It would allow for a significant increase of imported generation.
- It would likely provide capacity for the proposed BEP II as well as BEP I.

ENVIRONMENTAL AND ENGINEERING ASSESSMENT FOR D-PV2 ALTERNATIVE

Air Quality

Construction emissions associated with the project would be created by on-site and off-site mobile sources. On-site construction emissions typically consist of exhaust emissions from heavy-duty diesel- and gasoline-powered construction equipment, as well as fugitive

particulate matter from soil disturbed during ground disturbing operations (e.g., grading, excavating, etc.).

Off-site exhaust emissions during construction would result from workers commuting to and from the job site, as well as from trucks delivering material and equipment to the staging area(s). Helicopters may also be used to transport material and equipment to the construction sites and to assist during stringing activities.

Each local air quality district in California establishes its own significance criteria for environmental review of projects based on the specific conditions within each air basin. From east of Devers to the western end of the line at San Bernardino and Vista Substations, the D-PV2 project would be completely within the South Coast Air Basin. Like the proposed BEPTL project, the segment from Blythe to Devers is partially within South Coast and partially within the Mojave Desert Air Basin. The segment of the alternative route that is located east of Blythe would be within La Paz and Maricopa Counties, Arizona, where the project would be on Federal land administered by BLM, but the Maricopa County Environmental Services Department, Air Quality Division may retain an interest in managing sources of air pollution.

The D-PV2 Alternative has the potential to create significant air emissions during construction activities, which are estimated to last for up to three years. However, with implementation of standard mitigation, air emissions would likely be controlled to levels where impacts would be less than significant. During project operation emissions generated by routine preventive maintenance and inspection activities would be minimal. Due to the much longer route and duration of construction, overall air quality impacts would be substantially greater with the D-PV2 Alternative than for the proposed project. However, construction of this project could reduce cumulative impacts by eliminating the need for other projects in the same transmission corridor. Overall, like the proposed project and the alternative itself, impacts would be less than significant after implementation of required mitigation.

Biological Resources

The D-PV2 Alternative would cross numerous drainages under the jurisdiction of the U.S. Army Corps of Engineers and CDFG, as well as habitat for a number of Federal and State listed sensitive plant and wildlife species.

San Bernardino Substation and Vista Substation to San Bernardino Junction

Because this segment of the D-PV2 Alternative would include only reconductoring and minimal tower upgrades, the work may be performed outside the breeding season for California gnatcatcher (March 15 to June 30) and so impacts would be less than significant. Several drainages under the jurisdiction of the Corps and CDFG occur in this segment.

San Bernardino Substation to San Bernardino Junction

The majority of this segment is surrounded by development and agriculture. The southernmost reach near the San Bernardino Junction comprises non-native grassland that may be suitable habitat for Stephens' kangaroo rat and some Riversidean sage

scrub that represents marginal habitat for the California gnatcatcher. The northernmost portion of this segment, near the substation, is adjacent to the Santa Ana River. Although San Bernardino Merriam's kangaroo rat is known to exist in the riparian Santa Ana River habitat nearby, the habitat immediately surrounding the substation has been developed/disturbed, and the project is unlikely to affect habitat for this species.

Vista Substation San Bernardino Junction

The eastern two thirds of this segment comprises a mix of chaparral on the higher ridges, including Riversidean sage scrub, which is potentially suitable of the California gnatcatcher on the lower slopes, and non-native grassland, which could support Stephens' kangaroo rat.

San Bernardino Junction to Devers Substation

The western portion of this segment crosses steep to rolling hills along the southern rim of San Timoteo Canyon. The segment crosses numerous jurisdictional drainages most of which are primary or secondary tributaries to San Timoteo Creek. Some of the drainages support Riversidean alluvial fan sage scrub and habitat for San Bernardino Merriam's kangaroo rat. Upland vegetation communities for this portion of the segment include non-native grassland potentially supporting Stephens' kangaroo rat, Riversidean sage scrub potentially supporting California gnatcatcher on the lower slopes, and chaparral on the ridges and higher slopes. Much of this portion of the segment is in Riverside County and covered by the Western Riverside Multiple Species HCP.

Further east, the corridor crosses San Timoteo Creek. At or near the crossing, the creek may support San Bernardino kangaroo rats on the upper benches. The plant community in this reach of the creek is primarily cottonwood-willow riparian forest/southern willow scrub and may also support least Bell's vireo, southwestern willow flycatcher and other sensitive riparian-breeding birds. However, the alternative project would likely be able to avoid direct impacts (including equipment crossing other than at the existing bridge) and indirect impacts may be avoided by completing work on this segment outside the breeding season so focused surveys for least Bell's vireo and other riparian-breeding birds may not be required at this location. Vegetation communities and wildlife habitat from the San Timoteo Creek crossing to the I-10 crossing are similar to those described above for the western portion of the segment.

North of I-10 in the Cherry Valley and Beaumont areas, the corridor crosses new residential areas and disked fields before traversing the rolling hills of the San Bernardino Mountain foothills which comprise mostly non-native grassland, some small patches of coastal sage scrub, and, on the higher ridges, chaparral. Generally speaking, the coastal sage scrub in this area is outside the recently known range of California gnatcatchers and the area is also outside the range of Stephens' kangaroo rat and the San Bernardino kangaroo rat. The corridor continues in these plant communities until reaching the desert washes and creosote bush scrub of the westernmost portion of the Colorado Desert. This portion of the segment crosses a number of large ephemeral drainages and desert washes and a mesquite grove on the Morongo reservation. This portion of the route ends in the westernmost portion of the Coachella Valley, in or near habitat for a number of sensitive species, including (but not limited to) Coachella Valley milkvetch, desert tortoise, and Coachella Valley fringe-toed lizard.

Devers Substation to Blythe

This segment crosses the desert scrub and wash plant communities of the Sonoran Desert supporting numerous sensitive plant and wildlife species including those mentioned above and others, which are the focus of the Coachella Valley California Desert Conservation Area (CDCA) Plan Amendment and the ongoing Coachella Valley Multiple Species Habitat Conservation Planning (HCP) effort. Mitigation measures would be necessary to protect biological resources from indirect impacts, especially in the following protected areas which are nearby to the D-PV2 route:

- Coachella Valley Preserve (jointly owned and managed by the BLM, U.S. Fish and Wildlife Service, CDFG, and the Nature Conservancy). Coachella Valley Preserve was established by the original habitat conservation plan to provide habitat for the Coachella Valley fringe-toed lizard; and
- Joshua Tree National Park (administered by the National Park Service [NPS]). Joshua Tree National Park provides diverse habitat spanning both Colorado (Sonoran) and Mojave Deserts and it may be indirectly affected by the D-PV2 Alternative, which passes just outside of the park boundary to the south.

The majority of this segment is coincident with the project corridor analyzed in the DSWTP Draft EIS/EIR and in the Petition for the proposed BEPTL project.

Blythe to Eastern Substations

This segment of the D-PV2 Alternative transmission line would pass through the western portion of the Sonoran desert in Arizona. This area of the Sonoran desert is dominated by the Lower Colorado River Valley subdivision with the higher elevations containing the Arizona Upland subdivision. Although it is a dry, harsh environment, many well-adapted plant and animal species thrive in this region. A portion of the route is within Kofa National Wildlife Refuge, administered by the U.S. Fish and Wildlife Service. Federally listed threatened and endangered species in this area include many water reliant species, such as the desert pupfish, the bald eagle, the southwestern willow flycatcher, and the Yuma clapper rail. The Mexican spotted owl is also protected in the eastern end of this segment. However, with the exception of the Colorado River area, most of the D-PV2 corridor does not contain riparian habitat communities needed for these species. Additionally, a large part of the corridor is under BLM administration; therefore, all BLM Sensitive Status Species would need to be addressed and mitigated for, including the Sonoran desert tortoise. Plant species protected under the Arizona Native Plant Law by the Arizona Department of Agriculture would also need to be mitigated for within the corridor.

Raptor power line collisions in the Colorado River area may occur. Standard guidelines for avoiding such impacts are provided for the power industry in a publication entitled Suggested Practices for Raptor Protection on Power Lines. This publication was based on the results of research efforts by the Edison Electric Institute and the Raptor Research Foundation and was last updated in 1996. Although these recommendations and publications are available, the problem has not been resolved and raptors are still dying due to collisions with power lines. However, mitigation measures as suggested by the Raptor Research Foundation and Edison Electric Institute would minimize the number of raptors killed until further research and technology has been developed. The

implementations of these guidelines would help avoid harm to raptors, which are protected by the Migratory Bird Treaty Act of 1918 and the Bald and Golden Eagle Protection Act.

Conclusions

Overall this alternative would temporarily and permanently destroy a much greater area of biological habitat than the proposed project due to its greater length and its use of 500-kV lattice towers, which would have a larger footprint. In addition, the D-PV2 Alternative would require a crossing of the Colorado River, in an area where there is raptor collision potential. However, the construction of the D-PV2 Alternative could reduce cumulative impacts resulting from construction of multiple lines within the D-PV1 corridor.

Cultural Resources

As discussed in more detail under the Eagle Mountain Alternative above, the D-PV2 Alternative would be subject to both CEQA and Section 106 of the National Historic Preservation Act. This section describes potential impacts and mitigation measures and full analysis is included in the DPV2 Draft EIR/EIS (CPUC & BLM 2006). BLM has initiated Native American consultation on the D-PV2 Project.

San Bernardino Substation and Vista Substation to San Bernardino Junction

The western and northernmost portion of this segment proceeds through residential developments and agricultural lands. Most homes along the transmission line were probably built less than 50 years ago and therefore would not be considered significant cultural resources. For both CEQA and Section 106 regulations, 50 years is the minimum age requirement for recommending a structure as an important resource. However, guidance from the OHP recommends that 45 years be used as the age for assessing cultural resources. There is also a provision in law for consideration of cultural resources that are less than 50 years of age and are exceptional. However, if structures older than 50 years are present along the project corridor, they would require documentation and subsequent architectural/historical evaluation. Although the project would not likely threaten the physical integrity of any structure, these structures should be evaluated to assess whether addition of new facilities would compromise the visual qualities and/or overall setting of the building. This approach applies to both CEQA and Section 106 compliance.

Agricultural lands may also contain historical elements (e.g., 19th and early 20th century homesteads, irrigation canals, etc.) and occasionally prehistoric remains, but in this area they have been subject to long-term ground disturbance and typically lack significant cultural resources. In addition, agricultural disturbance does not usually exceed a depth of four feet. Excavation that exceeds the depth of previous agricultural disturbance may impact intact archaeological sites. The eastern portion of this segment proceeds through the hills south of Loma Linda, where there is a much higher potential to encounter archaeological sites. If buildings along this route may be impacted by the project they need to be evaluated for eligibility to the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR). Since this is a fairly developed area, there is a potential for impacts to historic built environment resources. In general reconductoring is preferable to installation of new poles and line because less ground disturbance is expected. If this route were chosen, a records search and

cultural resources survey would be necessary to ensure avoidance or other mitigation, if necessary. During the permitting phase of the Mountainview Power Plant, numerous historic cultural resources were identified. It is not likely that reconductoring existing powerlines would impact these resources. However, if existing power lines are more than 45 years old they should be evaluated for eligibility to the NRHP or CRHR because reconductoring would be an impact.

San Bernardino Junction to Devers Substation

Significant architectural resources do not appear to be a concern in this segment, since the corridor passes through mainly recent residential/commercial areas or undeveloped lands. However, the age of built environment resources would need to be verified prior to dismissing the possibility of impacts. The presence of both prehistoric and historical resources may be likely in San Timoteo Canyon and other areas that lie near a water source. Areas in or near San Timoteo Canyon may have been used as a World War II training ground and may contain historical material from that period.

If this line were to be permitted, a records search and cultural resources survey would be necessary to ensure that avoidance or mitigation was conducted if cultural resources were identified. It appears that there are numerous buildings along this route. Historic buildings and structures could be impacted by ground disturbance and construction activities. This route would pass through the Morongo Indian Reservation. If the Indians object to the route, this location might be a problem.

Devers Substation to Arizona Substations

As mentioned above, the segment passes through Federal lands, and the presence of areas of religious or cultural significance to Native Americans becomes an important issue in this segment. The initial phase of consultation involves contacting the Native American Heritage Commission for the names of Native American representatives in the project area as well as the locations of Traditional Cultural Properties. These representatives will then be contacted (usually with letter correspondence followed by a phone call) and solicited for any comments or concerns they may have about the project. It is likely that several historical and prehistoric sites are located near the Colorado River.

The Arizona portion of the D-PV2 Alternative would pass through the western desert of Arizona, an area claimed as a traditional use or an ancestral area by Native American tribes including the Mohave (Colorado River Indian Tribes), Fort Mohave, Prescott-Yavapai, the O'odham and Pee Posh (Salt River Pima-Maricopa Indian Community, Gila River Indian Community, Ak-Chin Indian Community, and the Tohono O'odham Nation), and the Hopi Tribe (per the Arizona State Historic Preservation Office). Documented human use of the area extends back some 11,000 years to the end of the Pleistocene and early Holocene. Paleoindian, Archaic, and Ceramic period peoples occupied and traversed the area, leaving behind an array of artifact and site types. The proposed route passes through two Ceramic period culture areas, the western fringes of the Hohokam and the Yuman (Patayan). The majority of prehistoric Native American sites encountered will likely be associated with the Yuman occupation of the area. Site types encountered may include isolated artifact occurrences (e.g., pottery, stone tools, projectile points) and features (e.g., trail segments, cleared areas [sleeping circles], cairns) and sites of various sizes. The sites in the area typically consist of multiple

cleared areas and associated artifacts (pottery, flaked stone, and ground stone). These occur in area of desert pavement. Also found in the area are intaglios, designs cleared in the desert pavement in the form of humans, animals, or geometric forms. It is also likely that historical period Euroamerican sites are present. The area was widely explored by miners and it served as a major transportation corridor (early Spanish explorers and Euroamericans). As such, historical trails, roads, and railroad corridors and associated features may also be encountered.

Conclusion

There is the potential for the D-PV2 Alternative to create significant impacts to historic, Native American, and archaeological resources. The Draft EIR/EIS found significant and unavoidable impacts to cultural resources in the Alligator Rock ACEC area and in any instance where a site could not be avoided. Extensive cultural resources and Native American monitoring would need to be conducted to identify newly discovered sites during ground disturbance and construction. Impacts would be significant unless all sensitive site can be avoided.

Hazardous Materials

Preexisting soil contamination could affect construction workers and the public during project construction. This is especially a concern for substation work and tower/pole locations where excavation may occur in urban, populated areas of the corridor (along the western portion) where historic or current uses may have resulted in soil contamination. If contamination exists, appropriate procedures must be implemented for protection of workers and groundwater quality. Because much of the project route would be through the rural or undeveloped areas, only very sparse commercial or industrial activities could contribute to soil or groundwater contamination. Limited potential for contamination could occur from current and historic pesticide and herbicide use along the alignment. In the urban and suburban areas, especially in San Bernardino County and central and western Riverside County, commercial (e.g., gas stations and dry cleaners) and light industrial uses may have resulted in localized soil and groundwater contamination.

In addition the route would pass through the Desert Training Center (DTC). The DTC was an 18,000 square-mile Army training ground used from 1942-1944 to train U.S. troops in desert survival and warfare in anticipation of battle with General Rommel's Africa Corps. General Patton created and commanded the DTC; a memorial museum to him and the DTC is located off I-10 at Chiriaco Summit at the site of Camp Young, one of 12 World War II training camps that were part of the DTC. Remnants from many of the 12 fields camps remain, mostly rock mosaics, altars and road alignments. In addition, the area was used to test ammunition/weapons and supplies in a desert environment and to make training as realistic as possible by using live ordnance. Although ordnance is supposed to have been removed from the areas near the proposed D-PV2 route, ordnance debris may still exist. There is a small likelihood that it could be uncovered during project construction, requiring that the Army be called in to remove it.

A complete search of public records should be conducted to identify known areas of contamination. In addition, mitigation should be developed to define procedures that

would be used if contaminated soils or groundwater were encountered during construction.

Mitigation measures would be developed to protect construction workers and the public. In particular, pre-construction research and testing of known or suspected contamination sites would be essential to define conditions that may be encountered during construction. All hazardous materials used and stored during construction would need to be handled in an appropriate manner consistent with regulations. Usually, use of mitigation measures such as these would reduce potential for impacts to less than significant levels.

Land Use

Physical land use impacts would occur if construction activities and occasional activity for operation and maintenance of the project would disrupt access to some uses, especially residential, commercial, and recreational areas. The Draft EIR/EIS found the potential for significant and unavoidable impacts to recreational resources in the area of Alligator Rock ACEC near Desert Center (CPUC & BLM 2006). There are also some portions of the D-PV2 Alternative corridor that pass through agricultural land uses. In addition, there are some areas along the project route where SCE would need to acquire additional property rights, which would further restrict existing land uses. Measures for land use impacts may also be identified in the analyses for other issue areas such as air quality, noise, visual resources, transportation, and public heath and safety. By replacing the proposed project, this alternative would also eliminate multiple transmission lines within the same corridor and their associated cumulative impacts, which is a stated goal of the BLM.

San Bernardino and Vista Substations to San Bernardino Junction

In this segment, the D-PV2 Alternative would consist of 230-kV reconductoring with possible tower upgrades, within an existing transmission corridor. Therefore, the proposed project would not be expected to result in preclusion of recreational or other land uses, because the project would not permanently alter the existing ROW. However, construction activity associated with reconductoring could affect sensitive land uses and recreational facilities through introduction of noise, dust, additional traffic, or temporary restriction of access to facilities immediately adjacent to the ROW.

The area between San Bernardino and Vista Substations and San Bernardino Junction is the most urbanized segment of the D-PV2 Alternative, and it is predominantly characterized by industrial, residential, and commercial land use types, with limited agricultural use. As shown in **ALTERNATIVES Table 3,** this segment passes through the incorporated communities of Colton, Grand Terrace, and Loma Linda in San Bernardino County, in addition to unincorporated areas within the county. Examples of sensitive land uses along this segment include:

- New housing development in the vicinities of Mission Road and Leuven Street;
- Existing residential uses along the corridor near Beaumont Avenue and Chula Vista Street;
- Trailer park located across Newport Avenue from the Vista Substation;

- An elementary school in the City of Colton, and elementary, middle, and high schools in the City of Grand Terrace adjacent to the project route; and
- A church and senior center located near the project route on Grand Terrace Road.

ALTERNATIVES Table 3.
Potentially Affected Jurisdictions/Communities between San Bernardino and Vista Substations and San Bernardino Junction

Applicable Plans/Policies	Affected Land Use Types	Land Uses of Note
City of Loma Linda General Plan	Industrial Commercial Agricultural Residential	Multiple railroad tracks Hilda Crooks Park Loma Linda Plaza
City of Grand Terrace General Plan; Barton Road Specific Plan	Residential Industrial Public Facilities	Montecito Memorial Park Library Elementary, middle & high schools Senior center Trailer park
City of Colton General Plan	Residential Public Facilities	Elementary school
San Bernardino County General Plan, amended March 2003 (for unincorporated portions of ROW)	Various	

D-PV2 Alternative construction could disrupt access to urban land uses in Colton, Grand Terrace, and Loma Linda. Additionally, the D-PV2 project would potentially result in land use incompatibilities with existing schools and churches identified above. Recreational resources in this segment include such facilities as community parks, schoolyards, and walking trails. Several of these uses are near or under the existing transmission lines (e.g., Hilda Crooks Park) within the ROW. To minimize these temporary adverse impacts to recreational resources, mitigation measures would minimize disruptive construction activities on weekends and provide adequate alternative access to the affected facilities.

While there is limited agricultural use within this area of the route, potential impacts to agriculture would include the existing orchards within the project ROW near Loma Linda and San Bernardino. Reconductoring activities would not cause any conversion of Important Farmland (as defined by the California Department of Conservation) to a nonagricultural use.

San Bernardino Junction Devers Substation

This segment would be entirely within an existing SCE transmission corridor. **ALTERNATIVES Table 4** presents the applicable plans and policies, affected land use types, and notable land uses applicable for each community along the D-PV2 Project Alternative route from Devers Substation to San Bernardino Junction.

ALTERNATIVES Table 4.
Potentially Affected Jurisdictions/Communities between San Bernardino Junction and Devers Substation

Applicable Plans/Policies	Affected Land Use Types	Land Uses of Note
Redlands, San Bernardino County[1]		
City of Redlands 1995 General Plan, amended 1997	Scattered residential	Railroad tracks Redlands Community Hospital
Norton Younglove Reserve, Riverside County		
Riverside County Integrated Project Multiple Species Habitat Conservation Plan, adopted October 2003	Small residential developments	Boy Scout camp
Calimesa, Riverside County[1]		
City of Calimesa General Plan The Pass Area Plan, October 2003	Recreational resources Scattered residential	SCPGA Golf Club at Oak Valley Desert Lawn Memorial Park
Beaumont, Riverside County[1]		
City of Beaumont General Plan; The Pass Area Plan, October 2003	Residential Public facilities	Trailer park Elementary school, Beaumont High School and Junior High Rangel Park Stewart Sunnyslope Cemetery Oak Valley Golf Club
Banning, Riverside County[1]		
City of Banning General Plan; The Pass Area Plan, October 2003	Residential Public facilities	Sunlakes Village San Gorgonio Memorial Park Sylvan Park Gilman Historic Ranch Banning High School Middle School Banning Municipal Airport
Morongo Indian Reservation, Riverside County[2]		
Bureau of Indian Affairs policies	Scattered residential Public facilities	Desert Hills Premium Outlet Casino Morongo School
San Gorgonio, Riverside County[2]		
County of Riverside General Plan, Oct. 2003; Western Coachella Valley Area Plan, Oct. 2003	Scattered residential north of I-10	Rest area
Bureau of Land Management, Riverside County		
California Desert Conservation Area Plan, 1980; California Desert Conservation Plan Amendment for the Coachella Valley, Dec. 2002; Final Administrative Draft of the Coachella Valley Multiple Species Habitat Conservation Plan, Dec. 2003; Northern and Eastern Colorado Desert Coordinated Management Plan, 2002	Public lands Recreational resources	California Desert Conservation Area Northern and eastern Colorado Desert
Whitewater, Riverside County[2]		
County of Riverside General Plan, Oct. 2003; Western Coachella Valley Area Plan, Oct. 2003	Scattered residential	Whitewater Canyon Recreation Area Scenic Highway – Route 62 North of I-10 Palm Springs Railroad Station
Painted Hills, Riverside County[2]		
County of Riverside General Plan, Oct. 2003; Western Coachella Valley Area Plan, Oct. 2003	Scattered residential	Scenic Highway – Route 62 North of I-10 Trailer park Devers Substation

[1] Denotes incorporated city.
[2] Denotes unincorporated portions of the respective county.

Examples of sensitive land uses along this segment include:

- New housing developments in Cherry Valley and north of Beaumont
- Trailer parks located in the City of Beaumont and in Painted Hills
- Elementary school, Beaumont High School and Junior High located in the City of Beaumont
- A school situated on the Morongo Indian Reservation
- Cemeteries in the City of Calimesa (i.e., Desert Lawn Memorial Park) and the City of Beaumont
- Several recreational facilities, such as neighborhood parks and golf courses.

This portion of the route is much less urbanized and characterized by more open space than the area farther west. There is little to no agriculture along this portion of the D-PV2 Alternative route, while residential land use types and public facilities are scattered along the segment. This segment would pass through several cities and unincorporated communities in San Bernardino and Riverside Counties. It would also pass through San Timoteo Canyon, the Morongo Indian Reservation, and land owned by the BLM. The route would pass through Cherry Valley, and north of Beaumont and Banning, where many residential communities are adjacent to the D-PV1 corridor. This segment also crosses Highway 62, which is designated as a scenic highway.

Construction of transmission line upgrades would occur within well defined SCE transmission corridors, but would require assessment for effects on existing land use types, such as schools, habitat restoration areas, and recreation areas noted in **ALTERNATIVES Table 3.** However, it should be noted that many land use types along this segment would be compatible with the D-PV2 Alternative. For example, a portion of the route travels through inaccessible open space in Loma Linda and towards San Timoteo Canyon, where it is not visible to sensitive receptors. The eastern portion of the segment passes through existing wind farms, which are typically consistent with the industrial nature of a transmission line.

Devers Substation to Blythe

This segment would follow the existing D-PV1 transmission line, with new towers being located approximately 300 feet away from existing towers. **ALTERNATIVES Table 5** shows the affected jurisdictions and relevant plans for the portion of the D-PV2 Alternative route from Blythe to Devers Substation.

ALTERNATIVES Table 5.
Potentially Affected Jurisdictions/Communities between Devers Substation and Blythe

Applicable Plans/Policies	Affected Land Use Types	Land Uses of Note
Bureau of Land Management, Riverside County		
California Desert Conservation Area Plan, 1980; California Desert Conservation Plan Amendment for the Coachella Valley, December 2002; Final Administrative Draft of the Coachella Valley Multiple Species Habitat Conservation Plan, Dec. 2003; Northern and Eastern Colorado Desert Coordinated Management Plan, 2002; The Santa Rosa and San Jacinto Mountains National Monument Act of 2000	Public Lands, recreational resources	Coachella Valley Preserve California Desert Conservation Area Northern and eastern Colorado Desert Santa Rosa and San Jacinto Mountains National Monument
North Palm Springs, Riverside County[1]		
County of Riverside General Plan, Oct. 2003; Western Coachella Valley Area Plan, Oct. 2003	Scattered residential	Trailer park
Desert Haven, Riverside County[1]		
County of Riverside General Plan, Oct. 2003; Western Coachella Valley Area Plan, Oct. 2003	Scattered residential	Desert Dunes Golf Course
Cathedral City, Riverside County[1]		
City of Cathedral City Comprehensive General Plan, adopted July 2002; Western Coachella Valley Area Plan, Oct. 2003	South of I-10: Residential Recreational resources Commercial Public facilities	Middle school
Agua Caliente Indian Reservation, Riverside County[2]		
Bureau of Indian Affairs policies	Scattered residential Commercial	Resort & mineral hot springs spa Agua Caliente Casino
Thousand Palms, Riverside County[1]		
County of Riverside General Plan; Western Coachella Valley Area Plan, Oct. 2003	Residential Recreational resources	Community park Community center Tri-Palm Estates Country Club Ivey Ranch Country Club
Sun City Palm Desert, Riverside County[2]		
County of Riverside General Plan; Western Coachella Valley Area Plan, Oct. 2003	Residential Recreational resources (golf community)	Mountain Vista Golf Course Proposed second gold course
Indio, Riverside County[1]		
City of Indio General Plan 2020	Residential Commercial Recreational Resources	Indio Golf Club American Canal Bermuda Dunes Airport
Coachella, Riverside County[1]		
City of Coachella General Plan 2020, amended Oct. 2001	Residential	Landmark Golf Club American Canal
Chiriaco Summit, Riverside County[2]		
County of Riverside General Plan, Oct. 2003; Eastern Coachella Valley Area Plan, Oct. 2003	Scattered Residential	Chiriaco Springs Airport Hayfield Lake
Joshua Tree National Park, Riverside County		
Joshua Tree National Park General Management Plan; Joshua Tree National Park Backcountry and Wilderness Management Plan	Recreational Resources	National Park Campgrounds
Desert Center, Riverside County[1]		

ALTERNATIVES Table 5.
Potentially Affected Jurisdictions/Communities between Devers Substation and Blythe

Applicable Plans/Policies	Affected Land Use Types	Land Uses of Note
County of Riverside General Plan, Oct. 2003; Desert Center Area Plan, Oct. 2003	Scattered residential	Lake Tamarisk Golf Club
Nicholls Warm Springs, Riverside County[2]		
County of Riverside General Plan, Oct. 2003; Palo Verde Valley Area Plan, Oct. 2003	Residential Scattered commercial	Blythe Airport Mesa Verde
Blythe, Riverside County[1]		
City of Blythe General Plan; Palo Verde Valley Area Plan, Oct. 2003	Residential Commercial Highway-oriented development	Elementary school Miller Park

[1] Denotes incorporated city.
[2] Denotes unincorporated portions of the respective county.

This segment of the alternative route is approximately 120 miles long, sparsely populated, and much less urbanized than the two segments to the west. The majority of this segment passes through BLM lands and a number of communities in unincorporated Riverside County. The area is characterized predominantly by open space with residential land use types and public facilities scattered along the segment, while the eastern portion of the segment near the City of Blythe is agricultural in character. The D-PV2 Alternative would pass adjacent to and through a portion of Joshua Tree National Park. In addition, the segment would potentially create impacts to the Agua Caliente Indian Reservation, which is located southeast of the City of Palm Springs near the community of Thousand Palms.

Sensitive land uses in the area that could be impacted by this alternative include:

- Scattered residential land use near the corridor between Devers and Indio;
- Trailer park located in North Palm Springs;
- A middle school in Cathedral City; and
- Agriculture designated as Important Farmland south of Blythe.

The urbanized portion of the segment near Palm Springs passes near or over many golf courses, and associated facilities and clubs. In addition, the D-PV2 Alternative would cross or be very close to the following notable recreational resources, which could impact access to these areas or affect the recreational experience of users:

- Coachella Valley Preserve (jointly administered by the BLM). Coachella Valley Preserve allows recreational wildlife viewing and serves as an important habitat link; and
- Joshua Tree National Park (administered by the NPS). Joshua Tree National Park is adjacent to the D-PV2 corridor, and is a desert resource of international significance, whose transition between the Colorado (Sonoran) and Mojave Deserts creates a wide range of biological diversity.

Construction and operation of the D-PV2 Alternative east of Joshua Tree National Park in California would be unlikely to substantially affect recreational resources due to the remoteness of the route. Mitigation that minimizes disruptive construction activities on weekends and provides adequate alternative access to the impacted facilities would be effective in addressing any recreation impacts encountered in this area or in the Palm Springs region. Impacts to the Coachella Valley Preserve could be reduced or avoided through mitigation measures implemented from the visual and biological resources analyses, as well as through measures ensuring public access to the preserve for recreational purposes. However, significant impacts requiring specialized mitigation could occur at or near Joshua Tree National Park.

There are three airports located in the vicinity of this portion of the route, where applicable plans would include the Airport Land Use Compatibility Plan for Riverside County, the Eastern Coachella Valley Area Plan, the Palo Verde Valley Area Plan, and the Federal Aviation Regulations (Part 77, Section 77.13 ff).

Construction activities in this area could disrupt access to residential and recreational uses. The proposed 500-kV transmission line could also potentially create incompatibilities with sensitive land use types noted in the table above, such as a school, habitat restoration areas, recreation areas, and agriculture.

The eastern portion of this segment, south of the City of Blythe, is predominantly agricultural. The DSWTP Draft EIS/EIR found that the existing corridor, which is the same as the D-PV2 Alternative corridor in this segment, would cross parcels designated as Important Farmland, including two parcels subject to the Williamson Act, which could convert farmland to a non-agricultural use.

Blythe to Eastern Substations (Arizona)

This segment of the D-PV2 Alternative would follow the existing D-PV1 transmission line. **ALTERNATIVES Table 6** shows the affected jurisdictions and relevant plans from the Arizona switchyards (Hassayampa and Harquahala) to Blythe.

ALTERNATIVES Table 6.
Potentially Affected Jurisdictions/Communities between Blythe and Arizona Switchyards (Hassayampa and Harquahala)

Applicable Plans/Policies	Affected Land Use Types	Land Uses of Note
Ehrenberg, La Paz County[1]		
La Paz County Comprehensive General Plan, amended 2004	Residential Commercial Highway-oriented development	Colorado River Trailer parks Campgrounds
Quartzsite, La Paz County[1]		
La Paz County Comprehensive General Plan, amended 2004	Residential Highway-oriented development	Trailer parks Campgrounds
Yuma Proving Ground, La Paz County & Yuma County		
YPG Installation Natural Resources Management Plan, 1979; YPG Annual Hazardous Waste Minimization Plan, 1992; YPG Storm Water Pollution Prevention Plan, 1993; YPG, Army Hazardous Waste Minimization and Pollution Prevention Plan, 1993; Arizona Pollution Prevention Plan for YPG, 1994; Storm Water Discharge from Associated Industrial Activities, Pollution Prevention Plan, YPG, 1994; YPG Environmental Management Plan, updated 1994; YPG Historic Preservation Plan, Phases 1, 2, & 3, 1995; NRCS & YPG, Draft Natural Resources Management Plan, 1995; YPG Spill Prevention, Control and Countermeasures Plan and Installation Spill Contingency Plan, 1997	Military Open space	Restricted area
Kofa National Wildlife Refuge, La Paz County and Yuma County		
Kofa National Wildlife Refuge & Wilderness and New Water Mountains Wilderness Interagency Management Plan and Environmental Assessment, 1996	Recreational resource Open space	Wilderness area Campgrounds
Tonopah, Maricopa County[1]		
Maricopa County 2020 Eye to the Future, Comprehensive Plan, revised Aug. 2002; Tonopah/Arlington Area Plan, Sept. 2000	Recreational resources Commercial	Trailer park Schools
Wintersburg, Maricopa County[1]		
Maricopa County 2020 Eye to the Future, Comprehensive Plan, revised Aug. 2002; Tonopah/Arlington Area Plan, Sept. 2000	Highway-oriented development	Trailer park
Arlington, Maricopa County[1]		
Maricopa County 2020 Eye to the Future, Comprehensive Plan, revised Aug. 2002; Tonopah/Arlington Area Plan, Sept. 2000	Highway-oriented development	School
Palo Verde, Maricopa County[1]		
Maricopa County 2020 Eye to the Future, Comprehensive Plan, revised Aug. 2002; Tonopah/Arlington Area Plan, Sept. 2000	Highway-oriented development	Palo Verde Generating Station
Bureau of Land Management		
Lower Gila South Resource Management Plan, 1988	Public lands Recreational resources	Preserve

[1] Denotes unincorporated portions of the respective county.

There is a minimal amount of development along the corridor between the Arizona substations and Blythe. This segment is approximately 106 miles long, and is situated almost entirely on BLM lands. The route traverses unincorporated areas of La Paz and Maricopa Counties in Arizona. Local land use types are limited to the Yuma Proving Ground and the Kofa National Wildlife Refuge. Unlike the segments in California, sensitive land uses such as schools, churches, residences, or agriculture would not be in close proximity to the route.

In this segment, the majority of D-PV2 Alternative impacts would be to recreational resources. The route would traverse very little urbanized land, but would cross the Colorado River and the Kofa National Wildlife Refuge (administered by the U.S. Fish and Wildlife Service), both of which are regionally significant recreational resources. In addition, the new 500-kV transmission line would potentially result in incompatibilities with certain land use types, such as habitat restoration areas and recreation areas (i.e., BLM campgrounds).

Although the D-PV2 Alternative would be implemented within an existing transmission line ROW in this segment, the potential exists for significant impacts to recreational activities on the Colorado River and within the Kofa National Wildlife Refuge. Short-term construction-related impacts such as noise, dust, and access restrictions could affect the availability and quality of these recreational facilities, and new, larger transmission line structures in or near these recreational resources could cause a permanent deterioration of the quality of the recreational opportunities. The recreational opportunities offered by the Kofa National Wildlife Refuge and lands along the Colorado River rely upon the natural beauty of the area. Mitigation measures that would be developed could include minimizing disruptive construction activities on weekends, providing adequate alternative access to the affected facilities, creating additional access points, or development of alternate recreational components in areas not affected by the D-PV2 Alternative (e.g., additional trails outside the viewshed of the proposed project).

Conclusions

Construction of the D-PV2 Alternative could create short-term construction-related impacts such as noise, dust, and access restrictions that could affect sensitive land uses and the availability and quality of recreational facilities. The new, larger transmission line structures in or near existing recreational facilities could cause a long-term deterioration in the quality of recreational opportunity, however, much of the area around the transmission line corridor, especially in the western end, has intentionally been developed as a compatible use and may share the ROW as a park or other recreational area. Impacts to recreation would result mainly from preclusion of use and access restrictions during construction (the ROW would not be fenced off once construction is completed), or physical incompatibilities, such as land use intensification that degrade or diminish the value of recreational resources. The Draft EIR/EIS found the potential for significant and unavoidable impacts to recreational resources in the area of Alligator Rock ACEC (CPUC & BLM 2006). Overall, the D-PV2 Alternative would have greater land use impacts than the BEPTL because of its greater length and construction duration, as well as its closer proximity to residences and other sensitive land uses; however, land use and recreation impacts would likely be reduced to less than significant levels with mitigation, except in the area around Alligator Rock ACEC.

Noise and Vibration

Construction noise, while a short-term impact, could affect nearby noise-sensitive receptors. This is especially a concern at locations where the D-PV2 Alternative passes through or immediately adjacent to parks, schools, or recreation areas, and residential uses.

Construction noise impacts occur from on-site and off-site construction activities. On-site noise during construction would occur typically from heavy-duty construction equipment (e.g., backhoes, dozers, and excavators), and there may also be helicopter use. Helicopter use to access remote structure sites, or during stringing operations, could also generate noise nuisances. Off-site noise sources would include trucks delivering material and equipment to the job site, as well as from vehicles used by workers commuting to and from the proposed construction sites. Noise from off-site construction sources can be evaluated based on estimating the number of vehicles traveling to and from the construction areas.

Noise sources associated with operations of a transmission line would include corona discharge and noise from substation transformers. Therefore, operation noise from project facilities would be below regulatory limits, and noise from maintenance activities would be low and of short duration. Although noise impacts would be less than significant with mitigation, due to the longer route and construction duration and the closer proximity to residences and other sensitive land uses, noise impacts would be greater than for the proposed BEPTL project.

Socioeconomics

The D-PV2 project alternative would traverse a diverse range of communities. **ALTERNATIVES Table 7** provides preliminary socioeconomic data such as the mean income, poverty rate, and non-white percentages for cities and counties along the entire project route, based on the 2000 U.S. Census data.

ALTERNATIVES Table 7.
Population Characteristics of Communities along D-PV2 Alternative Route

Jurisdiction	Mean Income[1]	Poverty Rate[2]	Percentage Non-white[3]	Percentage Hispanic/Latino[4]
San Bernardino Substation and Vista Substation to San Bernardino Junction				
San Bernardino County	$42,066	15.8%	41.1%	39.2%
Colton	$35,777	19.6%	57.3%	60.7%
Grand Terrace	$53,649	7.4%	26.2%	25.4%
Loma Linda	$38,204	15.1%	45.8%	16.3%
San Bernardino Junction to Devers Substation				
Redlands	$48,155	10.5%	26.3%	24.1%
Riverside County	$42,887	14.2%	34.4%	36.2%
Calimesa	$37,849	12.2%	10.9%	14.1%
Beaumont	$29,721	20.2%	31.9%	36.2%
Banning	$32,076	19.9%	35.8%	30.2%
Morongo Indian Reservation	$51,071	18.0%	78.1%	20.3%
San Gorgonio Pass, CCD*	$33,191	17.4%	28.8%	27.0%
Devers Substation to Blythe				
Desert Hot Springs, CCD*	$28,121	21.3%	26.4%	37.8%
Cathedral City	$38,887	13.6%	34.7%	50.0%
Agua Caliente Indian Reservation	$37,560	10.5%	11.3%	12.3%
Cathedral City-Palm Desert, CCD*	$47,045	10.0%	20.9%	29.7%
Indio	$34,624	21.5%	51.3%	75.4%
Coachella	$28,590	28.9%	61.2%	97.4%
Chuckwalla, CCD*	$28,849	22.4%	67.0%	46.1%
Palo Verde, CCD*	$32,168	21.2%	44.7%	46.0%
Blythe	$35,324	20.9%	44.6%	45.8%
Arizona Portion				
La Paz County	$25,839	19.6%	25.8%	22.4%
Ehrenberg	$27,000	22.7%	17.3%	30.1%
Quartzsite	$23,053	13.5%	5.5%	5.0%
Maricopa County	$45,358	11.7%	22.6%	24.8%
Buckeye, CCD*	$37,018	17.1%	24.6%	32.0%

Source: U.S. Census Bureau. Census 2000
(http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_lang=en).

* CCD (Census County Division) is a subdivision of a county that is a relatively permanent statistical area established cooperatively by the Census Bureau, the State, and local governments. The CCD for a particular county region was used if data specific to unincorporated communities within that region were not available.

[1] Median Income for Households, 1999 data.

[2] Includes all ages, 1999 data.

[3] Excluding Hispanic/Latino, 2000 data.

[4] 2000 data.

The D-PV2 Alternative would not have a significant effect on employment in the overall project area. The number of project-related positions created would be negligible relative to the overall number of construction jobs in the areas along the D-PV2 route in California and Arizona.

The project would temporarily increase the population in the project area. However, the impacts from a temporary increase are not expected to be significant. Construction of the D-PV2 Alternative could also create short-term increased demand for housing in the

Blythe, Devers, and Palo Verde areas. This increase in demand was not expected to cause significant impacts to housing availability in the area around the transmission line.

The D-PV2 Alternative would also contribute to a positive short-term impact on the local economy and on the fiscal resources of local governments along the D-PV2 route. However, it would not place a significant demand on public services or facilities. According to **ALTERNATIVES Table 7,** the City of Colton (57.3 percent), Indio, Coachella (61.2 percent), and Chuckwalla (67.0 percent) all have non-white populations greater than 50 percent. In addition, the route between Devers and San Bernardino Junction would traverse the Morongo Indian Reservation (78.1 percent non-white population), which could also result in environmental justice concerns. Appropriate mitigation measures from other relevant areas (e.g., public health, air quality, noise) would be necessary to reduce disproportionate impacts to less than significant levels. After appropriate mitigation, the D-PV2 Alternative would not be expected to have a disproportionately adverse environmental justice impact on minority, low-income, or American Indian populations.

Overall, socioeconomic impacts would be greater with the D-PV2 Alternative than with the proposed BEPTL project because of the much greater scope and length of the D-PV2 Alternative, as well as the potential environmental justice concerns, especially on the Morongo Indian Reservation; however, socioeconomic impacts would likely be reduced to less than significant levels with mitigation.

Soil and Water

The D-PV2 Alternative would be constructed in a region that is primarily arid, particularly the portion east of Banning, with low annual rainfall and few permanent streams. Annual rainfall ranges from a low of approximately three inches per year in the Indio area to approximately 16 inches per year in the San Bernardino area. Most of the route receives less than eight inches of precipitation per year. With the exception of the Colorado River, most watercourses are dry most of the year, flowing only in response to occasional summer or winter rains.

Beginning at the western end of the D-PV2 route, approximately the first 20 miles, from the Vista Substation to Banning, would be in an area that drains to the Santa Ana River and the Pacific Ocean. Major streams crossed by or in the vicinity of this segment include San Timoteo Creek and Yucaipa Creek. Neither of these are listed as impaired by the Regional Water Quality Control Board, but both drain into the Santa Ana River, portions of which are listed as impaired for pathogens under Section 303(d) of the 1972 Clean Water Act.

Most of the D-PV2 Alternative route, from approximately Banning to the Colorado River, lies within the Whitewater, Chuckwalla, Hayfield, and Colorado Hydrologic Units. With the exception of portions of the Whitewater basin, which drains out of the San Bernardino Mountains, this entire reach is arid desert draining mostly to interior, closed basins such as the Salton Sea, the Ford Dry Lake and the Hayfield Dry Lake. The eastern 18 miles within California drains to the Colorado River primarily via desert washes and a series of irrigation canals along the Colorado River bottom. Approximately 10 miles of the route cross the irrigated Coachella Valley, which drains to the Salton Sea. Major

drainageways along or in the vicinity of this route include the Whitewater River, Coachella Valley Stormwater Channel, and washes draining to the Hayfield and Ford dry lakes. The Salton Sea and Coachella Valley Stormwater Channel are listed as impaired for nutrients, salts and selenium, and pathogens, respectively. For approximately 25 miles, the route runs parallel to the Colorado River Aqueduct. The route crosses the Colorado River at Blythe. The Colorado River is the largest drainageway along the route, draining a large part of the western United States, and flowing perennially under regulated flow at Blythe.

The western 65 miles of the D-PV2 Alternative route in Arizona drains to the Colorado River mainly via the Tyson and Bouse washes. The easternmost 40 miles in Arizona, ending at the Palo Verde Nuclear Generating Station, drains through the Centennial Wash to the Gila River, which is listed as impaired at the point of confluence with the Centennial Wash. All of the Arizona segment would be within the Colorado River/Lower Gila River watershed management zone. The terrain and climate of the Arizona segment are arid desert similar to those of California. Washes flow only in response to the infrequent rainfall events. As is the case in California, the desert washes, although they infrequently contain water, are capable of high, flash flows that can cause destructive flooding and erosion.

California groundwater basins include the Coachella Valley, Chuckwalla Valley, and Orocopia Valley basins. Basins are generally comprised of alluvial material (mostly sands and gravels) above bedrock and between mountain ranges. Groundwater is generally hundreds of feet deep in the desert areas, but may be shallow in the farming areas of the Coachella Valley and the Colorado River bottom. Groundwater in the Arizona portion of the corridor is a typical basin and range aquifer similar to the California aquifers. The alluvium-filled basins are interspersed between ranges of mountains.

As discussed under Hazardous Materials above, a major concern related to soil conditions is preexisting soil contamination that could affect construction workers and the public during project construction. This is especially a concern for substation work and tower/pole locations where excavation may occur in urban, populated areas of the corridor where historic or current uses may have resulted in soil contamination. If contamination exists, appropriate procedures must be implemented for protection of workers and groundwater quality. Because much of the D-PV2 Alternative route would be through the rural or undeveloped areas, only very sparse commercial or industrial activities could contribute to soil or groundwater contamination. Limited potential for contamination could occur from current and historic pesticide and herbicide use along the alignment. In the urban and suburban areas, especially in San Bernardino County and central and western Riverside County, commercial (e.g., gas stations and dry cleaners) and light industrial uses may have resulted in localized soil and groundwater contamination.

Construction of transmission line tower/pole foundations or excavation of trenches could encounter contaminated soil or groundwater, and handling and disposal of contaminated materials could pose a risk to workers and the public. Improper use and storage of hazardous materials during construction could also pose a threat to the environment. Mitigation measures will be developed to protect construction workers and the public. In particular, pre-construction research and testing of known or suspected contamination sites would be essential to define conditions that may be encountered

during construction. In this process, contamination boundaries would need to be delineated and chemicals of concern identified. Contingency plans would likely be recommended for sampling, testing, and handling of contaminated soil and groundwater at known and unknown contamination sites. All hazardous materials used and stored during construction will need to be handled in an appropriate manner consistent with regulations.

Crossings of watercourses will be accomplished by spanning from tower to tower, so it will likely be possible to avoid impacts to most drainageways. Primary water resources impacts are expected to be potential surface and groundwater quality impacts during transmission line construction. Examples include discharge of pollutants to surface water or groundwater during construction, disturbance of watercourse channels during construction, disturbance of flowing water during construction, or disturbance or pollution of groundwater, particularly in the vicinity of wells or springs. Operation-related impacts should occur only through routine maintenance or monitoring activities, or through flooding and erosion at towers, substations and other ancillary structures by desert washes.

Hydrologic processes interacting with the D-PV2 Alternative transmission line and appurtenant structures after construction create the potential for flooding, streambed scour, lateral erosion and bed-material transport. Each of these processes can be affected by the transmission line in a manner that could pose a risk to adjacent property or the transmission line itself, particularly in the case of towers and other on-ground structures. Mitigation measures such as minor changes in the transmission line route to avoid sensitive areas, erosion setbacks, construction and monitoring procedures, alternative crossing locations, bank protection, construction timing, and revegetation, would reduce impacts to soil and water resources to less than significant.

Overall, impacts to soil and water would be greater for the D-PV2 Alternative than for the proposed BEPTL project because of the greater length of the route and the larger number of waterway crossings however, soil and water impacts would likely be reduced to less than significant levels with mitigation.

Traffic and Transportation

Although most of the D-PV2 Alternative alignment is located outside the ROW of a public highway or rail facility, there could potentially be some disruption to traffic or rail operations at locations where the alignment would cross or run adjacent to a roadway or railroad track. Similar to the proposed BEPTL project, lane blockages, access to residences and businesses, safety, pedestrian routes, public transportation, rail operations, and emergency vehicle access could be impacted. Crossings of the interstate freeways (I-215 and I-10), various State highways, and major roadways in the region could impact traffic, because traffic would need to be halted for a period of time (several minutes to several hours) while the transmission line is strung across the roadways.

In addition to the problems caused by the construction zone blocking the public ROW, potential impacts associated with construction workers' vehicles, trucks, construction equipment, and material deliveries could also occur. The additional traffic volumes and

parking demand generated by the construction activities could potentially have an adverse impact on traffic and parking conditions.

Mitigation measures for traffic and transportation include scheduling of construction activities to avoid peak periods of traffic flow (especially for commuter routes), advance notification to affected parties, maintaining access through the construction areas, preparing transportation management plans, coordination with emergency service providers, providing staging areas for parking and equipment storage during construction, coordination with public transit agencies, and preparation of an emergency response plan to address disruptions to the transportation system during a major incident. Measures such as these can generally reduce traffic and transportation impacts to less than significant levels.

Because of the relatively passive nature of a transmission line during operation, the primary traffic and transportation issue associated with the D-PV2 Alternative is the potential short-term impact to traffic during construction. The primary operational impacts would be impacts of the transmission lines on aviation activities. In agricultural areas, however, the new towers may affect crop-dusting activities or access to nearby airfields, and the significance of these long-term impacts would need to be evaluated based on tower placement and conductor height.

Overall, transportation and traffic impacts would be greater with the D-PV2 Alternative because of the longer construction duration and route, which would include a greater number of crossings of major roadways and a greater proximity to residences whose access could be disrupted however, transportation and traffic impacts would likely be reduced to less than significant levels with mitigation.

Transmission Line Safety & Nuisance

Induced Current and Shock. The project may cause an incremental increase in the risk of electric shock within the transmission line ROW, however, because the line would be in an existing corridor it would not create a new risk. In order to reduce these impacts to less than significant levels, suggested mitigation includes grounding nearby fences, and consulting with agricultural land managers to ensure that irrigation practices do not create a potential for water stream contact with overhead transmission lines (e.g., in the agricultural area designated as Important Farmland south of Blythe). The D-PV2 Alternative would have a slightly greater risk of electric shock due to the construction of a 500-kV line, as opposed to 230-kV with the proposed project.

Effects on Pacemakers. An energized transmission line also creates potential disruptions to pacemaker operation within and immediately adjacent to the transmission line ROW. The biological consequences of a brief, reversible pacemaker malfunction are considered to be mostly benign, with the chance of a life-threatening malfunction considered to be a rare event. Disruption impacts to pacemaker operation of the D-PV2 Alternative would be similar to the proposed project and would not cause a significant change to the baseline conditions within the existing transmission line corridor.

Blasting. Transportation and the use of blasting materials (if necessary) would be expected to create an increased risk of injury to workers and the public. The use of a

licensed contractor with a valid California “Blaster License” pursuant to Cal-OSHA Article 8, Section 1550-1580 would mitigate risks to less-than-significant levels. Impacts from the D-PV2 Alternative would be slightly greater due to its higher voltage and greater length.

Magnetic Fields. The modifications to the existing transmission corridor would cause a long-term change in magnetic field levels along the route. The impacts would be localized. In areas where the load per circuit would decrease, because of additional circuits being included with the project, EMF levels may actually decrease with the project. Alternatively, levels could increase if field cancellation methods as may be required by the CPUC to comply with its “no-cost/low-cost” EMF mitigation policy are not effective. Expansion of the right-of-way, however, may encroach on populated land uses, which could increase the number of people exposed to EMFs.

The D-PV2 Alternative route travels through populated areas, especially west of the Devers Substation, where some residential areas and parks are immediately adjacent to the project corridor. Besides residences, the route passes by other public-use sensitive receptors (e.g., schools, offices, retail, etc.). These residences and sensitive receptors in close proximity to the ROW would be subject to increased EMF levels.

Similar to the proposed project, this alternative would not be likely to cause significant transmission line safety hazards or nuisances. However, the length of the D-PV2 Alternative line would be approximately 210 miles longer than the proposed BEPTL project, showing the proposed project line as preferable in terms of the total length of the source of line fields.

Visual Resources

The D-PV2 corridor spans a variety of landscapes ranging from urban fringe and suburban residential development to areas of Sonoran Desert creosote bush scrub vegetation and desert dry wash woodlands. The entire route is visually dominated by existing transmission infrastructure. The project would also cross private lands, non-Federal public lands, and Federal lands administered by BLM. Such varied terrain and landscape characteristics are accompanied by many potentially sensitive viewing opportunities. Although the project would primarily be located within an established utility corridor, any increase in industrial character (from larger or additional transmission towers) that is noticeable to sensitive viewing populations (e.g., residents, recreational travelers on local roads and freeways, and back-country recreationists) would likely be perceived as an adverse visual change. The following paragraphs describe the visual resources setting along the D-PV2 Alternative corridor.

San Bernardino Substation and Vista Substation to San Bernardino Junction

This portion of the D-PV2 Alternative route involves 230-kV reconductoring only (although SCE’s project application may define other tower changes that Commission Staff is not currently aware of). From San Bernardino Substation, the route extends south, passing in close proximity to several residences on Lugonia Avenue before spanning I-10. Between I-10 and Timoteo Wash, the route is visible from numerous roads including Redlands Boulevard, Mission Road, Barton Road, Lawton Avenue, Hinkley Street, and Beaumont Avenue to name a few. The route is also visible from numerous residences

that are located in close proximity to the corridor and new homes are being built immediately adjacent to the corridor near Mission Road. There are also residences on both sides of the corridor south of Barton Road to Beaumont Avenue, where a park has been recently constructed within the ROW.

Similarly, from Vista Substation to San Bernardino Junction, the route passes through and adjacent to residential development in Grand Terrace. Residential streets with views of the corridor include (from west to east) Canal Street, Grand Terrace Road, Vista Grande Way, Barton Road, Laurelwood Street, Walter Court, Westwood Street, Reche Canyon Road, Prado Lane and Canyon Vista Drive. East of Canyon Vista Drive, the corridor enters undeveloped rolling hills. Many of the present tower locations along this portion of the route are prominently visible to nearby residents and could result not only in an increase in structural contrast and prominence but view blockage as well.

San Bernardino Junction to Devers Substation

This segment extends from San Bernardino Junction to Devers Substation and involves a 230-kV upgrade where the smaller structures of two existing transmission lines will be replaced with one set of larger towers. From San Bernardino Junction, the route extends southeast through San Timoteo Canyon, initially passing along ridgelines south of the canyon before converging on and then crossing to the east side of San Timoteo Canyon Road. From there, the D-PV2 Alternative route continues east, spanning I-10 into new housing developments between Cherry Valley and Beaumont before entering open space to the east of Beaumont. The route again passes in close proximity to residential development north of Banning.

From there, the corridor continues east through the foothills of the San Bernardino Mountains, approaching very near to I-10 and the Outlet Mall in Cabazon before passing through the Morongo Reservation and wind farms to the east. The route then spans State Scenic Highway 62 to connect with Devers Substation, just north of Dillon Road. As is the case farther west, many of the present tower locations along this segment are prominently visible to nearby residents and/or travelers on roads and highways (with high viewer sensitivity).

As a result, the new larger 230-kV transmission towers would cause adverse visual changes due to increased visual contrast, structure prominence, or view blockage. However this new structure prominence may be balanced or partially offset with the removal of the two other sets of single-circuit towers. There is also potential viewer sensitivity through the Morongo Reservation. Any new visible structure skylining (extending above the horizon line) would likely cause increased structural prominence, particularly if the existing towers at that location do not presently extend above the horizon line.

Devers Substation to Blythe

This segment extends east from Devers Substation to the City of Blythe near the Arizona border. Between Devers Substation and Indio, the route stays north of I-10 as it passes through the north and east portions of the Coachella Valley. Along this portion of the route, the existing line is visible from residential developments, local roads, and I-10. East of Indio and the Cactus City Rest Area, the route crosses to the south side of I-10

where it stays all the way to the Arizona border. This segment passes through a typical Sonoran Desert landscape, which in this area primarily consists of agricultural land, Sonoran Creosote Bush Scrub vegetation, and desert dry wash woodland. In some areas, the landscape exhibits minimal variety and may be dominated by existing energy infrastructure. In other areas, the juxtaposition of flat desert landforms backdropped by rugged, angular mountains creates greater visual variety and interest, particularly where existing utility infrastructure is less prominent and the landscape exhibits greater intactness. East of Indio, this segment is primarily visible to travelers on I-10 and local roads and a few scattered rural residences.

Throughout much of this segment, the primary visual issue of concern would be whether this project alternative would be consistent with the BLM management directives, and if not, how significant the visual impact would be. The VRM classification is determined by an established inventory and overlay method that consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes, each with a set of management objectives. The contrast analysis includes pre- and post-project comparisons for land and water forms, vegetation, and structures. BLM has established VRM classifications for its lands in the Coachella Valley between Devers Substation and Indio, but not east of Indio. “Interim VRM Classifications” were presented in the DSWTP EIS/EIR; however these classifications may require review.

The “Interim VRM Classifications” presented in the DSWTP Draft EIS/EIR can be considered a reasonable first step but need to be refined to more accurately reflect the landscape variability that occurs throughout the I-10 corridor before thorough analysis on this alternative can be performed and consistency with the applicable VRM objectives can be determined.

Arizona Segment

Most of this segment passes through a Sonoran Desert landscape on lands that are administered by the BLM. The route is visible from U.S. Route 95, Arizona State Route 85, local roads, and numerous unpaved roads that provide recreational access to the public lands that the project passes through. It would also be visible from the Kofa National Wildlife Refuge. Similar to the segment from Blythe to Devers Substation, in some areas the landscape exhibits minimal variety and can be dominated by existing energy infrastructure. In other areas, the juxtaposition of flat desert landforms with a backdrop of rugged, angular mountains creates greater visual variety and interest, particularly where existing utility infrastructure is less prominent and the landscape appears intact. The project would be located in an existing utility corridor, and energy and utility infrastructure is prominent in the eastern portion of this segment in closer proximity to the numerous power plants and substations near Palo Verde.

As stated in the *Lower Gila South RMP/EIS* (at page 13), since interim VRM classes have not been developed along this area, that BLM lands in Arizona lacking VRM classification are to be managed as VRM Class III.

Conclusion

The D-PV2 Alternative has the potential to create significant visual impacts in a number of locations. Mitigation options include the relocation or redesign of individual towers or route segments. In the vicinity of the BEPTL proposed project, D-PV2 would create potentially significant and unavoidable impacts to visual resources in the vicinity of Alligator Rock ACEC near Desert Center.

Waste Management

Similar to the proposed project and the Eagle Mountain Alternative discussion above, the D-PV2 Alternative would need to be constructed with the use of a comprehensive program to manage hazardous wastes and obtain a hazardous waste generator identification number (required by law for any generator of hazardous wastes) and would comply with all LORS. Assuming compliance with these requirements, the environmental impact of waste disposal would be similar to those of the proposed BEPTL project.

Worker Safety & Fire Protection

Similar to the proposed project and the discussion for the Eagle Mountain Alternative above, worker safety would be protected by adherence to LORS, which include Cal-OSHA regulations. Fire protection would also be assured by following LORS including the California Fire Code. Therefore, the D-PV2 Alternative would have a smaller impact in the areas of worker safety and fire protection than the proposed Blythe Transmission Line.

Geology, Mineral Resources, and Paleontology

Seismic activity could pose a significant risk to the D-PV2 Alternative and could damage D-PV2 facilities if they were not properly constructed. The D-PV2 Alternative corridor would cross the San Jacinto and San Andreas faults, which are major and active strike-slip faults. The design of any modified structures or foundations for new structures would be consistent with project-specific geotechnical recommendations, thereby reducing potential impacts, such as ground shaking, to less than significant levels. Ground shaking effects may also be reduced with use of appropriate design for the towers and known faults can often be spanned with the structures on either side of the fault being set back from the fault line since 500-kV transmission lines normally have only four to five structures per mile. Maps published by the California Division of Mines and Geology estimate the peak ground acceleration in the D-PV2 Alternative area with a ten percent probability of exceedance in 50 years of more than 0.2 to 0.3g. Design of support structures to conform to seismic standards (IEEE 693) and wind-loading standards would likely be recommended to reduce the risk of damage from strong ground shaking.

Similar to the DSWTP route, there is a 10-mile section of the D-PV2 route north of Indio that is characterized by a moderate to very high liquefaction potential. Most of the project area has a low liquefaction potential, except in areas of unconsolidated soil, which may pose a dry, liquefaction-like risk during an earthquake.

The majority of the D-PV2 Alternative route would pass through valleys and mountain fringes where there is a low risk for landslides. Hazards from unstable slopes and seismicity could affect roads used for construction. Also, some tower sites would be

subject to geotechnical hazards that would need to be corrected prior to construction. However, impacts to roads or the local environment from excavations and fill were considered less than significant.

Site-specific geologic conditions have yet to be determined and may create a significant potential to affect project facilities. Mitigation, such as utilizing an engineering geologist to make recommendations for moving towers or roads, or identifying appropriate construction methods, would reduce impacts to less than significant levels.

Mineral Resources. Although there are a number of mines in the D-PV2 area, the construction and operation of a transmission line is not expected to create impacts to mines or mineral resources.

Paleontology. Excavation in conjunction with development of the D-PV2 Alternative has the potential to adversely impact significant known or unknown paleontologic resources. In order to mitigate potential impacts to less than significant levels, a qualified vertebrate paleontologist should develop a program that includes pre-construction surveys; monitoring; preparation, identification, and curation of recovered specimens; and preparation of a report of findings.

Transmission System Engineering

The D-PV2 Alternative is currently being evaluated by the CAISO, and is undergoing assessment by the Western Electricity Coordinating Council (WECC). These assessments will evaluate the effect of the D-PV2 project on the transmission system of the southwestern United States. The D-PV2 project timeline is highly uncertain at this time. However, if Blythe Energy, LLC utilized the D-PV2 project line, important space in a designated corridor would not be required for this moderate capacity line (the BEPTL). Additionally, if Blythe Energy, LLC participated in development of the D-PV2 line, they would be in conformance with the planning/siting principle of “sharing” new transmission facilities. Compared to the DSWTP Alternative, the D-PV2 alternative is not ranked as high because of uncertainty regarding the in service date.

The design and construction of this alternative project would have to be in compliance with applicable engineering laws, ordinances, regulations and standards for both the alternative and the alternative variation. Impacts related to facility design would be similar to the proposed project.

BUCK TO JULIAN HINDS WITH RECONDUCTORING ALTERNATIVE

ALTERNATIVE DESCRIPTION

This alternative is considered because it is anticipated that by increasing transmission capacity to the Julian Hinds Substation, the proposed BEPTL might create transmission congestion west of Julian Hinds. Therefore, this alternative adds to the proposed BEPTL a requirement to reconductor (install higher capacity conductors on existing transmission towers) between Julian Hinds Substation and SCE’s Mirage or Devers Substations. The extent of, need for and cost of the reconductoring would be based on the results of System Impact Studies currently being completed by SCE.

The reconductoring would occur along the existing transmission line that follows the D-PV2 and DSWTP corridors from Julian Hinds to Devers (see D-PV2 and DSWTP route descriptions above), which is approximately 42 miles. Depending on the conductor type required, span length, and detailed engineering, the existing towers may have to be replaced with slightly taller and stronger lattice towers in order to support the additional weight of the larger conductors and to maintain adequate ground clearance. Therefore, this analysis considers the impacts of replacement of all towers in order that the potential impacts of this more extensive activity is available to decisionmakers. Outages would also be necessary during the line upgrades; however, these outages would be coordinated as to minimize impacts. Facilities Studies requested by staff from Blythe Energy, LLC should further detail the scope of these outages, which would be necessary when dropping the old line and connecting the new one.

The reconductoring route to Mirage Substation, which is located approximately 14 miles southeast of Devers Substation, would also be similar for most of the route, but would diverge from the DSWTP and D-PV2 corridors just east of Thousand Palms by traveling less than 2 miles south from the D-PV1 corridor to the existing Mirage Substation, which is located just north of Interstate 10.

Based on the results of the System Impact Studies, reconductoring the segment between Julian Hinds and either Mirage or Devers Substations would likely eliminate the need for construction of the proposed new Buck Boulevard to Midpoint Substation transmission line component as well as construction of the new Midpoint Substation (or an alternative substation). The reconductoring alternative would also avoid the significant difficulties of securing a Path Rating Change for the Palo Verde-Devers line, a major California-Arizona Intertie with numerous stakeholders.

Rationale for Consideration

This alternative is being considered for the following reasons.

- Reconductoring could eliminate the need for a new Midpoint Substation and the need for the single-circuit 230-kV BEPTL interconnection with the D-PV1 line, which is already close to capacity and is congested, because the Buck Boulevard to Julian Hinds component would be able to carry all of the necessary generation out of BEP. The interconnection would require WATS/WECC approval as does the proposed project. However, the alternative would not cause as difficult a WATS/WECC approval as the D-PV1 termination on a major California Intertie.
- Blythe Energy, LLC would have more control over a termination at Julian Hinds with a reconductoring than it would for a 500-kV interconnection with the D-PV1 or D-PV2 lines; control is a project goal.
- The construction of one of the two 230-kV circuits from Buck Boulevard to D-PV1 transmission line and the Midpoint Substation would not be necessary.

ENVIRONMENTAL AND ENGINEERING ASSESSMENT FOR BUCK TO JULIAN HINDS WITH RECONDUCTORING ALTERNATIVE

Air Quality

The impacts of this alternative would be identical to those of the BEPTL's Buck Boulevard to Julian Hinds Substation, with the additional emissions resulting from reconductoring and replacing the towers along approximately 42 miles of existing lines. This alternative is located in the Mojave Desert region of southern California in a similar area as the DSWTP Alternative. Existing air quality is generally impaired in the project area relative to California standards for both ozone and PM10. Segments of this alternative would be located within regions classified federally as attainment or unclassified attainment and designated by CARB as non-attainment.

Air pollution emissions from the Buck to Julian Hinds with Reconductoring Alternative would be short-term and would occur during construction only. Construction related emissions would consist of CO, NO_x, SO_2, and PM10 and would be attributed to exhaust from construction equipment; fugitive dust and PM10 from grading, earth moving, and equipment traveling on paved and unpaved roads; and construction crew vehicle traffic.

Emissions from construction of this alternative would exceed MDAQMD and/or SCAQMD significant thresholds for CO, NO_x, Volatile Organic Compounds, and PM10. Implementation of construction mitigation measures, such as properly tuning and maintaining heavy duty off road diesel equipment and the utilization of water and chemical dust suppression, would reduce exhaust emissions to less than significant levels.

This alternative would be required to meet all District rules and requirements and comply with LORS, and like the proposed project, overall impacts are expected to be mitigable to less than significant levels. While this alternative would include construction activities occurring along a longer route with the reconductoring activity and tower replacement between Julian Hinds and Mirage Substations, it would not need additional access roads and it would eliminate the need for the construction of 6.7 miles of double-circuit transmission line and a new Midpoint Substation. Overall air quality impacts would be greater than the proposed BEPTL project.

Biological Resources

The portion of this alternative between Buck Boulevard Substation to Julian Hinds Substation would be identical to that segment of the proposed BEPTL project. From Julian Hinds to the Mirage or Devers Substations the route would be similar to the D-PV2 and DSWTP routes; however, this alternative would only include reconductoring, which has far less temporary and permanent biological impacts than new transmission line construction.

Most of this segment of the alternative would be through undeveloped land, although the western area is more developed than the route east of Julian Hinds Substation. Because construction work would be located along existing SCE D-PV1 transmission

line ROW for much of its alignment, the alternative would utilize existing access roads, requiring a limited amount of new access road construction.

As discussed under the DSWTP and D-PV2 Alternative, construction and operation of a transmission line along this route would result in a loss of vegetation and could result in the introduction and dispersal of noxious weeds. Mitigation measures would be necessary to reduce vegetation disturbance during construction. Actions to incorporate riparian area avoidance and permit measures may also be needed.

The alternative construction activity could create temporary and permanent losses of wildlife habitat and habitat fragmentation, and could result in direct wildlife mortality and temporary displacement of wildlife. Specifically, raptor species may be at a greater risk during the life of the project. Project design would need to minimize collision potential in addition to coordination with responsible resource agencies. Additional impacts to wildlife include increased disturbance of resident wildlife species through the construction of new access roads, and the disturbance of nesting raptors and migratory birds. In order to minimize these disturbances, mitigation would include the use of construction activities that would minimize potential wildlife disturbance, the restriction of public access, and the use of pre-construction surveys.

In addition, construction could potentially disturb special-status plants, which could be mitigated by surveying to avoid or salvage these plants. Construction and operation of the project could also have direct impacts on species such as the desert tortoise, Coachella Valley fringe-toed lizard, flat-tailed horned lizard, desert rosy boa, Couch's spadefoot, burrowing owl, Loggerhead Shrike, LeConte's Thrasher, black-tailed gnatcatcher, prairie falcon, chuckwalla, and Coachella Valley round-tailed ground squirrel. Measures would need to be implemented that decrease the habitat loss and incidental take of these species.

Although this alternative would eliminate the need for the construction of the Midpoint Substation and also the Buck Boulevard to D-PV1 transmission line component (resulting in construction of single-circuit rather than double-circuit poles between Buck Boulevard and the proposed Midpoint Substation), 42 additional miles of reconductoring activity and tower construction and removal west of Julian Hinds Substation would be required. As a result, although biological resources impacts would be less than significant the short-term and permanent impacts on biological resources associated with this alternative would be greater than for the proposed BEPTL project.

Cultural Resources

As discussed in more detail under the Eagle Mountain Alternative above, the Buck to Julian Hinds with Reconductoring Alternative would be subject to both CEQA and Section 106 of the National Historic Preservation Act. Potential cultural resources existing along this alternative are described for the proposed BEPTL project and the D-PV2 Alternative above. New transmission line construction between Buck Boulevard Substation and the Julian Hinds Substation would have the same impacts as described for the proposed BEPTL project.

Background research for part of the reconductoring portion of this alternative route was conducted by Mooney/Hayes using the archives of the California Historical Resources Information System (CHRIS), Eastern Information Center (EIC), University of California, Riverside prior to initiation of survey activities (Mooney and Hayes 2004). Within 0.5 miles of the project, the locations of 112 sites and 28 isolates were identified (BLYTHE 2004a, Appendix D-1 p. 16). Blythe Energy, LLC conducted reconnaissance along this alignment including some “windshield surveys” and some small area judgmental surveys. Some intensive survey work was conducted at areas where substations were proposed or in areas of known sites or where sites were thought to be likely. Twenty prehistoric sites and seven historic sites were identified within the impact area/Area of Potential Effect along this route (BLYTHE 2004a, p 5. 16-19 and 5.16-24; BLYTHE 2004e, p. 36).

Additional research was conducted to identify the existing record of previously recorded archaeological resources and archaeological investigations conducted on or within a one-half mile search radius of each interset pole’s Area of Potential Effect (APE). The location of the interset poles was considered to address potential impacts caused by “downstream” affects of the project. Archival research identified 14 archaeological investigations previously conducted within the one-half mile search radii surrounding the proposed interset pole locations; six previously recorded cultural resources have been identified within these same study area boundaries.

Intensive archaeological survey of the proposed interset pole locations was conducted 16-18 September 2004. This fieldwork resulted in discovery of one isolated prehistoric ceramic vessel body shard (record number P33-13772) within one of the six proposed interset pole APEs; no other cultural resources were discovered as result of this intensive field survey.

The current study reveals that construction of the six proposed interset poles will have no potential to impact significant cultural resources, and will therefore have no effect on historical resources or historic property. No further examination or evaluation efforts were considered to be warranted. However, this study evaluated only the interset pole locations and not the entire Julian Hinds-Mirage corridor that could be affected by reconductoring activities. If this route is chosen, a lead agency would need to concur with the assertion that there will not be impacts to significant cultural resources. In addition, since Native American consultation has not been completed, identification of the cultural resources is not complete. On December 3, 2004, BLM sent letters to eleven Tribal Governments and sixteen other Tribal Representatives initiating government to government consultation regarding this project and to identify any issues or concerns they would like to have addressed pursuant to NHPA, NEPA or state requirements. A brief description of the project was provided as well as a map of the proposed route. Results of the consultation are provided in the Cultural Resources section of this SA/DEA. Therefore, additional research would be required in order to make a conclusion about this alternative. However, the tower replacement associated with the 42 additional miles of reconductoring activity would create greater ground disturbance than would construction of the proposed BEPTL project. The greater intensity of ground disturbance under the reconductoring alternative would in turn have a greater likelihood to potentially impact cultural resources however, cultural resources impacts would likely be reduced to less than significant levels with mitigation.

Hazardous Materials

Similar to the proposed project between Buck Boulevard Substation and Julian Hinds Substation, existing and previous land uses within the area are not expected to have caused the presence of hazardous waste within the alignments. As analyzed and discussed for the DSWTP Alternative, the reconductored portion of this alternative west of Julian Hinds is also not likely to encounter hazardous materials, especially because this segment would involve only the reconductoring of existing transmission lines and no excavation.

The use of hazardous materials for construction, operation, and maintenance would create potential exposure for workers and the public. To mitigate potential impacts, the project would comply with all pertinent LORS that would define procedures for vehicle refueling and servicing, transportation and storage of hazardous materials, and disposal of hazardous wastes.

The project would be expected to generate solid waste during construction. Waste disposal is discussed under Waste Management below.

Although hazardous material impacts would be less than significant with mitigation, the greater construction length associated with reconductoring and tower replacement along the 42 miles between Julian Hinds and Mirage/Devers Substations would create greater hazardous materials impacts from this alternative than with the proposed BEPTL project even though the construction of the proposed Midpoint Substation would not occur.

Land Use

The land use setting and impacts would be identical to those of the proposed BEPTL project from Buck Boulevard to Julian Hinds Substation. The eight-to-nine residences are the only population within 0.25-mile of the transmission line in this area. A windshield survey performed by staff determined the following sensitive land uses in the vicinity of the line between Buck Boulevard and Julian Hinds Substation:

- There is one residence located approximately 0.25-mile west of the proposed transmission line in the vicinity of the community of Blythe. This residence is approximately 0.5-mile west of the existing Blythe power plant site.
- The community of Hayfield, located adjacent to the Julian Hinds Substation has approximately eight homes and various recreational structures. An existing transmission line is approximately 1,000 feet north of the existing community, and the proposed transmission line will be placed within a proposed 100-foot dedicated ROW adjacent to the existing transmission corridor, closer to the residences. The community of Hayfield was established for the employees and their families who are employed to maintain MWD's Julian Hinds water pumping station that provides water to the Los Angeles basin.

West of Julian Hinds, the alternative route would require only reconductoring of an existing 230-kV line in the corridors described for the DSWTP and D-PV2 Alternatives above. The corridor is primarily open space and the Eastern and Western Coachella Valley Planning Areas according to the County of Riverside General Plan (2002, as

cited in IID & BLM, 2002). Other important open space or wildlife habitat areas in this portion of the project area that could be impacted by reconductoring activity include the Coachella Valley ACEC and Coachella Valley WHMA, both areas of critical wildlife habitat on BLM-administered land north of the route. The route would also traverse small parcels of Prime Farmlands and Farmland of Statewide Importance through this area.

From Julian Hinds west to the Coachella Valley, the project area is virtually uninhabited. The Riverside County Comprehensive General Plan (RCCGP) (1992, as cited in IID & BLM 2003) classifies this region as rural desert land. No important farmlands are located along this segment.

Designated recreational areas within the project vicinity include Joshua Tree National Park, and the Orocopia Mountains and the Mecca Hills Wilderness Areas. The transmission line route would pass just north of these wilderness areas. The transmission line route would remain to the south of I-10 in this area, two to three miles south of Joshua Tree National Park.

Chiriaco Summit is a community of about 70 residents located approximately 30 miles east of Indio. The summit is the location of the General George S. Patton Memorial Museum and a small airport (Riverside County 2002, as cited in IID & BLM, 2002). The museum and Chiriaco Summit Airport are on the north side of I-10 at the summit, while the transmission line route would be on the south side of the Interstate. The alternative is not located within the airport influenced policy area (Riverside County 1992). The historic Camp Young desert training center utilized by General Patton is located to the south of I-10, west of Chiriaco Summit. No established recreation facilities are present at the Camp Young site and like the D-PV1 route, the reconductored alternative route west of Julian Hinds would cross the middle of the Camp Young site (note that the DSWTP Alternative would cross north of the area).

The Eastern Coachella Valley Planning Area is within the southeast portion of the Coachella Valley, south and east of the City of Indio. The Planning Area extends east to Chiriaco Summit along I-10. Generally undeveloped desert land, small areas of agriculture, and infrequent residential uses are found along this portion of the SCE transmission line route that would be reconductored.

Continuing west, the transmission line route would cross to the north side of I-10 near the Cactus City Rest Area. The area near the Cactus City Rest Stop includes numerous existing utility projects north and south of I-10, including other electric transmission lines, fiber optic communication lines, three gas pipelines, and the Colorado River Aqueduct. From there, the transmission line route would remain to the north of I-10 in undeveloped desert land until entering the Coachella Valley, east of Indio. In this area, the transmission line corridor would pass adjacent to the southwestern corner of Joshua Tree National Park, but would not encroach upon park land.

In the eastern Coachella Valley, the Augustine Band of Mission Indians, the Torres Martinez Desert Cahuilla Indians, the Twentynine Palms Band of Mission Indians, and the Cabazon Band of Mission Indians own tribal land (10,046 acres total) throughout the area (Riverside County 2002, as cited in IID & BLM, 2002). Mostly low intensity

agricultural land uses, but also commercial businesses, a power generation plant, and a tire recycling facility occur on tribal land in this portion of the project area (Riverside County 2002, as cited in IID & BLM, 2002).

The Western Coachella Valley Plan encompasses the project area from the Eastern Coachella Valley Planning Area boundary east of Indio, to the Devers Substation. The Western Coachella Valley portion of the project area includes the cities of Desert Hot Springs, Palm Desert, Cathedral City, Palm Springs, La Quinta, Indio, Rancho Mirage and Indian Wells, which are mostly located to the south of I-10. Unincorporated communities within or adjacent to the existing line that would be reconductored under this alternative include Bermuda Dunes, Thousand Palms, Sun City, Palm Desert and North Palm Springs.

The majority of urban development in the Coachella Valley is within these communities, with the exception of rural enclaves scattered throughout the valley. Urban land uses found in the unincorporated portions of the Western Coachella Valley include rural and suburban residential, commercial, industrial, mining, wind energy and recreational uses. The alternative reconductoring activity would be on the existing transmission lines located to the north of I-10 in relatively undeveloped rural desert areas. Most of the land crossed in the Western Coachella Valley is privately owned, with scattered Federal parcels in the foothills of the Little San Bernardino Mountains and in the Indio Hills. Land uses in this area include mostly open space with scattered residential uses located outside the existing utility ROW.

Just northwest of the community of Thousand Palms, the transmission line routes cross two parcels of undeveloped tribal land owned by the Agua Caliente Band of Cahuilla Indians.

The longest possible reconductoring segment would terminate at the Devers Substation. The project would require modification of the existing substation, requiring the use of an additional five acres of vacant privately-owned land.

Despite the elimination of the need for the construction of the Buck Boulevard to D-PV1 transmission line component and the proposed Midpoint Substation of the BEPTL, 42 additional miles of new towers and reconductoring activity west of Julian Hinds Substation would be required under this alternative. The reconductoring activity, including tower replacement, would occur in more developed areas (west of Chiriaco Summit), and it would be closer to some residences. In comparison, the Buck Boulevard to D-PV1 transmission corridor and the proposed Midpoint Substation would not affect any sensitive land uses, although it would be constructed along the western margin of existing orchards. Overall, the land use impacts of the reconductoring alternative are considered to be greater than the proposed BEPTL transmission line segment, but would also be less than significant with mitigation.

Noise and Vibration

Construction noise, while a short-term impact, could affect nearby noise-sensitive receptors. This is especially a concern at locations where the reconductored transmission

line would pass through or immediately adjacent to schools, parks or recreation areas, and residential properties.

Construction noise impacts occur from on-site and off-site construction activities. On-site noise during construction would occur typically from heavy-duty construction equipment (e.g., backhoes, dozers, and excavators). Helicopter use to access remote structure sites, or during stringing operations, could also generate noise nuisances. Off-site noise sources would include trucks delivering material and equipment to the job site, as well as vehicles used by workers commuting to and from the proposed construction sites. Noise from off-site construction sources can be evaluated based on estimating the number of vehicles traveling to and from the construction areas.

Noise sources associated with operations of a transmission line would include corona discharge and noise from substation transformers. Therefore, operation noise from project facilities would be below regulatory limits, and noise from maintenance activities would be low and of short duration.

The 42 miles of reconductoring activity and tower replacement would occur in a slightly more developed area, whereas the construction of a new 6.7-mile transmission line and substation between Buck Boulevard and Midpoint Substation would occur in relatively remote areas. Therefore, although noise impacts would be less than significant with mitigation, the reconductoring alternative would have greater noise impacts than the proposed BEPTL project.

Socioeconomics

Incorporated cities within the vicinity of the reconductoring alternative include Blythe, Indio, Coachella, and Thousand Palms. The project would also pass through two parcels of land owned by the Agua Caliente Band of Cahuilla Indians. Greater than 95 percent of the area population is Caucasian and/or Hispanic (IID & BLM 2003).

This alternative would be located in the same area as the DSWTP Alternative, but would have less impact than the DSWTP Alternative because the portion of the route from Julian Hinds to Mirage or Devers would only include the reconductoring of existing lines. As a result, this alternative would not have a significant effect on employment in the region. The number of project-related positions created would be negligible relative to the overall number of construction jobs in eastern Riverside County. The project may create a small temporary increase in the population in the project area. However, the impacts from a temporary increase were not expected to be significant.

The project would contribute to a positive short-term impact on the local economy and on the fiscal resources of local governments in Riverside and Imperial Counties. Specifically, Riverside County and the Palo Verde Valley would gain some economic benefit from construction expenditures. The reconductoring alternative is not expected to place a significant demand on public services or facilities.

The Buck to Julian Hinds with Reconductoring Alternative would not have a disproportionately adverse environmental justice impact on minority, low-income, or Native American populations, since the project was not found to have any significant

impacts that would affect local populations. Overall, despite differences in scope, socioeconomic impacts would be similar to the proposed project.

Soil and Water

The hydrologic setting for this alternative is similar to the proposed project and the DSWTP and D-PV2 Alternatives. As with those alternatives, construction activities could result in a discharge of hazardous materials into a watercourse or wash (e.g. gasoline, diesel, oil, lubricants, paint solvents) in addition to sediment discharge during construction. In addition, wells and springs adjacent to construction areas could be disturbed or contaminated, which may be mitigated by limiting construction activities and the use of hazardous material near wells. Impacts from flooding, soil compaction, soil disturbance, and expansive soils would be the same as those of the proposed BEPTL project.

Overall, although impacts would be less than significant with mitigation, potential impacts to soil and water resources would be greater than those of the proposed project due to additional miles of construction activity along the reconductoring segment.

Traffic and Transportation

Roadways located near the project area include: I-10, SR-78, SR-111, SR-177, and SR-115, and are described in the previous alternatives sections. Airports and railroads in the vicinity are discussed under the DSWTP Alternative.

The effect of construction traffic on local roadways and the potential for traffic delays would be similar to those of the proposed BEPTL project. Reconductoring activity could affect traffic and transportation in the same manner as the construction of new transmission lines. Standard mitigation would reduce all traffic and transportation impacts to less than significant levels. This alternative would require approximately 42 additional miles of reconductoring construction and activity would occur in more developed areas, but construction traffic would be substantially less intense than that required for a new transmission line and substation that are included as part of the proposed BEPTL project. Overall, the proposed project would likely have fewer impacts due to the much smaller area in which impacts could occur, and the relative isolation of that area.

Transmission Line Safety & Nuisance

Induced Current and Shock. The project may cause an incremental increase in the risk of electric shock within the transmission line ROW. However, because the line would be in an existing corridor (adjacent to other existing transmission lines) it would not create a new risk. In order to reduce these incremental impacts to less than significant levels, suggested mitigation includes grounding nearby fences, and consulting with agricultural land managers to ensure that irrigation practices do not create a potential for water stream contact with overhead transmission lines.

The first 2.9 miles of both the proposed project and this alternative would cross agricultural lands; however, the lands are undeveloped or abandoned orchards/jojoba. The Buck to Julian Hinds with Reconductoring Alternative would have a similar risk of

electric shock to that of the proposed project. The reconductored portion of the route would have a similar risk of electric shock after tower replacement.

Effects on Pacemakers. An energized transmission line also creates potential disruptions to pacemaker operation within and immediately adjacent to the transmission line ROW. The biological consequences of a brief, reversible pacemaker malfunction are considered to be mostly benign, with the chance of a life-threatening malfunction considered to be a rare event. Disruption impacts to pacemaker operation of the DSWTP Alternative would be similar to the proposed project and would not cause a significant change to the baseline conditions within the existing transmission line corridor.

Blasting. Transportation and the use of blasting materials (if necessary) would be expected to create an increased risk of injury to workers and the public. The use of a licensed contractor with a valid California “Blaster License” pursuant to Cal-OSHA Article 8, Section 1550-1580 would mitigate risks to less-than-significant levels. Impacts between the proposed project and any alternative would be similar.

Magnetic Fields. The reconductoring of the existing 230-kV line through or near developed areas would likely increase magnetic field levels within and in areas immediately adjacent to the ROW and within 300 feet of the centerline. EMF modeling would be required to assess the difference in existing and future fields in reconductored areas.

Similar to the proposed project, this alternative would not be likely to cause significant transmission line safety hazards or nuisances. This alternative would result in 6.7 miles of SCTL being constructed instead of DCTL. However, the length of the Buck Boulevard to Julian Hinds with Reconductoring Alternative line would be approximately 42 miles longer than the proposed project and would thus increase the length of exposure to increased magnetic fields.

Visual Resources

Visual Resources impacts would be identical to the proposed project for the segment of this alternative between Buck Boulevard Substation and Julian Hinds Substation. The setting of this alternative west of Julian Hinds (for the reconductoring segment) is described for the DSWTP and D-PV2 Alternatives since the corridors would be similar and in Land Use above.

During reconductoring, construction impacts on visual resources would result from the presence of equipment, materials, and work force at the substation sites, staging areas, and along the route. Construction impacts on visual resources would also result from the temporary alteration of landforms and vegetation along the right-of-way (ROW). Vehicles, heavy equipment, project components, and workers would be visible during reconductoring activities, substation modifications, and site/ROW clean-up and restoration. Construction equipment and activities would be seen by various viewers in close proximity to the sites and ROW including adjacent and nearby residents, recreationists on trails and roads, motorists, and pedestrians. View durations would vary

from brief to extended. Construction activities would be most visible for those elements through residential neighborhoods.

The permanent visual impacts of the reconductoring itself would be less than significant since the existing towers would be removed following replacement, and the resulting visual changes would be slightly thicker conductors and possibly slightly higher towers. While the visual change from reconductoring would be minor, the Buck Boulevard to Midpoint Substation transmission line segment includes small areas in which a new transmission line would be highly visible (from the substation to the crossing of the I-10). The remainder of the transmission line (south of the I-10) would not be visible from public roadways. Overall, the reconductoring alternative is slightly less preferred than the proposed BEPTL project due to the greater extent of impacts of the alternative in comparison to the proposed project.

Waste Management

Similar to the proposed project and the Eagle Mountain Alternative discussion above, the reconductoring alternative would need to implement a comprehensive program to manage hazardous wastes and obtain a hazardous waste generator identification number (required by law for any generator of hazardous wastes) and would comply with all LORS. While there would be less waste to dispose of without construction of a new Midpoint Substation, overall the environmental impact of waste disposal would be greater for the reconductoring alternative due to the removal of the existing towers along the additional 42 miles of reconductored ROW.

Worker Safety & Fire Protection

Similar to the proposed project and the discussion for the Eagle Mountain Alternative above, worker safety would be protected by adherence to LORS, which include Cal-OSHA regulations. Fire protection would also be assured by following LORS including the California Fire Code. Therefore, this alternative would have a similar impact in the areas of worker safety and fire protection than the proposed Blythe Transmission Line.

Geology, Mineral Resources, and Paleontology

The setting and impacts to geology, mineral resources, and paleontology would be identical to the proposed project from Buck Boulevard to Julian Hinds Substation. West of Julian Hinds the alternative would include the reconductoring of an existing SCE transmission line, which would have impacts to earth resources since ground disturbance is anticipated with new tower construction and removal. This portion of the route would be largely similar to the DSWTP and the D-PV2 Alternatives.

By eliminating the construction of the proposed Midpoint Substation and one of the 6.7-mile 230-kV transmission line circuits the new substation would not be prone to seismic hazards, or create the potential to encounter unknown paleontological resources during excavation. Although the new towers would be higher, they would also be stronger and possibly more geologically stable; however, the construction of new towers would create additional ground disturbance that could disturb paleontological resources. Therefore, impacts to geology, mineral resources, and paleontology would be slightly greater with the reconductoring alternative than with the proposed BEPTL project, but all impacts would be reduced to less than significant levels with mitigation.

Transmission System Engineering

The Julian Hinds to Devers line cannot transmit the full power output of BEP without reconductoring. Therefore, this alternative is strongly preferred to the proposed project because it can provide adequate capacity from Buck Boulevard to Devers and negates the potential need for termination on a major intertie. The alternative would comply with the established planning/siting principle of modifying existing transmission facilities where feasible.

The design and construction of this alternative project would be in compliance with applicable engineering laws, ordinances, regulations and standards for both the alternative and the alternative variation. Impacts related to facility design would be similar to the proposed project.

INSTALL LARGER CAPACITY LINE

ALTERNATIVE DESCRIPTION

This alternative would be installed along the same route as the proposed BEPTL, but the transmission towers would be larger to accommodate larger conductors or an additional circuit. This alternative is being considered because there are two other related transmission projects that are being considered for the transmission corridor between Blythe and Desert Center: the D-PV2 line proposed by SCE, and the DSWTP being evaluated by IID and the BLM. In addition, given that a second power plant, BEP II, has been proposed for a site adjacent to the BEP operated by Blythe Energy, additional transmission capacity would be required to transmit the power generated at that facility to southern California markets.

Two options are described below for this alternative. Option B is very similar to the DSWTP and D-PV2 projects, except that in this alternative, the 500-kV towers would be constructed only between Blythe and Julian Hinds Substation. In addition, construction of the proposed transmission line component between Buck Boulevard and Midpoint Substation and construction of the new Midpoint Substation would be eliminated under both of the following options.

Option A: Double Circuit 230-kV Transmission Line

Under this option, towers would be constructed to accommodate a double circuit 230-kV line rather than a single circuit 230-kV line, as proposed. A single circuit line could be initially constructed by Blythe Energy, and the second circuit could be added when additional capacity is required. This option would also require the modification of the substations at Buck Boulevard and Julian Hinds in the future to accommodate the second circuit. Slightly larger towers would be required, but the tower spacing is assumed to be the same as that proposed for the BEPTL (two towers for each of the existing D-PV1 500-kV towers).

In the future when the second 230-kV circuit is required, there would be some additional short-term construction impacts resulting from installation of the additional conductors and insulators on the existing towers. These impacts would be temporary and minor since access roads would exist and the towers would have already been installed.

While a double circuit 230-kV line could accommodate the output of the proposed BEP I and BEP II power plants assuming upgrade of the system between Julian Hinds and Devers, it could not also accommodate increased imports of electricity from Arizona's Palo Verde generating hub. Option B (below) provides the potential for adding that capacity in the future.

Option B: 500-kV Transmission Line

Under this option, 500-kV towers (including 500-kV insulators and conductors) would be constructed. The line would be a single circuit, and could be initially be energized at 230-kV, and then later energized at 500-kV when the need exists. This option would require the installation of the larger 500-kV towers from the Buck Boulevard Substation and along the entire transmission line route, except for the portion of the line approaching the Julian Hinds Substation where the proposed route diverges from the D-PV1 corridor. From this point (just south of the I-10 at the Hayfield Road exit), a single circuit 230-kV line could be constructed into Julian Hinds Substation. This option would require that 500-kV equipment be installed at the Buck Boulevard Substation if the line were energized at 500-kV. The 230-kV line segment from I-10 to Julian Hinds could be removed and the land restored.

It is assumed that the new 500-kV towers would be lattice towers spaced to match the existing D-PV1 500-kV towers. Concrete towers are not generally used for 500-kV construction. This would result in the need for half as many towers as currently proposed, and fewer new spur access roads. However, each tower would have a substantially larger footprint than the proposed concrete towers, especially if the entire area under the tower were considered in the disturbance area calculations.

In the future when the line would be energized at 500-kV and would connect to D-PV2 to form its western portion, there would be some additional impacts associated with construction of a switching station with circuit breakers at the connection point near Blythe at the eastern end of this alternative or D-PV2 and this alternative could loop into Buck Boulevard. Construction of a switching station, however, would be far less intrusive than the construction of a new substation and access roads in the area would already exist.

Rationale for Consideration

Both of the two possible configurations would allow for more efficient use of the transmission ROW, and they would reduce potential cumulative impacts of the BEPTL project. These options could prevent the need for construction of other future projects (e.g., DSWTP and D-PV2) along the same line segment, reducing construction impacts, disturbance of additional habitat for sensitive species, and potential cultural resources.

ENVIRONMENTAL AND ENGINEERING ASSESSMENT FOR LARGER CAPACITY LINE ALTERNATIVE

Air Quality

The types of air pollutants emitted during construction and operation of a larger capacity transmission line would be the same as those emitted for the proposed BEPTL project. Emissions during construction may be slightly greater because the towers would be

larger, possibly requiring use of larger construction equipment. However, if fewer towers were constructed (as in Option B), overall emissions may be slightly reduced. Substation construction would be greater than with the proposed project. Construction of either the alternative or the proposed project would need to be controlled to satisfy the air permitting requirements of the MDAQMD. As such, construction and operation of an alternative with larger capacity would be subject to permit requirements. However, like the proposed project and the alternative itself, impacts would be less than significant after implementation of required mitigation.

Overall, this alternative would likely have similar emissions to the proposed project.

Biological Resources

Because this alternative would pass through the same habitats as the proposed project, differences in impact would result only from differences in the amount of ground disturbance. Option A would be the same as the proposed project. Option B would require approximately half as many towers as the proposed project, but each tower would have a larger footprint, requiring construction of foundations for four tower supports rather than the one required for a concrete pole. The habitat under the tower may be preserved or reseeded, but damage to desert habitat requires a long recovery time, and construction itself could have direct impacts on sensitive species. However, the number of spur access roads off the existing D-PV1 corridor access roads would be reduced by half. Overall, the habitat disturbance is estimated to be similar to that of the proposed project.

Cultural Resources

As discussed in more detail under the Eagle Mountain Alternative above, this alternative would be subject to both CEQA and Section 106 of the National Historic Preservation Act. Field surveys completed by Blythe Energy, LLC for the proposed project would also apply to this alternative. While fewer sites may be affected by the Larger Capacity Line Alternative due to the reduced number of towers and fewer access roads in Option B, each tower would require greater ground disturbance. Overall, the impact to cultural resources is expected to the similar to that of the proposed BEPTL project.

Hazardous Materials Management

Similar to the proposed project, existing and previous land uses along the transmission line route do not indicate the likely presence of hazardous materials within the construction zone. Compliance with LORS and standard mitigation would be required at both locations. Therefore, no difference in impact between the Larger Capacity Line Alternative and the proposed BEPTL project would result.

Land Use

While both the proposed BEPTL and the Larger Capacity Line Alternative would be located at some distance from residences or schools, the corridor for both lines would pass through several special land management areas on BLM lands, as discussed in the proposed project analysis. Like the proposed project this alternative may be more consistent with the CDCA in its designated Corridor K, which allows “new electrical transmission towers and cables of 161-kV or above” (CDCA, page 93). Even though the

proposed project would meet the requirements as described in the BLM ROW regulations at Title 43, CFR Sec. 2802.3, this configuration supports the goals of BLM to optimize use of a designated utility planning corridor for bulk transmission facilities.

Noise and Vibration

As stated in Land Use above, both the proposed BEPTL and the Larger Capacity Line Alternative would be located at some distance from residences or schools. Noise generated during construction would be similar to that of the proposed project, and neither would affect sensitive receptors. Therefore, overall noise impacts would be similar.

Socioeconomics

Socioeconomic impacts resulting from the Larger Capacity Line Alternative would be the same as those at the proposed BEPTL project.

Soil and Water

Impacts to surface water and groundwater would be the same as those of the proposed project, since both would follow the same route, and water resources would be protected through the same mitigation measures.

The potential for permanent and temporary soil disturbance would result be similar for both the proposed project and the Larger Capacity Line Alternative. Implementation of Conditions of Certification would ensure that soil impacts would be less than significant for both options. Operational impacts to soil and water resources would be less than significant as well.

Traffic and Transportation

The difference in construction traffic between the Larger Capacity Line Alternative and the proposed project is not known, though it is likely that the larger towers might require larger vehicles for their transportation or more vehicles if the towers need to be delivered in multiple sections. However, given the low level of traffic on area roadways, this potential for slightly greater traffic volumes is not expected to be noticeable.

Construction and operation of both the proposed project and the alternative would be required to comply with all LORS pertinent to traffic and transportation. Overall, construction and operation transportation impacts associated with the proposed project and the Larger Capacity Line Alternative would be similar and less than significant.

Transmission Line Safety & Nuisance

Induced Current and Shock. A higher voltage transmission line (500-kV) would have a greater potential for induced current or shock. However, there are few potential land uses along the transmission line route where this potential would be expected to cause problems.

Effects on Pacemakers. An energized transmission line creates potential disruptions to pacemaker operation within and immediately adjacent to the transmission line ROW. The biological consequences of a brief, reversible pacemaker malfunction are

considered to be mostly benign, with the chance of a life-threatening malfunction considered to be a rare event. Disruption impacts to pacemaker operation of the Larger Capacity Line Alternative would be similar to the proposed project and would not cause a significant change to the baseline conditions within the existing transmission line corridor.

Magnetic Fields. The Larger Capacity Line Alternative which uses higher voltages (500-kV) would create different magnetic fields than the proposed single circuit 230-kV project. Because magnetic fields are caused by the current in the conductors and the current for a 500-kV line may be smaller then for a 230-kV line modeling would be required to determine whether the fields would be larger or smaller, and the results would vary depending on which of the two configuration options was selected. Regardless, there are no residences along the transmission line route, so potential impacts from magnetic fields would be less than significant.

Similar to the proposed project, this alternative would not be likely to cause significant transmission line health, safety hazards or nuisances.

Visual Resources

The Larger Capacity Line Alternative would follow the same route as the proposed project, but the tower design and tower placement would be different. Under Option A, where double circuit 230-kV towers would replace the proposed single circuit towers, no difference in visual impact would occur when compared with the proposed project. The slightly larger double circuit towers would still be substantially smaller than the adjacent D-PV1 500-kV towers.

Under Option B, where the larger lattice 500-kV towers would be constructed, only half as many towers would be required and the new towers are assumed to be located adjacent to the existing D-PV1 towers. This tower placement has the visual advantage of maintaining consistency within the corridor, and the lattice towers are less visible than concrete towers when viewed from a distance.

Based on a comparison of this alternative alone to the proposed project, visual impacts are considered to be overall similar. However, Option B has the potential to eliminate cumulative visual impacts that would occur from the future addition of an additional 500-kV transmission line (DSWTP or D-PV2) within the corridor. This benefit is substantial, and results in this alternative being preferred over the proposed BEPTL.

Waste Management

As with the proposed project, Blythe Energy, LLC would need to implement a comprehensive program to manage hazardous wastes and obtain a hazardous waste generator identification number (required by law for any generator of hazardous wastes) and would comply with all LORS. The environmental impact of waste disposal for the Larger Capacity Line Alternative would be similar to that of the proposed project.

Worker Safety & Fire Protection

Similar to the proposed project and the discussion under the Eagle Mountain Alternative, worker safety would be protected by adherence to LORS, which include

Cal-OSHA regulations. Fire protection would also be assured by following LORS including the California Fire Code. Therefore, this alternative would have a similar impact in the areas of worker safety and fire protection as the proposed BEPTL.

Geology, Mineral Resources, and Paleontology

The geologic setting of the Larger Capacity Line Alternative would be the same as that of the proposed Midpoint Substation site and the Buck to Julian Hinds component of the proposed BEPTL route. Because 500-kV transmission lines normally have only four to five structures per mile, known faults can often be spanned with the structures on either side of the fault being set back from the fault line, thereby reducing impacts associated with known fault crossings. Excavation in conjunction with construction of the transmission line or substation would have similar potential to adversely impact significant paleontologic resources as the proposed BEPTL. In order to mitigate potential impacts to less than significant levels, a qualified vertebrate paleontologist would develop a program that includes pre-construction surveys; monitoring; preparation, identification, and curation of recovered specimens; and preparation of a report of findings.

Overall impacts of the Larger Capacity Line to Geology, Mineral Resources, and Paleontology would be less than significant and similar to the proposed BEPTL.

Transmission System Engineering

The Larger Capacity Line Alternative would result in construction of a new double-circuit 230-kV or single-circuit 500-kV transmission line from the Buck Boulevard Substation to the Julian Hinds Substation. This alternative, under either of the two options, could accommodate both BEP and BEP II and with Option B it could potentially form a portion of the proposed D-PV2 line. From a long-range planning perspective, the Larger Capacity Line Alternative is strongly preferable to the proposed project, which has only moderate transmission capacity and would utilize important bulk power corridor space. A 500-kV line would be able to transmit approximately 1,500 to 2,000 MW and this option (Option B) is most preferred, even over a double-circuit 230-kV transmission line, which could transmit roughly a maximum of 1,040 MW. The cost of this 500-kV alternative would be substantially greater then the BEPTL Buck Boulevard to Julian Hinds single circuit line and the double circuit 230-kV line alternative. The sharing of corridor capacity would require coordination among applicants for BEP I, BEP II, SCE, the DSWTP proponent, and stakeholders in Arizona but should Blythe Energy, LLC negotiate with these parties, conformity with the established planning/siting principle of “sharing” new transmission facilities would occur.

The design and construction of this alternative would have to be in compliance with applicable engineering laws, ordinances, regulations and standards for both the alternative and the alternative variation. Impacts related to facility design would be similar to the proposed project.

WILEY WELL SUBSTATION ALTERNATIVE

ALTERNATIVE DESCRIPTION

This alternative substation location would replace the proposed Midpoint Substation, allowing an interconnection of the proposed transmission line with SCE's Devers-Palo Verde 500-kV line in a location further west. The new 230-kV transmission line from Buck Boulevard would continue along the D-PV1 corridor to the new substation where it would connect to the D-PV 500-kV transmission line.

This alternative would have no effect on the Buck Boulevard to Julian Hinds transmission line component of the BEPTL. If that transmission line were constructed, the construction of a longer double-circuit 230-kV line to the Wiley Well Substation location would involve very minor increases in impact (slightly larger towers for the double-circuit configuration, and stringing of six conductors rather than three) over the approximately 10-mile distance between the Midpoint and Wiley Well locations.

The Petition assumed that if the Wiley Well Substation were used, the Mesa Verde transmission line route would also be used because of its shorter overall distance. However, in this analysis, that route was eliminated because it would require creation of a new transmission line ROW and the proposed route follows existing lines along its entire length.

The alternative substation site would be accessed via Wiley Well Road, an existing paved two-lane roadway with an exit off of Interstate 10 (I-10). The substation would be located approximately 0.8 miles south of I-10, just east of Wiley Well Road and immediately adjacent to the Devers-Palo Verde corridor.

The Wiley Well Substation would be located approximately nine miles northwest of the proposed Midpoint Substation. This substation alternative would be used to transform the 161-kV or 230-kV power from the Blythe Power Plant to 500-kV, so it could be transmitted along the SCE D-PV1 line into the SCE system. The transmission line would include the proposed 6.7-mile transmission line route from Buck Boulevard Substation to its intersection with the existing D-PV1 corridor (at the location of the proposed Midpoint Substation location), plus approximately 9.75 miles of additional transmission line paralleling the D-PV1 corridor to the northwest/west to a point just east of Wiley Well Road.

The location of the alternative substation site is depicted in **ALTERNATIVES Figure 5.**

Rationale for Consideration

This alternative is being considered because it would eliminate the need for major improved access roads that would be required to transport substation and construction equipment to the site of the proposed Midpoint Substation. The Wiley Well Substation Alternative would be accessible via an existing paved roadway with an I-10 exit (Wiley Well Road).

ENVIRONMENTAL AND ENGINEERING ASSESSMENT FOR WILEY WELL SUBSTATION ALTERNATIVE

Air Quality

The types of air pollutants emitted during construction and operation of the Wiley Well Substation Alternative would be similar to those that would occur with proposed project because both would include the construction of a new substation in the same general area. Emissions during construction of both would need to be controlled to satisfy the air permitting requirements of the MDAQMD. As such, construction and operation of the Wiley Well Alternative would be subject to permit requirements. However, like the proposed project and the alternative itself, impacts would be less than significant after implementation of required mitigation.

If the Buck Boulevard to Julian Hinds transmission line were not constructed, this substation location would require construction of a longer transmission line, hence creating slightly more construction emissions. However, this substation site would eliminate the need for construction equipment to drive on unpaved access roads to reach the Midpoint Substation site, and it would eliminate the need for substantial improvement to those access roads. Therefore, overall, the two sites are considered to be approximately equivalent in air quality impacts.

Biological Resources

This alternative substation site is located in an area that provides habitat for Mojave fringe-toed lizard, a special-status species and is also within cultural habitat for desert tortoise. The Petition states that direct impacts to these species would occur due to the loss of approximately 43.6 acres of habitat at the substation site, although much of this acreage would not be affected if the existing D-PV1 corridor were used rather than the Mesa Verde route. In addition, a substation at this location would be accessed largely by existing paved roadways along Wiley Well Road south of I-10. Access and spur roads would still be needed along the transmission line route. Overall, this alternative has the potential for slightly greater impacts to biological resources than the proposed Midpoint Substation site, however, these potential biological resources impacts would be reduced to less than significant levels with the implementation of mitigation.

Cultural Resources

As discussed in more detail under the Eagle Mountain Alternative above, this alternative would be subject to both CEQA and Section 106 of the National Historic Preservation Act. Field surveys completed by Blythe Energy, LLC indicate the Wiley Well Substation site would not impact known cultural resources (BLYTHE 2004a). However, there are several cultural resources sites near the proposed substation location (G & B 2004a, Map V-5). The presence of these sites may indicate the presence of subsurface cultural resources that would be discovered during construction. Elimination of the need to improve access roads to the Midpoint Substation site would reduce the potential for encountering unknown cultural resources during construction at that site. If the Buck Boulevard to Julian Hinds transmission component is also constructed, there would be almost no difference in impact of the transmission line construction required to reach this alternative substation site. As a result, the Wiley Well Substation site is preferred over the proposed project in terms of cultural resources, but both the proposed and

Wiley Well Substation sites would have less than significant cultural resources impacts with the implementation of mitigation.

Hazardous Materials Management

Similar to the proposed Midpoint Substation, existing and previous land uses within the area of the Wiley Well Substation Alternative do not indicate the likely presence of hazardous materials within the construction zone. Compliance with LORS and standard mitigation would be required at both locations. Therefore, no difference in impact between the Wiley Well and Midpoint Substations would result.

Land Use

Both the Wiley Well Substation and the proposed Midpoint Substation would be located in open space far from any sensitive land uses. The Wiley Well Substation would be located on BLM land within the BLM Designated Utility Corridor K, whereas the Midpoint Substation appears to be on private land. The Wiley Well Substation Alternative would be approximately 0.8 miles south of I-10, visible from the freeway and just east of an existing paved roadway. While the proposed Midpoint Substation would be in a more isolated location, overall land use impacts of the two substation locations would be similar.

Noise and Vibration

As stated in Land Use above, both the Wiley Well Substation and the proposed Midpoint Substation would be located in open space far from any sensitive land uses. Noise generated during construction would be similar and neither would affect sensitive receptors. Therefore, overall noise impacts would be similar.

Socioeconomics

Socioeconomic impacts resulting from the Wiley Well Substation would be the same as those at the proposed Midpoint Substation site.

Soil and Water

While the proposed Midpoint Substation and associated transmission line would all be located within the Colorado hydrologic basin, the Wiley Well Alternative would be located within the Colorado basin for part of its transmission line and the Chuckwalla hydrologic basin for approximately 4.5 miles of transmission line and the alternative substation site.

Although there are dry desert washes in the vicinity of the Wiley Well Substation Alternative, there are no permanent water bodies or perennial streams in the area of this alternative. Any impacts on dry washes would be limited to temporary alteration of bed and banks (where they would intersect new access and spur roads) and increased sediment load during initial storm events following construction.

Impacts to groundwater would be the same as those of the proposed Midpoint Substation site, and groundwater would be protected through the same mitigation measures.

The potential for permanent and temporary soil disturbance would be the same at both substation sites. Implementation of Conditions of Certification would ensure that soil impacts would be less than significant at either the proposed Midpoint Substation or the Wiley Well Substation Alternative and along either transmission line route. Operational impacts to soil and water resources would be less than significant as well.

The Wiley Well Substation Alternative would eliminate the need to improve approximately five miles of access roads required for construction of the Midpoint Substation. However, it would have greater soil and water impacts associated with the construction of an additional 9.75 miles of double circuit transmission line. These greater impacts would be negligible if the Buck Boulevard to Julian Hinds transmission line were constructed. Overall, there is no substantial difference between impacts at the two substation sites.

Traffic and Transportation

As discussed in the Petition submitted by Blythe Energy, the proposed Midpoint Substation would have average daily round trips of 13 construction worker vehicles and 5 delivery trucks and peak round trips of 33 construction worker vehicles and 10 delivery trucks. Construction of the Wiley Well Substation Alternative would generate similar construction activity, but the traffic would occur primarily along Wiley Well Road rather than unpaved access roads leading to the Midpoint site.

All roadways within the alternative and proposed project area have relatively low traffic volumes (compared with their design capacities). Access from I-10 for the proposed Midpoint Substation would be from the Highway 78 exit (1.5 miles east of Buck Boulevard Substation) or the Mesa Drive exit, which is 2.5 miles west of Buck Boulevard Substation. From there, approximately five miles of new access roads would be necessary to construct or improve in order to reach the proposed substation site along the D-PV1 corridor. The Wiley Well Substation would be accessed from I-10 via Wiley Well Road, a two-lane paved roadway, for approximately 0.8 miles. The Wiley Well Substation Alternative may require very limited improvements to the existing D-PV1 corridor access roads east of Wiley Well Road.

Construction and operation of the proposed Midpoint Substation or the Wiley Well Substation Alternative would be required to comply with all LORS pertinent to traffic and transportation. Overall, construction and operation transportation impacts associated with the proposed project and the Wiley Well Substation Alternative would be similar and less than significant.

Transmission Line Safety & Nuisance

Induced Current and Shock. A substation in itself does not create the risk of induced current; that risk is created by the transmission lines so this issue is not evaluated for the Wiley Well Substation Alternative.

Effects on Pacemakers. An energized transmission line and substation creates potential disruptions to pacemaker operation within and immediately adjacent to the transmission line ROW. The biological consequences of a brief, reversible pacemaker malfunction are considered to be mostly benign, with the chance of a life-threatening

malfunction considered to be a rare event. Disruption impacts to pacemaker operation of the Wiley Well Substation Alternative would be similar to the proposed project and would not cause a significant change to the baseline conditions within the existing transmission line corridor.

Magnetic Fields. The location of the substation would not affect the magnetic fields associated with transmission lines, but there would be an area of increased magnetic field around the substation itself. The Wiley Well Substation location would result in an additional 9.75 miles of transmission line that would be double circuit (rather than single circuit) under this alternative. Modeling would be required to determine whether the fields would be larger or smaller. Regardless, there are no residences near the substation site so potential impacts from magnetic fields would be less than significant.

Similar to the proposed project, this alternative would not be likely to cause significant transmission line safety hazards or nuisances. However, depending on whether the Buck Boulevard to Julian Hinds line is constructed or not, the length of the double-circuit transmission line for the Wiley Well Substation Alternative would be longer than for the proposed substation location. Without the Buck Boulevard to Julian Hinds transmission line, the proposed substation location would be preferable in terms of the total length of the source of line fields to which individuals might be subjected to.

Visual Resources

The Wiley Well alternative substation site would be approximately 0.8 miles south of the I-10 and would be visible from I-10 as well as from Wiley Well Road. Though both would be located in desert open space, removed from sensitive land uses and viewers, the proposed Midpoint Substation would be located approximately nine miles southeast of the Wiley Well Substation site and not in the viewshed of travelers on I-10.

Construction equipment and activities would be seen by various viewers, such as motorists on I-10. View durations would vary from brief to extended, but these impacts would be short term and less than significant with implementation of standard mitigation to restore temporarily disturbed areas.

The Wiley Well Substation Alternative would have a greater potential for permanent impacts to visual resources since the substation would be visible from travelers on I-10. This impact is considered to be less than significant given that the substation would be adjacent to the corridor of the 500-kV D-PV1 transmission line. Overall, the Midpoint Substation site is preferred.

Waste Management

At any substation site, Blythe Energy, LLC would need to implement a comprehensive program to manage hazardous wastes and obtain a hazardous waste generator identification number (required by law for any generator of hazardous wastes) and would comply with all LORS. The environmental impact of waste disposal for the Wiley Well Substation Alternative would be similar to that of the proposed project.

Worker Safety & Fire Protection

Similar to the proposed project and the discussion under the Eagle Mountain Alternative, worker safety would be protected by adherence to LORS, which include Cal-OSHA regulations. Fire protection would also be assured by following LORS including the California Fire Code. Therefore, this alternative would have a similar impact in the areas of worker safety and fire protection as the proposed Midpoint Substation.

Geology, Mineral Resources, and Paleontology

The geologic setting of the Wiley Well Alternative would be similar to that of the proposed Midpoint Substation site. There are no mineral resources in the areas of the Wiley Well Substation Alternative, the proposed Midpoint Substation, or with their associated transmission lines from Buck Boulevard Substation.

Excavation in conjunction with construction of the Wiley Well Substation Alternative would have similar potential to adversely impact significant paleontologic resources as the proposed Midpoint Substation. In order to mitigate potential impacts to less than significant levels, a qualified vertebrate paleontologist would develop a program that includes pre-construction surveys; monitoring; preparation, identification, and curation of recovered specimens; and preparation of a report of findings.

Overall impacts at the Wiley Well Substation Alternative to Geology, Mineral Resources, and Paleontology would be less than significant and similar to the proposed Midpoint Substation site.

Transmission System Engineering

The Wiley Well Substation Alternative would require an approximately 10 mile longer transmission line, assuming that the proposed transmission line route is followed. If the Buck Boulevard to Julian Hinds transmission component of the proposed BEPTL is constructed, this substation would require a second circuit on that set of transmission poles.
The design and construction of this alternative would be in compliance with applicable engineering laws, ordinances, regulations and standards for both the alternative and the alternative variation. Impacts related to facility design would be similar to the proposed project.

NO PROJECT ALTERNATIVE

The “no project” alternative under CEQA and the “no action” alternative under NEPA define the scenario that would exist if the project were not constructed. In the CEQA analysis, the “no project” alternative is compared to the proposed project and determined to be either superior, equivalent, or inferior to it. The CEQA Guidelines state that “the purpose of describing and analyzing a No Project Alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project” (Cal. Code Regs., tit. §15126.6(i)). Toward that end, the “no project” analysis considers “existing conditions” and “what would be reasonably expected to occur in the foreseeable future if the project were not

approved…" (§15126.6(e)(2)). Under NEPA, the "no action" alternative is used as a benchmark of existing conditions by which the public and decision makers can compare the environmental effects of the proposed action and the alternatives.

Department of Energy's NEPA regulations require that an EA include a discussion of the no-action alternative (10 CFR 1021.321(c)). Western must either accept the Applicant's request for interconnection, or deny the request and choose the no-action alternative. The no-action alternative provides a baseline against which the effects of the proposed action may be compared. In short, the site-specific and direct impacts associated with the power plant would not occur at this site if the project does not go forward.

While the BEP project currently has adequate transmission available to transmit its full 520 MW, it is constrained in its ability to transmit electricity to California markets. If the BEPTL were not constructed, these constraints on Blythe Energy, LLC would remain. In the absence of the BEPTL, it seems somewhat more likely that either of two other proposed transmission lines (the DSWTP or the D-PV2 line) would proceed.

DSWTP. The Final EIS/EIR was published in October 2005 and it will be followed by a BLM Record of Decision and certification by the IID. Additionally, the Energy Commission approved the BEP II project on December 14, 2005, which may spur activity on the DSWTP. The Applicant for BEP II has intervened in the petition for the BEPTL and supports a transmission solution that would meet the needs of both BEP I and BEP II.

The DSWTP is evaluated in this SA/DEA as an alternative to the proposed BEPTL. Given its greater length (extending to Devers Substation and not only to Julian Hinds), it would create greater environmental impacts than the proposed BEPTL, but it would also offer substantially greater transmission capacity (sufficient to accommodate both BEP and BEP II and imports from Arizona since it is proposed as a single circuit 500-kV line. This larger capacity line has the ability to reduce cumulative impacts in the D-PV1 corridor because, if constructed, a 500-kV could also alleviate the need for the Blythe to Devers portion of the D-PV2 project, minimizing the number of new lines added to the designated Utility Planning Corridor K.

D-PV2 Project. The D-PV2 project was approved by the CAISO in February 2005, an application was submitted to the CPUC in April 2005, and the CPUC and BLM published a Draft EIR/EIS on May 4, 2006. The construction of the BEPTL is unlikely to have an effect on the implementation of the D-PV2 project, because the primary purpose of the D-PV2 project is to provide increased imports of electricity generated in the Palo Verde area of Arizona to the Devers Substation. However, in the absence of the BEPTL, there would be increased need for the D-PV2 project. Therefore, the D-PV2 project is also considered to be a potential component of the No Project/Action Alternative.

ENGINEERING AND ENVIRONMENTAL ASSESSMENT FOR THE NO PROJECT ALTERNATIVE

If the proposed project was not built then none of the associated environmental impacts of that project would occur. In that sense alone, the No Project Alternative would be preferred over the proposed transmission line. However it is reasonably foreseeable that in the absence of BEPTL, construction of either the DSWTP or the D-PV2 project would be more likely to move forward. Therefore, they are considered as part of the No Project Alternative. Therefore, the engineering and environmental assessment of these two projects (presented above) should be considered when comparing the No Project Alternative with the BEPTL as proposed or other alternatives. The analysis of these two projects as the DSWTP and D-PV2 Alternatives, above, describes the impacts that would occur under the No Project Alternative, and therefore the analyses are not repeated here.

In summary, the No Project Alternative has the potential to provide adequate transmission capacity and it would be environmentally superior based on cumulative impacts. However, neither the DSWTP nor the D-PV2 project would likely meet Blythe Energy, LLC's timing and control objectives. In addition, both the DSWTP and D-PV2 projects, while having the potential to reduce cumulative impacts in the corridor, would have greater environmental impacts than the proposed BEPTL project due to their greater length.

ALTERNATIVES ELIMINATED FROM FULL CONSIDERATION

Alternatives analyzed in detail are presented above. This section addresses the following categories of alternatives that are not pursued for full analysis in this SA/DEA:

- Alternative transmission line routes and sub-alignments
- Transmission technology alternatives
- Demand-side management
- Renewable resource alternatives.

These alternatives, and the reasons they were not considered in detail in this analysis, are described below.

SUB-ALIGNMENTS

In addition to entire transmission line route alternatives, five sub-alignments were suggested in various forums. Each is briefly described below.

Because sub-alignments are generally created to avoid a specific impact, determination of the need to fully evaluate these sub-alignments is left to the staff analysts for the relevant issue areas. The sub-alignments are:

- The **Alligator Rock Sub-Alignment** was included in the Petition as Sub-Alignment 1. This 4.7 miles sub-alignment/proposed route would follow the existing D-PV1 route south of Alligator Rock. While it would make the BEPTL less visible from I-10 by moving it to the south, it would result in the line being located in the center of the

Alligator Rock ACEC, an area with high value for cultural resources. The sub-alignment would directly cross four cultural resources, most notably CA-RIV-1814, North Chuckwalla Mountain NRHP Quarry District (BLYTHE 2004g).

Since the publication of the Preliminary Staff Assessment and in response to cultural resources concerns, Blythe Energy, LLC changed the project route to avoid the North Chuckwalla Mountains Petroglyph ("rock art") NRHP District, which is within the Alligator Rock ACEC, but is over one mile from Alligator Rock itself. The towers (#289 to #305) were moved approximately 80 meters to the north for 2.8 miles (farther from D-PV1 and closer to I-10), thereby eliminating the potential cultural resources impacts that would have been created by the originally proposed project and the Alligator Rock Sub-Alignment. In addition, this new alignment would bring this portion of the transmission line approximately 80 meters closer to an existing natural gas pipeline access road, which would be used for construction access. Because the proposed new alignment would be closer to the pipeline access road, each of the stub roads to the pole sites would be approximately 80 meters shorter, thus reducing overall impacts related to stub road construction. For the above reasons, the Alligator Rock Sub-Alignment would not reduce any impacts of the proposed project without creating greater environmental impacts of its own.

- **North of I-10 Sub-Alignment**. This sub-alignment was presented as a segment of Alternative C from the DSWTP Draft EIS/EIR. This alignment would cross to the north of I-10 at the eastern point of the Alligator Rock Sub-Alignment and would parallel I-10 to the north until (1) Red Cloud Road where it would join the East of Julian Hinds Sub-Alignment or (2) Hayfield Road where it would join the proposed project into Julian Hinds Substation. This sub-alignment would create a third transmission path in this area (in addition to D-PV1 to the south, and the Eagle Mountain to Julian Hinds line to the north), and does not offer any apparent environmental benefit.
- **East of Julian Hinds Sub-Alignment**. This sub-alignment, three miles shorter than the proposed route, would cross I-10 to the north near Red Cloud Road and would meet up with the Eagle Mountain Alternative to the east of Julian Hinds Substation paralleling the corridor into the substation. While presenting an overall shorter route, this sub-alignment would have greater impacts in visual and cultural resources.
- **Mesa Verde Sub-Alignment**. This route option would turn west about 0.5 miles south of I-10 rather than following the existing 161-kV corridor to the D-PV1 corridor, and then join the D-PV1 corridor about 5 miles further west. This sub-alignment was developed for use with the Mesa Verde or Wiley Well Substation Alternatives, because it would be shorter than the proposed route, but it would also create a new transmission line corridor on undisturbed land near the I-10.

The **Hobsonway Sub-Alignment** was evaluated in the Preliminary Staff Assessment, but Blythe Energy, LLC has since made project changes and has incorporated it into the proposed project route. The Hobsonway Sub-Alignment was developed as a result of a scoping comment by the City of Blythe, which indicated a concern about the new 230-kV towers being too close to the airport. If the BEPTL followed the existing 161-kV corridor (south across Hobsonway and I-10) rather than following Hobsonway to the

west, this concern would be alleviated. As a result, Blythe Energy, LLC made a project change and incorporated this sub-alignment into the proposed project route.

INTERSTATE 10 ALTERNATIVE

Alternative Description

This alternative was presented by Blythe Energy, LLC in the Petition and would include a new 65-mile transmission line route that would parallel I-10 for most of its length. The I-10 Alternative is the same as the proposed project for approximately 14 miles, but for the remainder of the route it would be closer to the highway.

For the easternmost 18 miles, the I-10 Alternative would be the same as the Eagle Mountain Alternative, paralleling the existing SCE Blythe-Eagle Mountain 161-kV transmission line. Just east of the Ford Dry Lake exit, where the Eagle Mountain Alternative would cross to the south side of I-10, the I-10 Alternative would remain north of the interstate for approximately five miles farther until a jog in the roadway where the route would cross to the south, but would remain parallel and adjacent to I-10. From the Corn Springs Road exit where the Eagle Mountain Alternative would cross I-10 to the north to Desert Center, the I-10 Alternative would be the same as the proposed project for approximately 10 miles. West of Desert Center the proposed project corridor would diverge slightly to the south while the I-10 alternative would remain adjacent to I-10. At Hayfield Road the two routes would rejoin one another and would cross to the north of I-10 and parallel Hayfield Road north and then east into Julian Hinds Substation.

Rationale for Elimination

Although this alternative route would be two miles shorter than the proposed BEPTL, it would have greater visual impacts to travelers on I-10 because the route would be closer to highway (within 300 to 500 feet for 35 miles) and would cross I-10 at four locations (as opposed to twice by the proposed project). In addition, the transmission line would introduce a new visual element, because approximately 30 miles of this route would not be adjacent to existing transmission and it would not be located in a BLM designated utility corridor. The route would also pass through the Palo Verde Mesa Area of Sensitivity for cultural resources. Due to the much greater impacts to visual resources and no significant reduction of other project impacts, this alternative was eliminated from full consideration.

ACCESS TO CAISO VIA MEAD SUBSTATION ALTERNATIVE

Alternative Description

This alternative would include a new approximately 200-mile transmission line from Blythe to the Mead Substation in southern Nevada.

Rationale for Elimination

This alternative would result in greater cost and time to permit due to the coordination necessary for interstate construction. Although contractual sales could occur at Mead, the destination of power flow, as stated in Blythe Energy, LLC's project objectives, is not to Nevada but to California. According to Blythe Energy, LLC (Petition, pg. 3-42), it would be difficult, if not impossible, to sell the power to the California market.

Construction duration and impacts would be significantly greater as well with approximately 133 miles more of construction. Therefore, this alternative would create greater environmental impact, and would not meet project objectives.

ELIMINATE MIDPOINT SUBSTATION ALTERNATIVE

Alternative Description

This alternative would eliminate the Midpoint Substation and would relocate the 230-kV/500-kV transformer at Buck Boulevard Substation or at an adjacent new Hobsonway Substation. If Buck Boulevard were not used, then this alternative would include the construction of a new Hobsonway Substation adjacent to the Buck Boulevard Substation (1,500 feet). The 500-kV line would loop D-PV1 into Buck Boulevard Substation or Hobsonway Substation (or a PV-Buck Boulevard line could terminate there and a new line from Buck Boulevard to Devers could start). Buck Boulevard Substation would have to be expanded, most likely in the open space adjacent to the substation to the north.

Rationale for Elimination

This alternative would require construction of a 500-kV corridor with either a 500-kV DCTL or two 500-kV SCTLs between Midpoint and Buck Boulevard (or Hobsonway). DCTL 500-kV lines are not generally acceptable for reliability purposes; therefore a very wide ROW would be required. Blythe Energy, LLC says that a 500-kV corridor with taller towers could create conflict with the airport and could result in loss of agricultural lands south of Hobson way.

Blythe Energy, LLC would have less control over expansion of Buck Boulevard Substation than it would at a new Midpoint Substation. The proposed Midpoint Substation, which is in an isolated location, may offer expansion opportunities in the future. Overall the construction of nearly 7 miles of 500-kV transmission line would create greater impacts in a more developed and visible area than the construction of the Midpoint Substation.

MESA VERDE SUBSTATION ALTERNATIVE

Alternative Description

This alternative substation would be located northeast of the existing D-PV1 and proposed D-PV2 ROW at the point where the corridor turns from northwest-southeast to east-west. This substation alternative could be used with either the proposed transmission line route or with the Mesa Verde Sub-Alignment.

Rationale for Elimination

This alternative would require 5.5 miles of heavy-duty access road construction to reach the substation from either Buck Boulevard if using the Mesa Verde Sub-Alignment or if access is from Wiley Well Road. This substation location would also have greater visibility from I-10 and the Mesa Verde area (approximately one mile south of I-10). Therefore, this alternative was eliminated from full consideration because it would not reduce impacts of the proposed Midpoint Substation, it would require longer access road improvements, and it would create greater impacts to visual resources.

ORIGINAL MIDPOINT SUBSTATION ALTERNATIVE

Alternative Description

This site was the originally proposed Midpoint Substation site by Blythe Energy. The site is located approximately 800 feet the southeast of the currently proposed site at the point where the Buck Boulevard to Julian Hinds transmission line would intersect with the existing D-PV1 and proposed D-PV2 ROW. This substation alternative would be used with the proposed transmission line route.

Rationale for Elimination

Cultural resource surveys conducted in 2004 and 2005 at this originally proposed Midpoint Substation site identified several archaeological sites of potential importance within the footprint or buffer area of the proposed substation. Therefore, the Original Midpoint Substation Alternative was eliminated from full consideration because it would not reduce impacts of the proposed Midpoint Substation without creating greater impacts to cultural resources.

OTHER TRANSMISSION ALTERNATIVES

Direct Current Transmission

Alternative Description

This alternative would use a direct current (DC) line for the proposed project for whatever route is found to be environmentally superior.

Rationale for Elimination

Use of a DC line would include a longer construction time. There would be a much higher cost and additional construction for each DC terminal facility (i.e., converter stations). In general, DC facilities are best suited and economically viable for long-distance transmission of large quantities of electricity and would be economically infeasible for the proposed BEPTL project (although cost is not a CEQA issue). In addition, there would be less flexibility for interconnections with other transmission lines in the CAISO system. Overall, this alternative would not eliminate impacts of the proposed alternating current (AC) line without causing greater temporary and permanent construction impacts and duration.

Underground Construction

Alternative Description

This alternative would require the construction of the new transmission line underground. It is feasible to construction 230-kV lines underground, as demonstrated by several recent PG&E transmission projects, however, no underground line of this distance has been built and the costs would be very high.

Rationale for Elimination

Underground construction requires a continuous trench in which to install duct banks that would carry the electrical cables. This amount of trenching would create significant

impacts to soils/erosion, cultural resources, biological resources. Longer construction time and associated impacts with a six to ten times higher cost (not a CEQA issue) would also occur.

Underground 230-kV lines can be constructed with either solid dielectric cables (requiring no additional insulation), or with oil-filled conductor cooling systems. The oil-filled method requires above-ground pumping/cooling plants located approximately every 20 miles. Potential oil spills would be an additional environmental risk from underground transmission lines. Solid dielectric conductor that does not need oil cooling and has been used in northern California projects for lengths up to 25 miles.

Operational impacts would also be greater associated with maintenance and access to the lines. Repair times would be much longer as well. Although electric fields are reduced with increasing burial depth, magnetic fields above underground conductors are generally higher than from overhead lines due to closer proximity to the conductors to the ground. With the exception of permanent visual resource impacts that would be eliminated, underground construction would cause much greater impacts to most issue areas than the proposed project.

CONSERVATION AND DEMAND SIDE MANAGEMENT

Alternative Description

Demand-side management programs are designed to reduce customer energy consumption. Regulatory requirements dictate that supply-side and demand-side resource options should be considered on an equal basis in a utility's plan to acquire lowest cost resources. One goal of these programs is to reduce overall electricity use. Some programs also attempt to shift such energy use to off-peak periods.

Demand-side management includes a variety of approaches, including energy efficiency and conservation, building and appliance standards, load management and fuel substitution. Since 1975, the displaced peak demand from all of these efforts has been roughly the equivalent of eighteen 500 MW power plants. The annual impact of building and appliance standards has increased steadily, from 600 MW in 1980 to 5,400 MW in 2000, as more new buildings and homes are built under increasingly efficient standards (CEC 2003). Savings from energy efficiency programs implemented by utilities and state agencies have also increased (from 750 to 3,300 MW). During the summer of 2001, between 70 to 75 percent of the peak load reductions came from consumer conservation efforts, while 25 to 30 percent came from energy efficiency investments (CEC 2003).

California Energy Commission

One alternative to a power generation project could be programs to reduce energy consumption. In spite of the State’s success in reducing demand in 2001, California continues to grow and overall demand is increasing. The 2002-2012 Electricity Outlook Report (CEC 2002) concludes that, despite exceptional conservation efforts in 2001, voluntary demand reduction will likely decrease over time.

While conservation and demand reduction programs are not considered as alternatives to a proposed project, the Energy Commission is responsible for several such programs, the most notable of which are energy efficiency standards for new buildings and for major appliances. These programs are typically called “energy efficiency,” “conservation,” or “demand side management” programs. One goal of these programs is to reduce overall electricity use; some programs also attempt to shift such energy use to off-peak periods.

The Energy Commission’s Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The Energy Commission adopted new standards in 2001, as mandated by Assembly Bill 970 to reduce California’s electricity demand. The new standards went into effect on June 1, 2001.

After the California Independent System Operator (CA ISO) ordered rolling blackouts in January 2001 as a result of statewide electricity shortages, conservation efforts initially resulted in dramatic reductions in electricity use. Electricity use for each month in 2001 ranged from 5 percent to 12 percent less than it was in 2000. However, by 2002 demand began to increase as the memories of rolling blackouts faded.

The Energy Commission is also responsible for determining what the state’s energy needs are in the future, using 5- and 12-year forecasts of both energy supply and demand. The Energy Commission calculates the energy use reduction measures discussed above into these forecasts when determining what future electricity needs are, and how much additional generation will be necessary to satisfy the state’s needs.

Having considered all of the demand side management that is “reasonably expected to occur” in its forecasts, the Energy Commission then determines how much electricity is needed. The most recent estimation of electricity needs is found in the 2002-2002 Electricity Outlook Report (available on the Energy Commission’s website).
The California Energy Commission’s forecasts contain assumptions regarding conservation. As detailed in the Energy Commission’s 2002-2012 Electricity Outlook Report, February 2002, “The uncertainty about what caused the demand reduction in the summer of 2001, in particular, the uncertainty about how much was due to temporary, behavioral changes and how much was due to permanent, equipment changes contributes to increased uncertainty about future electricity use trends. The three scenarios discussed in this chapter were developed to provide a range of possible electricity futures that account for the demand reductions of the summer of 2001 and uncertainties about future demand reductions and future economic growth. These scenarios combine different levels of temporary and permanent reductions to capture a reasonable range of possible electricity futures.”

The Energy Commission report describes the three scenarios as follows: “The most likely scenario, labeled “Slower Growth in Program Reductions, Faster Drop in Voluntary Reductions . . .,” assumes that program benefits increase in 2002 but stay constant after that, while voluntary impacts on energy consumption reduction decrease more rapidly starting with a drop of 1,500 MW in 2002. The lower scenario, labeled “Slow Growth in

Program Reductions, Slow Decline in Voluntary Reductions," assumes that program impacts grow from 2001 to 2006 while benefits of voluntary reductions drop slowly over the period after a drop of 1,000 MW in 2002. The higher scenario, labeled 'No growth, then drop in Program Reductions, No Voluntary Reductions," assumes that there are no benefits from voluntary actions in 2002 and after, while benefits of programs stay constant until 2005 and then start declining."

California Public Utilities Commission

In addition, the CPUC supervises various demand-side management programs administered by the regulated utilities, and many municipal electric utilities have their own demand-side management programs. The combination of these programs constitutes the most ambitious overall approach to reducing electricity demand administered by any state in the nation. In spite of the state's success in reducing demand to some extent in 2001, California continues to grow and overall demand is increasing. Economic and price considerations but also long-term impacts of state-sponsored conservation efforts, such as the Governor's 20/20 rebate program and new appliance efficiency standards are considered in load forecasts. However, there are electricity-trend uncertainties about how much the demand reduction in the summer of 2001 was due to temporary behavioral changes and how much was due to permanent equipment changes.

Rationale for Elimination

Demand management can reduce energy consumption, thus reducing the need for power generation from BEP. If demand were sufficiently reduced in southern California, all the effects of the proposed project would be avoided. However, demand-side management has been shown to be effective only at a relatively small scale, but not nearly on a scale that would be required to replace the 520 MW generated by the BEP. In addition, the proposed BEPTL project is intended to provide transmission for an *existing and operational* power plant, not a proposed new one.

The Warren-Alquist Act specifically prohibits the Energy Commission from considering conservation programs as alternatives to a proposed generation project. Public Resources Code Section 25305(c) states that conservation, load management, or other demand reducing measures reasonably expected to occur shall be explicitly examined in the Energy Commission's energy forecasts and shall not be considered as alternatives to a proposed facility during the siting process. Therefore, the approximate effect of such programs has already been accounted for in the agency's "integrated assessment of need," and the programs would not in themselves be sufficient to substitute for the additional generation calculated to be needed. The forecast that will address this issue is the Energy Commission's California Energy Outlook. The Warren-Alquist Act was amended in 1999 to delete the necessity of an Energy Commission finding of "need" in power plant licensing cases.

RENEWABLE RESOURCES

Alternative Description

Aggressive efforts are now being made to increase the renewable resource component of California's generation supply. In the year 2002, California had over 7,000 MW of renewable energy capacity, including solid-fuel biomass, geothermal, wind, small

hydroelectric (30 MW or less), concentrating solar power (CSP), photovoltaic systems (PV), landfill gas, digester gas, and municipal solid waste (MSW) facilities (CEC 2003). These facilities produced about 28,900 GWh in 2002, about 11 percent of the electricity used in California (CEC 2003).

Staff examined the principal renewable electricity generation technologies that could serve as alternatives to the proposed project and do not burn fossil fuels. These technologies are geothermal, solar, hydroelectric, wind, and biomass. Each of these technologies could be attractive from an environmental perspective because of the absence or reduced level of air pollutant emissions. However, these technologies also can cause environmental impacts and have feasibility problems.

Geothermal. Geothermal technologies use steam or high-temperature water (HTW) obtained from naturally occurring geothermal reservoirs to drive steam turbine/generators. The technology relies on either a vapor dominated resource (dry, super-heated steam) or a liquid-dominated resource to extract energy from the HTW. Geothermal is a commercially available technology, but it is limited to areas where geologic conditions result in high subsurface temperatures. There are no geothermal resources in the project vicinity, making this technology an infeasible alternative.

Biomass. Biomass generation uses a waste vegetation fuel source such as wood chips (the preferred source) or agricultural waste. The fuel is burned to generate steam. Biomass facilities generate substantially greater quantities of air pollutant emissions than natural gas burning facilities, though these emissions may be partially offset by the reduction in emissions from open-field burning of these fields. In addition, biomass plants are typically sized to generate less than 20 MW, which is substantially less than the capacity of the 520 MW BEP.

Solar. Currently, there are two types of solar generation available: solar thermal power and photovoltaic (PV) power generation.

Solar thermal power generation uses high temperature solar collectors to convert the sun's radiation into heat energy, which is then used to run steam power systems. Solar thermal is suitable for distributed or centralized generation, but requires far more land than conventional natural gas power plants. Solar parabolic trough systems, for instance, use approximately five acres to generate one megawatt.

Photovoltaic (PV) power generation uses special semiconductor panels to directly convert sunlight into electricity. Arrays built from the panels can be mounted on the ground or on buildings, where they can also serve as roofing material. Unless PV systems are constructed as integral parts of buildings, the most efficient PV systems require about four acres of ground area per megawatt of generation.
Solar resources would require large land areas in order to meet the project objective to generate 520 MW of electricity. For example, assuming that a parabolic trough system was located in a maximum solar exposure area, such as in a desert region, generation of 520 MW would require 2,600 acres. For a PV plant, generation of 520 MW would require 2,080 acres.

While solar generation facilities do not generate problematic air emissions and have relatively low water requirements, there are other potential impacts associated with their use. Construction of solar thermal plants can lead to habitat destruction and visual impacts. PV systems can also have negative visual impacts, especially if ground-mounted. Furthermore, PV installations are highly capital intensive and manufacturing of the panels generates some hazardous wastes.

Both solar thermal and PV facilities generate power during peak usage periods since they collect the sun's radiation during daylight hours. However, even though the use of solar technology may be appropriate for some peaker plants, solar energy technologies cannot provide full-time availability due to the natural intermittent availability of solar resources.

Wind. Wind carries kinetic energy that can be utilized to spin the blades of a wind turbine rotor and an electrical generator, which then feeds alternating current (AC) into the utility grid. Most state-of-the-art wind turbines operating today convert 35 to 40 percent of the wind's kinetic energy into electricity. A single 1.5 MW turbine operating at a 40 percent capacity factor generates 2,100 MWh annually. Modern wind turbines represent viable alternatives to large bulk power fossil power plants as well as small-scale distributed systems. Wind turbines being manufactured now have power ratings ranging from 250 watts to 1.8 MW, and units larger than 4 MW in capacity are now under development (AWEA 2004). The average capacity of wind turbines today is 750 kW (CEC 2004n).

California was the first U.S. state in which large wind farms were developed, beginning in the early 1980's, and the state still leads the nation in wind power generation. However, 16 other states are considered to have greater overall wind generation potential. California currently has an installed capacity of 2,051 MW, and an additional over 300 MW are planned (AWEA 2004).

The perception of wind as an emerging energy source reached a peak in the early 1980s, when wind turbine generators to convert wind power into electricity were being installed in California at a rate of nearly 2,000 per year. Progress slowed a few years later, however, as startup tax subsidies disappeared and experience demonstrated some deficiencies in design. At the present time, technological progress again has caught up, contributing lower cost, greater reliability, and reason for genuine optimism for the future. A major factor has been the inclusion of environmental externalities by electric utilities in their resource planning programs. The more penetrating analysis, which has included these potential costs, has shown wind power to be substantially more economically attractive than was previously thought.

The technology is now well developed, and can be used to generate significant amounts of relatively low-cost power. Wind turbines can create other environmental impacts, as summarized below (AWEA 2004):

- Erosion can be a concern in certain habitats such as the desert or on mountain ridgelines. Standard engineering practices can be used to reduce erosion potential.

- Birds collide with wind turbines. Avian deaths have become a concern at Altamont Pass in California, which is an area of extensive wind development and also high year-round raptor use.
- Wind energy can negatively impact birds and other wildlife by fragmenting habitat, both through installation and operation of wind turbines themselves and through the roads and power lines that may be needed.
- Bat collisions at wind plants generally tend to be low in number and to involve common species, which are quite numerous. A high number of bat kills at a new wind plant in West Virginia in the fall of 2003 has raised concerns, and the problem of bat mortality at that site is currently under investigation.
- Visual impacts of wind power fields can be significant, and installation in scenic and high traffic areas often results in strong local opposition.
- Noise was an issue with some early wind turbine designs, but it has been largely eliminated as a problem through improved engineering and through appropriate use of setbacks from nearby residences. Aerodynamic noise has been reduced by changing the thickness of the blades' trailing edges and by making machines "upwind" rather than "downwind" so that the wind hits the rotor blades first, then the tower (on downwind designs where the wind hits the tower first, its "shadow" can cause a thumping noise each time a blade passes behind the tower). A small amount of noise is generated by the mechanical components of the turbine.

In open, flat terrain, a utility-scale wind plant would require about 60 acres per MW of installed capacity. However, only 5 percent (3 acres) or less of this area would actually be occupied by turbines, access roads, and other equipment. The remainder could be used for other compatible uses such as farming or ranching. A wind plant located on a ridgeline in hilly terrain will require much less space, as little as two acres per MW (AWEA 2004).

Hydroelectric Power. While hydropower does not require burning fossil fuels and may be available, this power source can cause significant environmental impacts primarily due to the inundation of many acres of potentially valuable habitat and the interference with fish movements during their life cycles. As a result of these impacts, it is extremely unlikely that new hydropower facilities could be developed and permitted in California within the next several years.

Rationale for Elimination

Use of renewable generation technologies would avoid the specific impacts associated with the construction and operation of the proposed BEPTL project, but new transmission would still be required from the renewable generation locations, creating impacts similar to those of the proposed project, which is proposed to transmit power from an already *existing* generation source. In addition to the reliability and feasibility issues discussed above, use of renewable resources would be inconsistent with the objectives of the proposed BEPTL, which are focused on creating the ability for Blythe Energy, LLC to transmit the electricity it generates at the existing BEP to the southern California market in a cost-effective manner.

RESPONSE TO AGENCY AND PUBLIC COMMENTS

No comments related to alternatives were made by agencies or the public.

CONCLUSIONS

The areas with most potential for significant impacts are biological resources, cultural resources, and land use. In addition, assessment of the transmission system and cumulative impacts is important. For all areas considered in this SA/DEA, staff is recommending measures that would mitigate impacts to a less than significant level or is waiting for clarification of unresolved issues. Following is a summary of the advantages and disadvantages of the six alternatives and the No Project Alternative compared to the proposed project based on **ALTERNATIVES Table 2.**

Of the six alternatives evaluated, the D-PV2 Alternative, because of its greater length, has the potential for greatest impacts and would likely have greater impacts in comparison with the proposed BEPTL in all of the issue areas except waste management, and worker safety and fire protection, where impacts would be similar. The D-PV2 Draft EIR/EIS found significant impacts in the issue areas of cultural, visual, and recreational resources (CPUC & BLM 2006). Preliminary TSE results indicate that the D-PV2 Alternative would be slightly preferred. The greater impacts of the D-PV2 Alternative compared to the proposed project are due primarily to its much longer route and construction duration, as well as the construction of a 500-kV line and larger lattice towers. For similar reasons, the DSWTP Alternative, which would extend 51 additional miles west of Julian Hinds to connect to the Devers Substation, would also have greater impacts than the proposed BEPTL. The DSWTP, however, would be strongly preferred with regard to TSE based on the preliminary SIS results and its compatibility with the purpose of the designated Utility Planning Corridor.

Both the D-PV2 Alternative and the DSWTP Alternative offer the potential for reduction of cumulative impacts because a single 500-kV transmission line would likely serve all of the currently identified transmission needs. The construction of either of these alternatives may prevent the short-term need for additional transmission lines to be constructed within this corridor, thereby reducing impacts to biological, cultural, and visual resources and be more compatible with the purpose of the corridor.

The impacts of the Wiley Well Substation Alternative would largely be similar to those of the proposed Midpoint Substation. The Wiley Well location is adjacent to existing paved roads (therefore not requiring as many miles of improved access roads). However, overall the Wiley Well Substation would not be preferred to the Midpoint Substation, primarily because of its much greater visibility and greater effects on biological resources.

Although construction of the new proposed Midpoint Substation and 6.7 miles of double-circuit transmission line (a new single-circuit line and 6.7 miles of towers would be eliminated under the Buck to Julian Hinds with Reconductoring Alternative, impacts from reconductoring and replacing the towers along an additional 42 miles of line between Julian Hinds to Mirage/Devers Substations would occur. Impacts to all issue

areas would be similar or greater than those of the proposed project, except in TSE where the reconductoring alternative would be preferred because it would provide for full output of BEP and would avoid an interconnection to a major intertie which is already loaded fully.

The Larger Capacity Line Alternative would have the least impacts when compared to the other alternatives or the proposed project overall and specifically in visual resources and TSE. It would be less preferred in Transmission Line Safety and Nuisance due to its potential higher voltage (500-kV). Overall this alternative would potentially reduce cumulative impacts from other reasonably foreseeable projects (e.g., DSWTP and D-PV2) and would be consistent with BLM's stated need to minimize the duplication or proliferation of similar facilities.

The No Project Alternative, in which the DSWTP or D-PV2 projects might be constructed in the absence of the BEPTL project, may reduce cumulative impacts that would from the construction of multiple transmission projects in the same corridor. It is also noted that either the DSWTP or the D-PV2 line could accommodate the output of both BEP and BEP II. The D-PV2 project would also meet another need: for a second major 500-kV intertie to Arizona. However, overall, the No Project Alternative, in the form of the DSWTP or D-PV2 Alternatives, would result in greater environmental impacts than the proposed project due to their substantially greater length. Because the DSWTP or the D-PV2 line may be constructed on a slower schedule than that proposed by Blythe Energy, the No Project scenario could delay the interconnection of BEP with the CAISO system and slow its ability to transmit increased energy generated at the Blythe Power Plant directly into California markets, which are objectives of the proposed BEPTL.

RESULTS OF WESTERN'S REVIEW OF ALTERNATIVES

For purposes of the NEPA process, Western has determined that the alternatives analyzed under the Energy Commission alternatives analysis are not alternatives to Western's purposes and need to provide open access transmission service, if available, to an Applicant. Therefore, full evaluation of all these alternatives in this document is not a NEPA requirement.

Potential site-specific impacts of the Blythe Energy Transmission Project are summarized in the "Potential Significant Impacts of the Proposed Project" section of this chapter. Note that CEC staff has made the determination of potential significance. The Energy Commission, Western and BLM will make their own independent determinations of significance. The specific impacts described in the referenced section and through out this document would be avoided by the no-action alternative.

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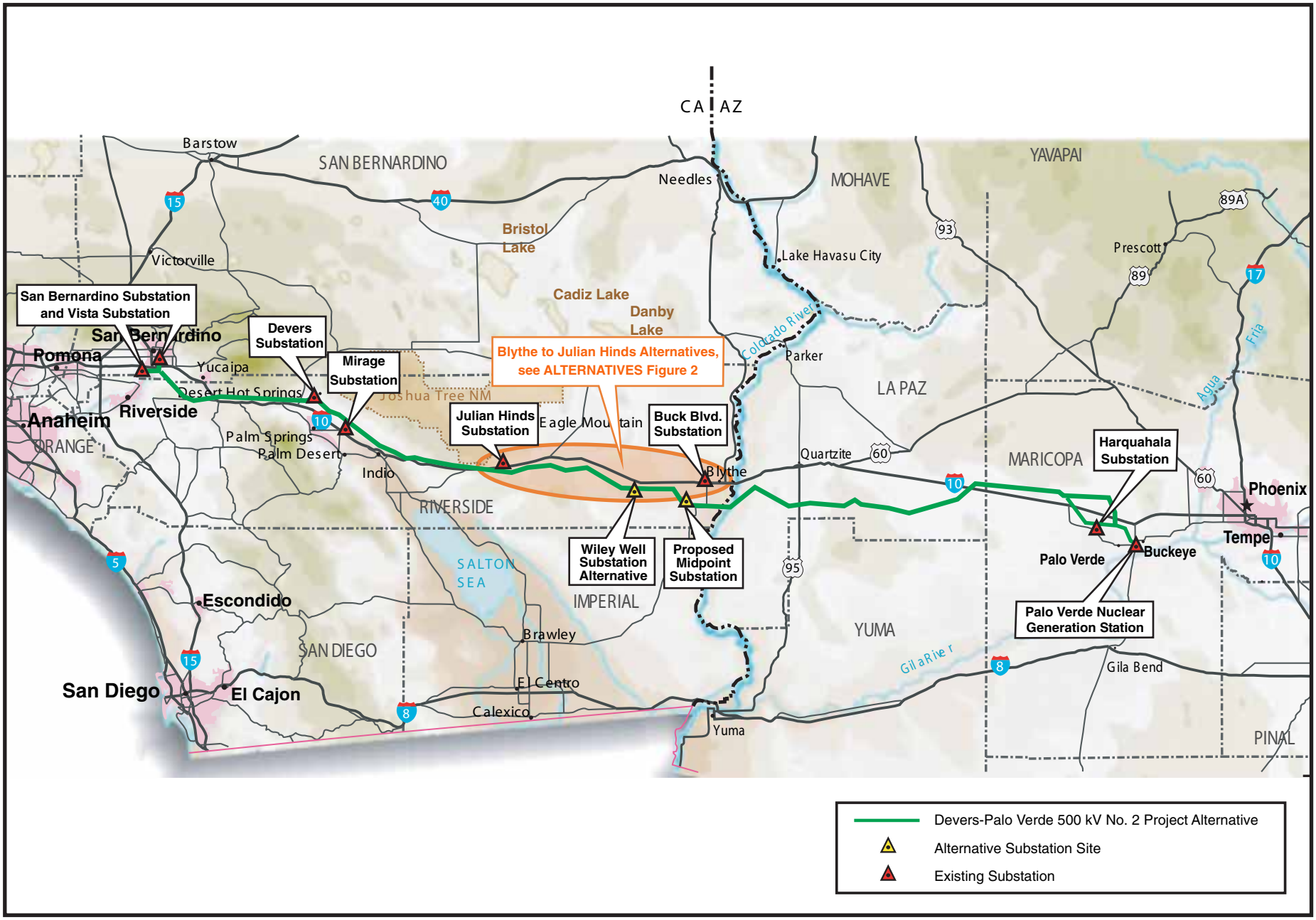
Southern California Edison. (SCE) 2005. Letter from Donald E. Johnson (SCE) to Gary Palo, Project Director (FPL Energy). Dated February 23.

ALTERNATIVES - FIGURE 1

Blythe Energy Transmission Line Project - Alternatives Overview Map



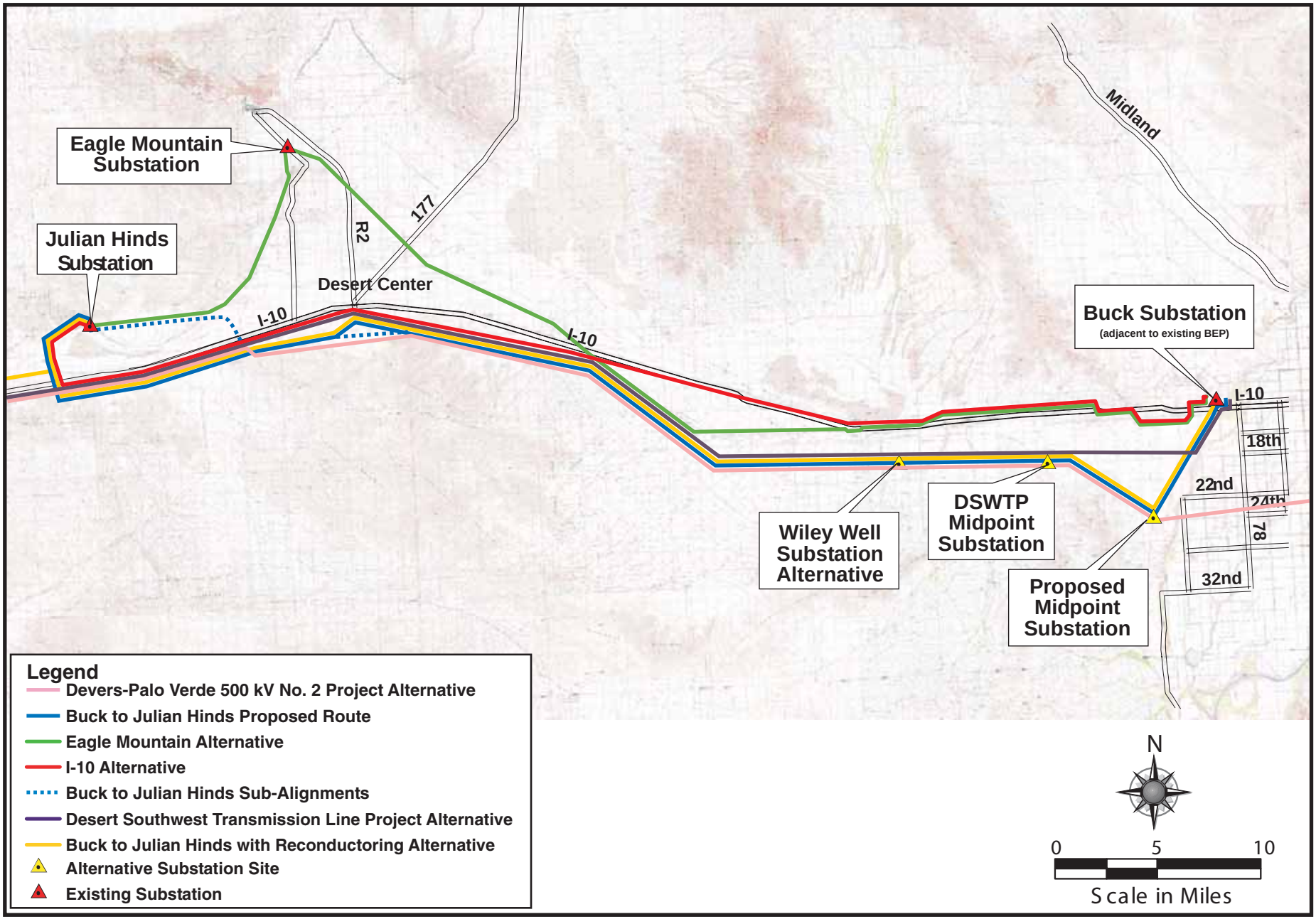
CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Aspen Environmental

ALTERNATIVES - FIGURE 2

Blythe Energy Transmission Line Project - Buck to Julian Hinds Segment

SEPTEMBER 2006



ALTERNATIVES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MAY 2006

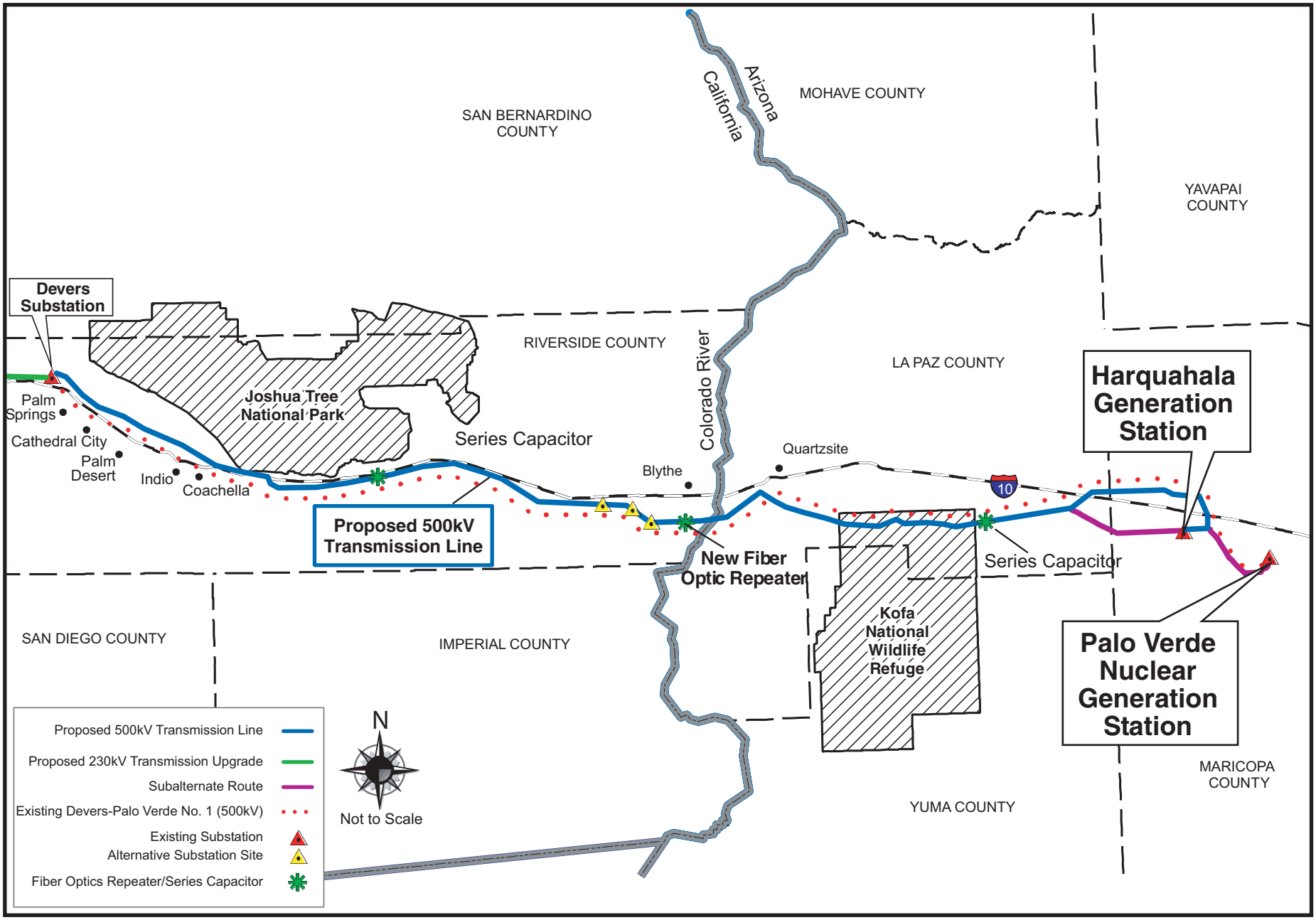
SOURCE: Blythe Energy, LLC.

ALTERNATIVES - FIGURE 3

Blythe Energy Transmission Line Project - Devers - Palo Verde 500 kV

No. 2 Project Alternative - Eastern Segment

SEPTEMBER 2006



ALTERNATIVES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

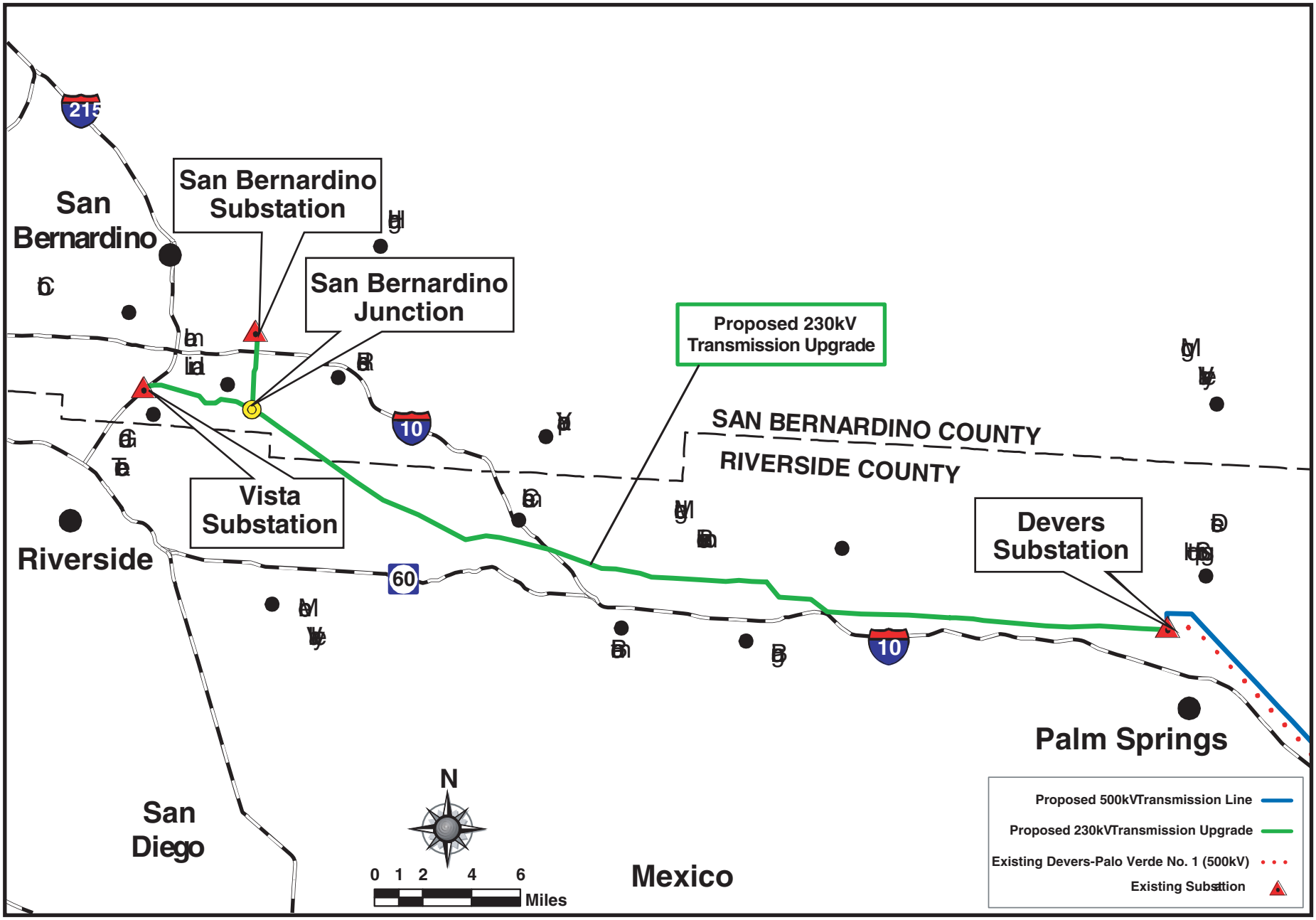
SOURCE: Southern California Edison, 2005.

ALTERNATIVES - FIGURE 4

Blythe Energy Transmission Line Project - Devers - Palo Verde 500 kV

No. 2 Project Alternative - Western Segment

SEPTEMBER 2006



ALTERNATIVES

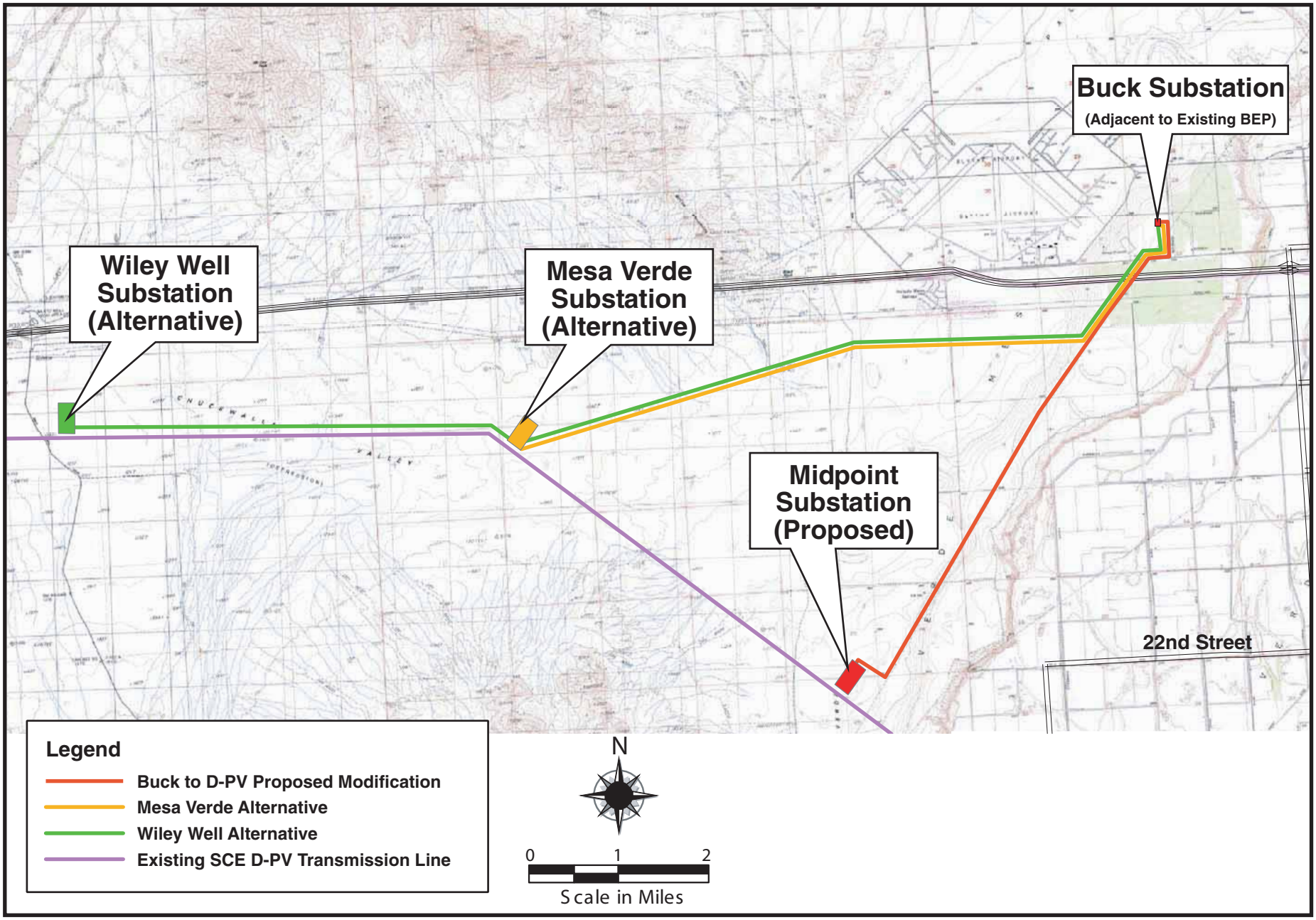
CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Southern California Edison, 2005.

ALTERNATIVES - FIGURE 5

Blythe Energy Transmission Line Project - Buck to Devers - Palo Verde Component

SEPTEMBER 2006



ALTERNATIVES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Blythe Energy, LLC.

APPENDIX A

DOWNSTREAM UPGRADES ANALYSIS
JULIAN HINDS TO MIRAGE
230-KV TRANSMISSION LINE

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DOWNSTREAM UPGRADES ANALYSIS

Testimony of Jack W. Caswell

I.0 INTRODUCTION AND PURPOSE

The purpose of the downstream upgrades analysis is to examine the potential impacts of the proposed Blythe Energy Project Transmission Line Modification (BEPTL) project to Southern California Edison's (SCE) transmission line system from the Julian Hinds Substation to the Mirage Substation. The proposed project impacts are considered "Downstream" of the BEPTL project, since they would occur beyond the first point of interconnection for the project. The objectives of the downstream upgrades environmental review is to assess whether that the construction and operational impacts of the upgrades are at less than significant levels and describe mitigation measures for any potential significant impacts

The 2004, SCE system impacts study for the Buck to Julian Hinds transmission line component examined possible downstream impacts. It concluded that the additional electrical power increases exiting the Metropolitan Water District's Julian Hinds Substation via the SCE 230-kV Julian Hinds-Mirage transmission line would cause excessive transmission line sag at six locations on that system. The proposed remedy for the excessive sag to the transmission line is to interset additional transmission line structures (i.e. poles) between the existing transmission line towers. (99-AFC-8c, sections 3.2.10, 5.17) (Figure-1). Additionally, a Special Protection Scheme (SPS) would be implemented when necessary to control overloads to the system.

SCE conducted an additional system planning study (addendum) in November, 2005. This study identified additional downstream impacts to the existing SCE transmission system that would require mitigation as a result of the proposed BEPTL project. The study was submitted to the California Independent System Operator (CAISO) for review and concurrence on the suggested SCE mitigation measures. The CAISO provided comments to the revised SCE study in a letter dated December 9, 2005. The letter identified mitigation measures that SCE would be required to complete prior to final approval for interconnection of BEPTL to the CAISO controlled grid.

Blythe Energy, LLC (Blythe Energy or Applicant) provided a letter to the Energy Commission on January 23, 2006, identifying the final mitigation measures they intend to provide as a result of the SCE downstream impacts study for the BEPTL and mitigation identified in the concurrence letter provided by the CAISO on December 9th. The identified system upgrades mitigation selected in the January 23rd letter would not require additional environmental review. Those mitigation measures identified are limited to SCE responsibility for operational upgrades and improvements, Special Protection Schemes (SPS) and transmission system improvements within the footprint of existing SCE substations.

Although, Blythe Energy does not consider the upgrades to the SCE transmission system and installation of additional interset poles to SCE's Mirage transmission line as part of the BEPTL project, they are reasonably foreseeable connected future action triggered by the project. Therefore, it is required that this downstream impacts

be considered as part of the joint agency review under our CEQA and NEPA review process. The interset pole impacts have been analyzed and are described in this Appendix section. SCE considers the placement of the 6 interset poles is considered comparable to its normal maintenance activities. Staff has concluded that the interset installation process and the resulting permanent pole additions would have insignificant impacts through the implementation of mitigation measures where appropriate. Pole interset will be a separate project from the proposed BEPTL and will be conducted by SCE requiring California Public Utilities Commission approval, thus subject to that agency's CEQA analysis. A more general level of analysis is appropriate for this SA/DEA.

The actual need for interset poles will be finally determined after SCE has completed the Final Facility Study for the Generator Facility Interconnection Agreement with Blythe Energy. SCE and Blythe Energy have not developed a final schedule for the referenced document or interconnection agreement at this time. At that time, presuming pole interset is actually needed, SCE would apply to the California Public Utilities Commission (CPUC) for a new or amended Certification of Public Convenience and Necessity (CPCN) pursuant to the CPUC's General Order No. 131-D for constructing the interset poles. SCE will be bound by CPUC's General Order 95, which requires it to meet all Laws, Ordinances, Regulations, and Statues (LORS). Additionally the proposed project would require participation and permits from both BLM and the United States Park Service.

2.0 OVERVIEW OF POLE INTERSET

This section identifies the transmission line segments and pole interset placement locations, and provides an overview of the pole interset placement process on a general level. It describes the basic work involved in the pole interset and impacted transmission line segments, as well as specific designs (when known) for the project.

3.0 DESCRIPTION OF THE PROPOSED DOWNSTREAM UPGRADES

Energy Commission staff agree with Blythe Energy and SCE that construction and operation of the proposed BEPTL would likely trigger the need to interset six transmission line poles and related road spurs that would be located between the Julian Hinds Substation located east of Palm Springs and the Mirage Substation in Indio, California.

As shown in **Figure 1**, the six pole locations are interset in the SCE's Julian Hinds - Mirage, 230-kV Transmission Line and would be within the existing transmission line corridor that runs parallel to I-10. This region is primarily undeveloped desert and mountainous area in the eastern portion of Riverside County. Interstate 10, State Highway 86S, and Dillon Road are the primary roadways providing access to the area. Poles 1 and 3 through 6 would be located one to two miles north of I-10, and Pole 2 located immediately north of I-10. **Table-1** provides the land ownership for the six pole locations and **Table-2** provides the habitat types surrounding the interset poles. Pole 1 would be located in the utility corridor in Joshua Tree National Park near Chiriaco Summit; Pole 2 would be located on BLM land within United States Fish and Wildlife

Service (USFWS) desert tortoise critical habitat near the I-10,Cactus Valley Rest Area; and Poles 3 through 6 would be located on private lands northwest of the City of Indio, near the California Aqueduct.

Table-1 Land Ownership and Use

Pole	Land Ownership	Land Use	Township, Range, Section*
1	Joshua Tree National Park	Utility Corridor within National Park	T6S, R12E, sec 4
2	BLM	Open Desert	T6S, R10E, sec 6
3	Private	Open Space – Rural	T5S, R9E, sec 30
4	Private	Open Space – Rural	T5S, R8E, sec 23
5	Private	Open Space – Rural	T5S, R8E, sec 7
6	Private	Open Space – Rural	T5S, R7E, sec 12

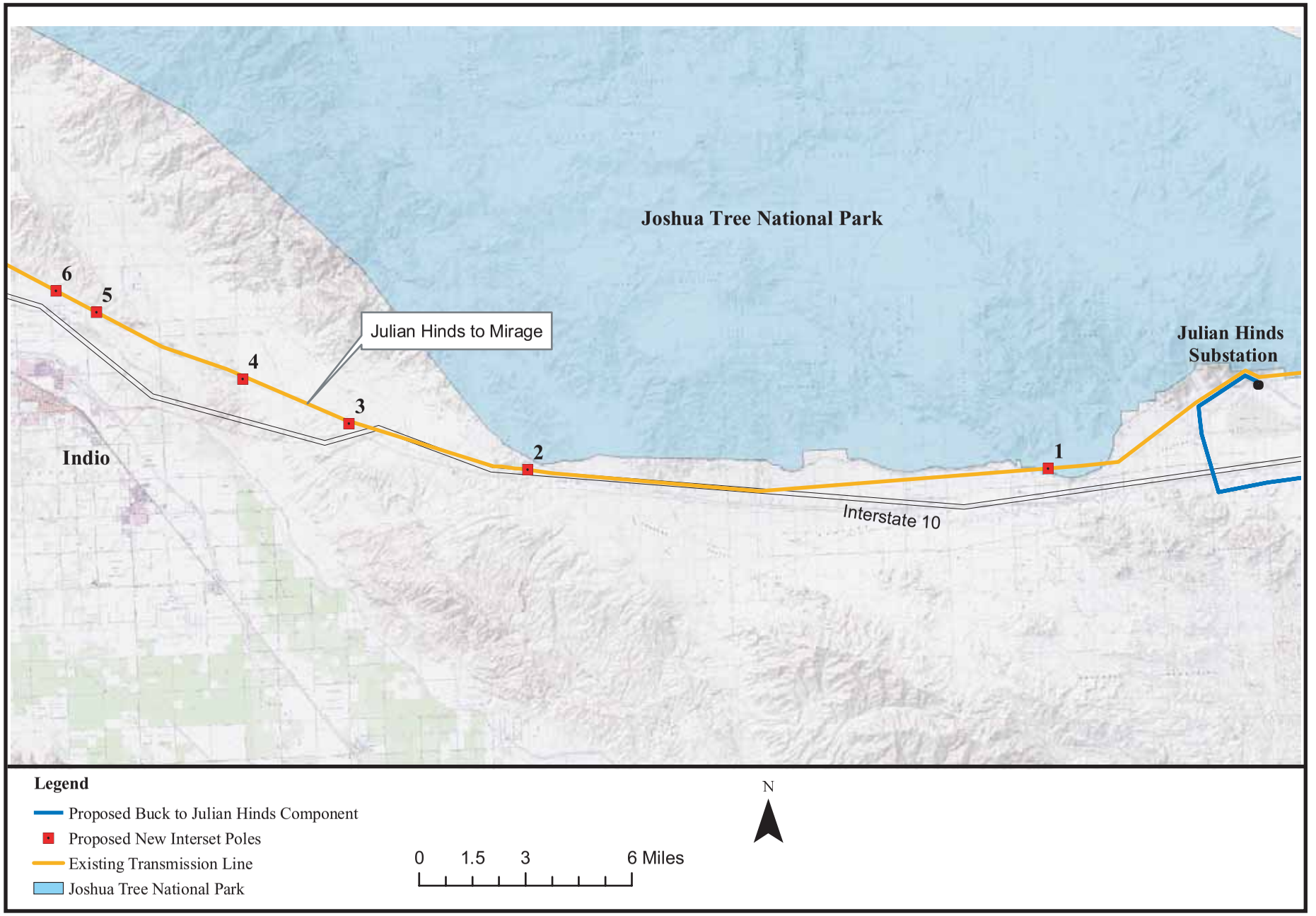
* All San Bernardino Base and Meridian

Table-2 Habitat Types Surrounding Interset Poles

Pole	Habitat Type	Other Features
1	Creosote Bush Scrub (including woody scrub)	Old road; near aqueduct
2	Creosote Bush Scrub (including woody scrub)	Several transmission lines
3	Creosote Bush Scrub (including woody scrub)	Gas pipeline, dirt roads
4	Creosote Bush Scrub (including woody scrub)	Gas pipeline, dirt roads
5	Creosote Bush Scrub (including Sonoran Aolian)	Gas pipeline, dirt roads
6	Creosote Bush Scrub (including Sonoran Aolian)	Gas pipeline, dirt roads

APPENDIX A - FIGURE 1

Blythe Energy Transmission Line Project - Downstream Impacts Julian Hinds to Mirage



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, MARCH 2006

SOURCE: Blythe Energy Amendment Petition

4.0 CONSTRUCTION METHODS AND IMPACTS

The preliminary System Impact Study dated July 19, 2004, shows that in order to deliver power from Blythe Energy Project (BEP) generation output to the Julian Hinds Substation through the proposed new line, the additional power that would flow through the existing Julian Hinds-Mirage 230-kV line would cause the existing 605 ACSR conductor to sag more and create ground clearance problems. Based on SCE's present analysis, it would be necessary to interset six poles between certain towers to reduce the sag and maintain proper ground clearances under normal operating conditions. As a result, the normal and emergency ratings of the line would change from the existing 599 Amps to 895 Amps (BEP 2004a, Figure 3.2-8)

During construction, applicable LORS related to safety and reliability must be met. These include CPUC General Order 95, Title 8 California Code of Regulations Construction Safety Orders, and SCE Construction Standards. Additionally, to maintain system reliability the CAISO must be advised per its protocol of scheduled circuit outages prior to their occurrence. Such outages are scheduled about 30 days prior to actual outage. In the event that system reliability requires restoring such circuits, a "no work" order is given and where practical, circuits are restored.

In general, transmission line pole installation would be accomplished by the delivery of poles, crossarms and hardware to the field location by semi- truck and trailer. The pole would be placed on the ground probably just outside the conductor sag location. A drilling rig would excavate a hole 18" larger in diameter than the pole butt to the required setting depth. A crane would be positioned between the conductor wires adjacent to the setting hole and within reach of the pole. The pole would be picked up and moved within the wires parallel to the line then raised between the wires and set in the hole. Based on Cal-OSHA rules this work would need to be done with an outage on the line. The pole would be plumbed and aligned and the hole backfilled with imported gravel or concrete. The crossarm would be lifted and attached to the poles. Hardware would likely be attached to the crossarm while it is on the ground. The wires would be lifted and set in the shoes attached to the insulators. It is possible that wire may need to be cut out of the conductors to keep insulators on adjacent towers plumb enough to prevent any excess longitudinal loading to the adjacent towers. The cutout would be accomplished from the interset groundwork area.

Interset Poles on Julian Hinds - Mirage 220 kV line
Table – 3 provides the locations and pole descriptions for the interset poles on the Julian Hinds-Mirage 230- kV transmission line.

Table-3 Pole Locations and Specifications

Towers to East - A			Towers to West - B				Interset Poles			After Setting	
Tower ID	Station Location	Elevation Sea Lvl	Tower ID	Station Location	Elevation Sea Lvl	Interset Pole No	Station Location	Elevation Sea Lvl	Pole Length	Pole Height	Depth Setting
M35-T3	560+45.9	239.4	M35-T4	580+36.6	230.9	1	572+01.6	133.2	95	83.00	12.00
M21-T1	177+12.7	1815.0	M21-T2	199+51.7	1843.4	2	190+09.0	1705.0	115	102.00	13.00
M29-T3	250+75.0	540.2	M30-T1	271+50.0	541.8	3	264+12.1	436.7	100	88.00	12.00
M34-T2	493+60.0	206.7	M34-T3	513+61.2	245.7	4	503+60.6	120.3	100	88.00	12.00
M26-T2	82+70.0	1007.5	M26-T3	101+55.2	953.2	5	92+52.0	881.8	95	83.00	12.00
M6-T3	281+22.3	1906.6	M6-T4	295+30.0	1882.8	6	288+52.3	1826.1	80	70.00	10.00

The structure heights are shown as pole height in the above table. The crossarm width would be approximately 47’ feet with the insulators set 23’ feet apart. The method of access would be by the existing road which is generally adjacent to the transmission line. Additional spur roads would be required for the construction of the interset poles. These spur roads would exit the existing access roads to each pole site and would be 40 to 200’ feet long and about 14’ feet wide.

The interset pole structures will to be built from spun cast prestressed concrete poles, in this case with H-frame construction with a rectangular steel crossarm attached by through bolts and brackets to the poles. Typical suspension insulators, approximately 9’ long would attach the conductor to the crossarm.

The following Figure 2 provided by SCE is a depiction of a similar type structure used for pole interset, in this case built from tubular steel poles:

SCE Typical Interset Pole Structure
Figure 2

Analysis of transmission pole interset upgrades

The environmental and engineering disciplines can be divided into two groups, those with the potential for impacts that are easily mitigable, and those that have no significant impacts:

Table-4

Summary of Conclusions for Environmental and Engineering Technical Section

	Potentially Significant Impact	Less Than Significant Mitigation Required	Less Than Significant May Require Mitigation	No Significant Impact
ENVIRONMENTAL				
Air Quality				X
Biological Resources		X		
Cultural Resources		X		
Geology and Paleontology			X	
Hazardous Materials and Waste				X
Land Use				X
Noise				X
Socioeconomics				X
Soils and Water			X	
Traffic & Transportation				X
Visual Resources				X
Waste Management				X
Worker Safety				X
ENGINEERING				
Transmission Line Safety & Nuisance				X
Transmission System Engineering			X	

Staff routinely examines, the public health, facility design, efficiency and reliability aspects of each project, along with alternatives. Given the narrow scope of the pole interset process only the disciplines listed above in Table 4 were considered relevant.

DOWNSTREAM UPGRADES TECHNICAL REVIEW

4.1 AIR QUALITY

The air quality impact for the placement process for each individual interset pole would be approximately the same or less than the air quality impact of structures during the construction of the BEPTL project. The short-term air quality impacts from construction would thus not be significant as long as the construction of these additional poles is monitored and controlled in a manner consistent with the proposed air quality conditions of certification for BEPTL. With respect to the operational phase of the proposed interset poles, the impacts would be limited to the emissions created by maintenance vehicles.

Impacts of Interset Poles Upgrades

The long-term operations of these six interset poles would not yield significant air quality criteria pollutant emissions or impacts since the six poles would be added to an existing transmission line, and the air quality emissions from power line maintenance is more closely tied to the length of the line than the number of poles. Further, the addition of six more poles to the approximately 420 proposed as part of BEPTL is unlikely to significantly increase the overall impacts beyond those already analyzed.

CONCLUSION

The construction and operation of the interset poles would not have significant environmental impacts as it relates to air quality.

4.2 BIOLOGICAL RESOURCES

Impacts of Interset Poles Upgrades

Six interset poles are likely to be constructed as upgrades to the existing SCE Julian Hinds - Mirage transmission line to reduce conductor sag that would occur as a result of increased transmission loads. All six poles would be constructed in creosote bush scrub habitat which is commonly associated with the desert tortoise (BLYTHE 2004a). The construction would have potentially significant impacts, therefore, mitigation has been suggested. The poles would be located within an existing transmission line corridor that is served by an unimproved access road. Interset Pole 1 would be located within Joshua Tree National Park. Pole 2 would be within critical habitat for the desert tortoise. Evidence of desert tortoise activity was observed near poles 1 and 2 (BLYTHE 2004a). Poles 3 through 6 would be located on private land. There was no evidence of desert tortoise activity observed near poles 3 through 6. Blythe Energy indicated that construction of Poles 1 and 2 would each affect 0.1 acres of desert tortoise habitat. Blythe Energy indicated that impacts to desert tortoise due to construction of poles 1 and 2 would be mitigated by the purchase of compensation lands, and that construction of Poles 3 through 6 would not require mitigation due to the fact that sensitive species were not observed at these poles during surveys conducted in 2004 (BLYTHE 2004a), nor identified in any earlier surveys of this area.

Staff received general construction information for the pole interset upgrades from SCE and Blythe Energy. Additionally, Western Area Power Administration staff provided ground disturbance estimates for the potential impacts to desert tortoise habitat due to pole interset construction. Western estimated that a 150’ x 150’ area would be disturbed for each pole that is constructed on the BEPTL project. BEP indicated that spur roads from the existing access road to the pole construction sites would be from 40’ to 200’ in length and 14’ wide. Using these figures for spur road and construction area disturbance, staff calculated that impacts to habitat from construction of each pole could be as much as 0.6 acres. All construction impacts in the desert are considered permanent because desert plant communities often take decades to recover from disturbances.

MITIGATION

Because Pole 2, is located within BLM Category 1, desert tortoise habitat as defined by BLM (BLYTHE 2004a), mitigation for habitat would be accomplished through purchase of compensation lands using a 5:1 ratio. Mitigation for the impacts caused by construction of Pole 1 would be through purchase of compensation lands using a 1:1 ratio because Pole 1 is not located within BLM Category 1 desert tortoise habitat or U.S. Fish and Wildlife Service – designated critical habitat for desert tortoise. Thus, a total of up to 3.6 acres of compensation lands would be required to mitigate for impacts caused by the construction of Poles 1 & 2, (see Table-5).

Although desert tortoise signs were not observed at Poles 3 through 6, staff believes that these areas are capable of supporting desert tortoise. Information provided in the California Department of Fish and Game's, California Natural Diversity Database and from the May 2005 Combined Desert Tortoise Protocol Survey Report (AK 2005) indicate that there is evidence of desert tortoise in these areas which contain creosote bush scrub habitat. Therefore, staff recommends that habitat compensation be required for construction of Poles 3 through 6 as well as Poles 1 and 2. Construction of Poles 3 through 6 could impact up to 0.6 acres for each pole for a total of up to 2.4 acres. Habitat compensation would be at a 1:1 ratio for Poles 3 through 6 (see Table-5). These ratios are consistent with USFWS requirements for disturbance of desert tortoise habitat.

Staff consulted with the Desert Tortoise Preserve Committee (DTPC) to determine the cost for acquisition, administration, and long-term management of high-quality desert tortoise habitat and was informed that the cost is $1,200 dollars/acre (J. Lee 2005). Therefore, mitigation fees of up to $4,320 are recommended for Poles 1 and 2 and up to $2,880 for Poles 3 through 6.

Table-5

Recommended Desert Tortoise Habitat Compensation

Pole #	Disturbance (acres)	Habitat type	Compensation ration	Compensation-acres
1	0.6	Creosote bush scrub	1:1	0.6
2	0.6	Creosote bush scrub BLM Cat. 1	5:1	3.0
3	0.6	Creosote bush scrub	1:1	0.6
4	0.6	Creosote bush scrub	1:1	0.6
5	0.6	Creosote bush scrub	1:1	0.6
6	0.6	Creosote bush scrub	1:1	0.6
Total	3.6			6.0

The proposed upgrades via pole interset process would permanently affect up to 3.6 acres of desert tortoise habitat. Staff recommends that the California Public Utilities Commission (CPUC) adopt measures to mitigate impacts to desert tortoise. Recommended mitigation measures include: measures to protect desert tortoise during construction, worker environmental awareness program, and habitat disturbance compensation as outlined in **Table-5**. Activities associated with the upgrades would require compliance with applicable Federal, state, and local laws, ordinances and regulations (LORS), including: Federal and state Endangered Species Acts, Federal Migratory Bird Treaty Act, and Federal and state Clean Water Acts. Specific agency permits might be required before any work could commence. Prior to construction, SCE may need to undertake USFWS consultation as an independent action, and a separate Biological Opinion may be necessary.

CONCLUSION

If SCE proceeds with the proposed pole interset project, all of the above procedures and mitigation would be required to reduce the environmental impacts to less than significant levels for biological impacts.

4.3 CULTURAL RESOURCES

The background record search was conducted for a one-half mile radius from each of the identified interset poles on April 14 and 15, 2004. The background research indicated that six resources had been previously identified in the research area: CA-Riv-6726H, CA-Riv-250T, CA-Riv-7312, CA-Riv-7489, P33-009666, and P33-009667 (Blythe 2004 2004g, pp. 5, 14). Survey (Class III) information for the six interset poles includes the results of the record search, methodology for the survey, a record for the one fragment of Native American ceramic (brown ware), and a recommendation that the ceramic fragment does not meet the criteria for eligibility to the NRHP or the CRHR. Staff agrees that the single fragment of brown ware does not meet the eligibility requirements for the NRHP or the CRHP.

Impacts of Interset Pole Upgrades

Construction of new access roads and removal of vegetation cover may cause impacts to cultural resources by exposing buried resources or impacting known resources in an unanticipated manner. Mitigation measures would be necessary to reduce potential impacts to less than significant levels.

MITIGATION

For the BEPTL project itself, mitigation measures have been designed to reduce potential impacts to less than significant levels. The mitigation measures are reflected in the BEPTL Conditions of Certification Cultural Resources **CUL-1** through **CUL-5** and **CUL-7** through **CUL-20**. Similar requirements should be applied to the interset pole construction and operation. These conditions would require the project owner to comply with the requirements of Riverside County, state regulations and Federal regulations.

In addition, the BLM would require SCE to comply with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, on BLM

managed lands and mitigate any potential impacts. Western Area Power Administration (Western) has added SCE as a concurring party to the Programmatic Agreement (PA) that sets out the process that would be followed to mitigate any potential impacts to cultural resources. Interset pole construction would require access to BLM lands and is part of the Western PA project process; conditions similar to BEPTL Conditions of Certification **CUL-1** through **CUL-5** and **CUL-7** through **CUL-20** should be applied to SCE by the CPUC.

CONCLUSION

If the recommended mitigation measures are required of SCE by the CPUC, the interset pole upgrades would not have a significant environmental effect on cultural resources.

4.4 GEOLOGY AND PALEONTOLOGY RESOURCES

The existing Julian Hinds - Mirage transmission line generally traverses alluvium, Pleistocene non-marine deposits, Quaternary lake deposits, and possibly localized outcrops of Mesozoic granitic rocks (CDMG, 1966; CDMG, 1967).

The proposed interset poles would be located within the limits of the southern terminus of the San Andreas Fault Zone, one of the most seismically active regions in North America. The San Andreas Fault has been designated a Class A fault, or one with a maximum moment magnitude greater than 7 and a slip rate in excess of 5 millimeters per year (ICBO, 1998). The maximum magnitude earthquake estimated for this portion of the fault is a moment magnitude 8 event, one that would produce strong ground shaking along the transmission line corridor. The CDMG Map Sheet 48 (Petersen et al., 1999) predicts a peak ground acceleration with a 10 percent probability of exceedance in 50 years of between 0.7g and 0.8g for the this area. As a result, strong ground shaking and possibly ground rupture represent the main geologic hazards for this project.

Impacts of Interset Pole Upgrades

Energy Commission staff have reviewed applicable geologic maps and reports for this area (Kohler, 2002; CDC, 2001; CDMG, 1990; CDMG, 1999; CDMG, 1998; and CDMG, 1986; CDMG, 1968). Based on this review, there are no known viable geologic or mineral resources located within or immediately adjacent to the proposed interset pole locations. Much of the proposed modification alignment is located on Quaternary non-marine sediments and alluvial fan deposits which are considered to have a high sensitivity rating with respect to containing paleontologic resources (San Bernardino County Museum, 2004). Based on this information and staff's review of available information, the proposed interset pole project has the potential to encounter significant paleontological resources within native materials during grading and foundation construction activities.

Impacts of Geologic Hazards on Interset Poles

Strong ground shaking and ground rupture represent the most significant potential geologic hazards that could impact operation of the facility; however, these potential impacts would also impact existing transmission line foundations and supports such that no increased risk to operation of the facility, over and above that already present, would

be generated by the construction of the interset pole portion of the project. To avoid potential impacts the interset pole foundations would need to be designed in accordance with applicable LORS, and standard utility construction practices.

MITIGATION

With the exception of strong ground shaking and potential ground rupture, the proposed interset pole project route lies in an area that generally exhibits low geologic hazards and no known viable geologic or mineral resources. Strong ground shaking and fault rupture can be effectively mitigated through facility siting and/or foundation design as required by the California Building Code. In particular, pole foundation design can effectively mitigate adverse impacts due to strong ground shaking. The potential impacts from ground rupture can be mitigated by locating interset poles away from known faults. Where faults must be crossed, poles should be set back from the fault trace and designed to tolerate the potential strike-slip movement.

Paleontological resources have been documented in the geologic materials/formations present in the area. Federal law which serves as the overall LORS for geologic, mineral, or paleontogical resources is generally accepted to be the Antiquities Act of 1906 (16 United States Code [USC], 431-433). Although there is no specific mention of natural or paleontological resources in the Act itself, or in the Act's uniform rules and regulations (Title 43 Part 3, Code of Federal Regulations [43 CFR Part 3], 'objects of antiquity' has been interpreted to include fossils by the National Park Service (NPS), the Bureau of Land Management (BLM), the United States Forest Service (USFS), and other Federal agencies. The Antiquities Act of 1906 requires that objects of antiquity be taken into consideration for Federal projects and the California Environmental Quality Act, Appendix G, also requires the consideration of geologic, mineral, and paleontological resources. As a result, the potential impacts to paleontological resources due to construction activities would need to be mitigated as required by these Acts. Mitigation of paleontologic resources would follow the protocol established by the Society of Vertebrate Paleontology (SVP), 1995.

CONCLUSION

Construction of the interset poles would be performed by SCE. Since SCE is a public utility, all work performed would be in accordance with CPUC General Order 95, which requires SCE to meet all local LORS. This requirement is comparable to the Conditions of Certification for paleontologic resources found in the respective section of the Staff Assessment/ Draft Environmental Assessment. Therefore, staff deems it unlikely that the construction of the interset poles would have any significant impact to geologic, mineral, and paleontologic resources. Geologic hazards can be effectively mitigated provided the project is designed in accordance with applicable LORS.

4.5 HAZARDOUS MATERIALS MANAGEMENT

The addition of poles to an existing transmission line would involve work of the same nature as the overall BEPTL project. Except as noted in the hazardous materials analysis of this document, no hazardous materials would be used in amounts approaching any reportable quantities. It is expected that SCE would have similar procedures for the handling of hazardous materials management as required by CPUC

General Order 95. The hazardous materials management analysis procedures and conditions of certification would continue to be adequate to ensure that there would be no significant impact from the use of hazardous materials during construction and operations.

4.6 LAND USE

The land use analysis focuses on the project's compatibility with existing and planned land uses and the project's consistency with Federal, state, and local land use plans, ordinances, and policies.

As described in the BEPTL Petition for the Post-Certification Amendment (99 AFC-8C), the installation of six interset poles on the SCE Julian Hinds-Mirage transmission line would utilize an established transmission line corridor. The interset pole proposal would conform to all applicable regulations and general plan goals of Riverside County and the BLM California Desert Conservation Area (CDCA) Plan of 1980. In addition, the project would conform to the CPUC General Order 95 and SCE construction standards.

The six interset poles would be located in Riverside County between the Julian Hinds Substation east of Palm Springs and the Mirage Substation in Indio, California. Undeveloped desert and mountainous areas characterize this eastern portion of Riverside County. County zoning classifications along the established utility corridor consist of Open Space and Rural . Interstate 10, State Highway 86S, and Dillon Road are the primary roadways providing vehicular access for this region. The existing transmission line corridor that would be used for the interset poles runs parallel to Interstate 10.

Interset Pole 1 would be located in Joshua Tree National Park in a special use zone utility right-of-way easement controlled by the Metropolitan Water District of Southern California (MWD). The MWD right-of-way passes through a portion of the Joshua Tree National Park designated wilderness area. MWD's right-of-way for a power line was granted under the 1928 Boulder Canyon Project Act.

Interset Pole 2 would be located on BLM lands in an area classified as Multiple Use Class (MUC) M. MUC M is based upon a controlled balance between higher intensity human uses and protection of public lands. Class M lands are managed to provide for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy and utilities development, while conserving desert resources and mitigating damages permitted uses may cause. MUC M permits the installation of new transmission lines provided they are within designated utility corridors. Because the interset pole would be added to an existing transmission line located within BLM Designated Utility Corridor K, it would be consistent with BLM's CDCA Plan.

Interset Poles 3 through 6 would be located on private lands in Riverside County. Riverside County does not regulate the siting of transmission lines.

Impacts of Interset Poles Upgrades

The placement of six additional poles would require the temporary stockpiling of materials and equipment in areas along the existing transmission line right-of-way. Any impacts to land use would be isolated and short term. Because the stockpile areas would be temporary and would not displace any existing use, the impact would not be significant. Pole placement would also require access to the existing transmission line right-of-way by construction vehicles and equipment, which would use existing access roads. SCE would be required to identify any endangered listed species and cultural resources prior to construction activities and provide mitigation where required.

CONCLUSION

The installation of six interset poles on SCE's Julian Hinds - Mirage transmission line would not cause a change in land use or require an amendment to any existing land use plan. Since the poles would be placed entirely within an existing and established right-of-way, the upgrades to the line would not disrupt or divide the physical arrangement of an established community or restrict existing or future land uses along the route. The upgrades would not have a significant land use impact.

4.7 NOISE

All six of the proposed interset poles are proposed for locations distant from any noise receptors (BLYTHE 2004a, AFC § 5.17.7). The temporary noise of construction would not affect any sensitive noise receptors.

SCE would be performing the construction and installation of the interset poles, discussed above. Since SCE is a public utility, all work performed must be in accordance with the CPUC General Order 95 which requires SCE to meet all local noise LORS. This requirement is comparable to the Noise Conditions of Certification found in the Noise and Vibration section of this Staff Assessment/Draft Environmental Assessment. Therefore, it is staff's opinion that the construction of the interset poles would not produce a significant noise impact.

CONCLUSION

Noise resulting from the pole construction and placement process would be minimal and temporary and the operational noise from the transmission line would not change due to the installation of the proposed interset poles. Therefore, there would not be any significant noise impacts.

4.8 SOCIOECONOMICS

There would not be a significant Socioeconomics impact in the area as a result of the downstream transmission pole interset upgrades from Julian Hinds Substation to Mirage Substation in Riverside County. The small number of workers and amount of time required to add the interset poles would have little appreciable effect on the area's economy or community services such as schools, housing, law enforcement, emergency services, hospitals, or utilities.

4.9 SOIL AND WATER RESOURCES

Climate and precipitation conditions are similar to those described for the proposed modifications associated with the BEPTL project, which are in the undeveloped desert and mountainous areas of eastern Riverside County. Annual precipitation averages 3.19 inches per year, with surface water drainages composed of dry desert washes.

The watershed where the interset poles will be located drains to the Salton Sea, either through Orocopia Valley and Box Canyon Wash (Poles 1, 2, and 3), or through washes that drain to the Coachella Valley northwest of the Salton Sea (Poles 4, 5, and 6). No dry washes would be impacted by the installation of the interset poles. Poles 1 and 2 would be located in the Orocopia Valley groundwater basin and Poles 3-6 would be located in the Coachella Valley basin.

Soil related issues in the project area include a high potential for wind and water erosion, especially while soils are disturbed during construction and lacking their normal, although limited, natural vegetative cover. Water erosion can also erode the soil around the structure footings should they be placed within ephemeral drainages.

Impacts of Interset Pole Upgrades

Construction of new spur roads to existing transmission line access roads and removal of vegetation cover will likely cause a short-term increase in water and wind erosion. Mitigation measures would be necessary to reduce any impacts to less than significant levels.

The interset pole project's potential for significant impacts to the local or regional water supply would be very low since its water use is not expected to impact local or regional supplies. Furthermore, no permanent water or sewer facilities are proposed, and water would not be needed for operation of the transmission line.

MITIGATION

For the BEPTL project, mitigation measures have been designed to reduce any soil erosion impacts to less than significant levels. They are reflected in BEPTL Conditions of Certification **SOIL AND WATER-1, 2**, and **3**. Similar requirements are recommended for the interest pole construction and operation. These conditions would require the project owner to comply with all of the requirements of the General National Pollution Discharge Elimination System Permit for Discharges of Storm Water Associated with Construction Activity and to obtain the Commission Compliance Project Manager's (CPM) approval for a site-specific final Drainage, Erosion and Sedimentation Control Plan (DESCP) that addresses all project elements and ensures protection of water and soil resources for both the construction and operational phases of the project.

In addition, the BLM would require SCE to prepare an Access Road Use Plan under the Federal Lands Protection Management Act to address use of existing roads to include adjacent construction areas on BLM managed lands and mitigate any potential impacts. The plan would include reviewing the need for installation of culverts and other road improvements if necessary on a site-specific basis to address construction impacts. Because this project could cross BLM lands for access, and would potentially include

grading of additional spur roads to the existing access roads, a condition similar to BEPTL Condition of Certification **SOIL AND WATER-12** should be applied to SCE by the CPUC.

CONCLUSION

If the recommended mitigation measures are required of SCE by the CPUC, the interset poles upgrades would not have a significant environmental effect on soil and water resources.

4.10 TRAFFIC AND TRANSPORTATION

The requested changes to the proposed original BEPTL petition would not create any traffic and transportation issues or significant impacts, as the current dirt access roads in the area would continue to be used. These access roads are currently used for the periodic inspection and maintenance of the existing transmission lines and poles. Interstate 10 will provide major access to the area of the proposed six interset poles, and traffic patterns would remain at Level of Service “A” which is considered acceptable along I-10 and local county roadways.

4.11 TRANSMISSION LINE SAFETY AND NUISANCE

The electric and magnetic field and non-field impacts addressed in the staff’s assessment for the proposed Blythe Energy Project Transmission Line (BEPTL) would also be encountered along the route of the proposed upgrade located downstream from the Julian Hinds Substation. The upgrade would involve the installation of pole supports to ensure an adequate ground clearance for the overhead 230-kilovolt (kV) line in question due to an increase in operating voltage from current levels.

Impacts of Interset Poles Upgrades

The magnitude of the field and non-field impacts from the proposed downstream upgrade would depend on compliance with the health and safety requirements, which the CPUC currently considers adequate in light of present knowledge on the field and non-field impacts of high-voltage power lines. Since the upgraded line segment would be designed, built, operated, and maintained by SCE at the same voltage (230-kV) and current flow levels considered in connection with BEPTL, the impacts from this downstream upgrade should remain at the levels staff considers appropriate for such lines. Furthermore, the upgraded segment would remain within a route with no nearby residences, meaning that the exposure to residential magnetic fields at the root of the present health concern would be insignificant for the upgraded segment. The only field exposures of potential significance are to line workers and individuals in transit across the line. These types of exposures are well understood as not significantly related to the present concern.

CONCLUSION

The applicable mitigation measures for the proposed line upgrade are those specified in SCE's design guidelines prepared in compliance with CPUC’s current health and safety requirements. Staff’s recommended conditions of certification for BEP were intended to ensure such compliance for projects similar to the BEPTL. The CPUC would require such compliance of SCE for the proposed downstream upgrade to ensure that the post-

upgrade impacts of concern would remain within limits that staff considers acceptable, and thus result in no significant impacts.

4.12 TRANSMISSION SYSTEM ENGINEERING

The transmission towers and related right-of-way are located in Riverside County between the Julian Hinds Substation and the Mirage Substation located in Indio, California. All six interset transmission poles are located within the Julian Hinds - Mirage transmission line corridor that runs parallel to I-10. Transmission Poles 1 and 3 through 6 are located one to two miles north of I-10, while transmission Pole 2 is located immediately north of I-10.

Impacts of Interset Poles Upgrades

The System Impact Study dated July 19, 2004 and prepared by SCE indicated the delivery of additional power by BEP through the Julian Hinds to Mirage 230-kV line would greatly increase the current flow. This would cause the existing 605 ACSR conductor of the line to sag and create ground clearance problems. Based on SCE's present analysis, it would be necessary to interset six pole poles between certain existing towers to reduce the sag and maintain proper ground clearances under normal operating conditions. As a result, the normal and emergency ratings of the line will change from existing 599 Amps to 895 Amps (BEP 2004a, Figure 3.2-8).

MITIGATION

During construction, applicable safety and reliability laws, ordinances, regulations and standards (LORS) must be met. These include CPUC General Order 95, Title 8 California Construction Regulations, Construction Safety Orders, and SCE Construction Standards. Additionally, to maintain system reliability the California Independent System Operator must be advised per the CAISO scheduling protocol of scheduled circuit outages prior to occurrence. Such outages are scheduled about 30 days prior to an actual outage. In the event that system reliability requires restoring such circuits, a "no work" order is given and where practical, circuits are restored.

CONCLUSION

Conformance with applicable safety and reliability LORS is likely to occur and would be successful in mitigating any safety or reliability implications of increasing the ground clearance with construction of the interset poles, therefore reducing any impacts.

4.13 VISUAL RESOURCES

The transmission towers and related right-of-way are located in Riverside County between Julian Hinds Substation and the Mirage Substation. The areas for the placement of the interset transmission poles are primarily undeveloped desert and mountainous areas characteristic of this portion of eastern Riverside County. Interstate 10 (I-10), Highway 86-S, and Dillon Road are the primary roadways for vehicular travelers accessing this region. All six interset transmission poles are located within the Julian Hinds - Mirage transmission line corridor that runs parallel to I-10. Transmission Poles 1 and 3 through 6 are located one to two miles north of I-10, while transmission Pole 2 is located immediately north of I-10.

Impacts of Interset Poles Upgrades

The downstream upgrade involves the placement of six interset poles, and construction is expected to last approximately two months. Construction equipment and activities would likely be visible to a high number of viewers, generally from motorists on I-10 and Highway 86S. Due to the relatively temporary and separated nature of project construction and installation, the adverse visual impacts that would occur during construction would not be significant. However, this conclusion assumes that construction areas and rights-of-way are restored to their pre-project conditions, and that the construction of the interset poles would incorporate typical measures to mitigate potentially significant adverse visual impacts, such as those listed below.

MITIGATION

With the inclusion of the following typical mitigation measures, impacts from construction activities related to the downstream upgrades would likely not be significant:

1. All evidence of construction activities, including ground disturbance due to staging and storage areas should be removed and remediated upon completion of construction.

2. Construction areas and rights-of-way should be restored to their original grade and contouring.

3. Any vegetation removed in the course of construction should be replaced on a 1-to-1 in-kind basis.

4. The proposed six interset poles should be treated with non-glare finishes and painted in a color that would blend with the existing line's tower poles and;

5. Insulators should be non-reflective and non-refractive (**VIS-7**).

CONCLUSION

The downstream upgrade project has the potential to cause adverse visual impacts, such as inappropriate paints and finishes making existing or new poles more dominant in the existing viewshed. Since the proposed downstream upgrades project follows an existing transmission line, the impacts will be incremental. Therefore, mitigation measures as described in the Conditions of Certification **VIS-7** would be applicable to insure the visual impacts of the project would be less than significant for visual resources.

4.14 WASTE MANAGEMENT

The addition of poles to an existing transmission line will involve work of the same nature as the overall BEPTL project. It is expected that SCE will have similar procedures for the handling of waste materials management as required by CPUC General Order 95. Waste management analysis procedures and conditions of certification similar to those described for this project would be adequate to ensure that

there would be no significant impact from the creation of waste materials during construction and operations.

4.15 WORKER SAFETY AND FIRE PROTECTION

The addition of poles to an existing transmission line will involve work of the same nature as the proposed BEPTL project. SCE would conduct construction procedures similar to those prescribed in the Worker Safety and Fire Protection analysis section. Conditions of Certification (COC) similar to those described for the BEPTL project would be adequate to ensure that there would be no significant impacts to worker safety and fire protection. Staff recommends that should the pole interset project be required, that the CPUC require SCE to comply with the BEPTL COC's where applicable.

5.0 APPENDIX A CONCLUSIONS

Staff has described the process and the potential impacts of pole interset upgrades to the Julian Hinds to Mirage 230kV Transmission Line. This study was undertaken to inform the Energy Commission and the general public of the potential indirect environmental and engineering affects caused by the approval of the BEPTL project.

Since SCE is a public utility, all work performed must be in accordance with CPUC's General Order 95, which requires SCE to meet all LORS. SCE would need to obtain a new or amended CPCN for the interset pole upgrades to its transmission line. The addition of six interset structures to the existing transmission line and right-of way is considered a minor project and any potential impacts could be easily mitigated. Should this project be approved, the CPUC can and should impose the mitigation measures described above, in which case the interset pole upgrades impacts would not have a significant environmental impact.

6.0 REFERENCES

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APPENDIX B

SUPPLEMENTAL ANALYSIS
DESERT SOUTHWEST TRANSMISSION PROJECT
MIDPOINT SUBSTATION OPTION

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I.0 INTRODUCTION AND PURPOSE

The purpose of this analysis is to examine the potential impacts of the proposed Blythe Energy Project Transmission Line (BEPTL) Modification Desert Southwest Transmission Project (DSWTP) Midpoint Substation Option (MSO). The applicant, Blythe Energy, LLC (Blythe Energy), has requested the California Energy Commission (Commission) to consider the DSWTP MSO as part of its project. The DSWTP MSO component would be located along the DPV-1 500-kV line 5.2 miles northwest of the proposed BEPTL Midpoint Substation (see figures 1&3). The DSWTP MSO location and site layout were evaluated for CEQA and NEPA impacts in the DSWTP Environmental Impact Statement/Environmental Impact Report (EIS/EIR) dated December 23, 2005. The proposed DSWTP MSO project is proposed for Commission approval as an option to the previously proposed Midpoint substation that is analyzed in the main body of this document; if both are approved, Blythe Energy may choose to build either, but not both, substations.

The DSWTP MSO is analyzed as an alternative in the Alternatives Section of this Revised Staff Assessment/Draft Environmental Assessment (RSA/DEA). Staff's objective in this Appendix is to provide a more detailed analysis of the environmental and transmission systems impacts of the DSWTP MSO corresponding to each of the environmental and engineering disciplines in the RSA/DEA. Where appropriate, staff has suggested mitigation measures for potentially significant impacts.

2.0 BACKGROUND FOR ANALYSIS

At the Commission's prehearing conference held on July 31, 2006, Intervenor Caithness Blythe II, LLC, (Caithness) suggested that an alternate location for the Midpoint Substation would be consistent with the DSWTP EIS/EIR and Caithness's request for a right-of-way grant from the Bureau of Land Management (BLM). Blythe Energy indicated at the prehearing conference that they had no objection to requesting the Commission to evaluate the DSWTP option and would like to have both substation options considered as part of its amendment petition before the Commission.

BLM stated at a staff workshop conducted on August 16, 2006 that it will issue a Record of Decision (ROD) approving the DSWTP, and will subsequently issue a right-of-way permit for its Substation and the associated transmission line route as evaluated in the DSWTP Final EIS/EIR.

Commission staff in consultation with the co-authors, Bureau of Land Management and Western Area Power Administration, have considered the DSWTP option as part of our joint agency review under CEQA and NEPA. Staff has published this RSA/DEA document drawing conclusions and making recommendations to mitigate the proposed DSWTP MSO impacts to a less than significant level.

3.0 PROJECT DESCRIPTION OF DSWTP MIDPOINT SUBSTATION OPTION

Two options are now proposed by Blythe Energy Project for the Midpoint Substation location. **Figure-1** of this appendix shows a general area map of both the original BEPTL Midpoint Substation location and transmission line route, and the DSWTP MSO location. In **Figure-2** the BEPTL preferred option begins at Western's existing Buck Boulevard Substation located adjacent to the Blythe Energy Project, a 520-megawatt electrical generating plant. The interconnecting transmission line would travel southwest 6.7-miles to the proposed Midpoint Substation adjacent to Southern California Edison's (SCE) existing DPV-1 500-kV transmission line. As shown in **Figure-3** the DSWTP MSO would place the substation approximately 5.2 miles to the northwest of the BEPTL Midpoint location. The transmission line would begin at the same Western substation and travel to the BEPTL Midpoint location, then turn and travel, parallel to the DPV-1 transmission line, for 5.2 miles to reach the DSWTP MSO location.

The BEPTL Midpoint Substation location and transmission line corridor is analyzed in the main body of this document for the Blythe Energy amendment petition. The DSWTP MSO location is analyzed in this appendix.

4.0 ANALYSIS OF DSWTP MIDPOINT SUBSTATION OPTION

This analysis of the DSWTP MSO will use the same methods and thresholds for determining significance as was used for the analysis of the BEPTL. Additionally, except where it is noted that additional detail needs to be provided in describing the setting for the analysis, because the transmission line connecting to the DSWTP MSO would traverse the same lands as the Julian-Hinds portion of the BEPTL, the setting for the DSWTP MSO is the same as described for the BEPTL in the main body of the RSA/DEA. All Conditions of Certification listed in this appendix refer to the Conditions of Certification listed in the main body of the RSA/DEA.

4.1 AIR QUALITY

Laws, Ordinances, Regulations and Standards

All of the Federal and State LORS listed in AIR QUALITY Table 1 would be applicable to the DSWTP MSO. The DSWTP MSO site would be located in the Mojave Desert Air Basin. The Mojave Desert Air Quality Management District (MDAQMD) LORS listed in AIR QUALITY Table 1, in the main body of RSA/DEA, would apply to this option, but the South Coast Air Quality Management District LORS would not.

Assessment of Impacts and Discussion of Mitigation

As the DSWTP MSO would include the same components as the BEPTL Midpoint Substation and would be in the same air basin as the BEPTL Midpoint Substation, the air quality impacts of the DSWTP MSO would be the same as described for the BEPTL Midpoint Substation. Though construction emissions from the DSWTP MSO would be both short-term and concentrated in the vicinity of the construction, they have the potential to be significant since the region is classified as nonattainment for both PM10 and ozone. The criteria pollutant emissions during construction would primarily consist of fugitive dust from earth moving activities and combustion emissions from construction equipment and vehicles. Combustion emissions contain a mix of criteria pollutants, including both PM10 and various ozone precursors.

Due to the potential for a significant contribution to existing violations of AAQS during construction, mitigation has been proposed to reduce impacts to less than significant levels. Staff is confident that with the full implementation of the construction Conditions of Certification (**AQ-SC1** through **AQ-SC5)**, the criteria pollutant impacts from construction of the BEPTL project would not be significant.

Normal maintenance activities would require a minimal work force and quantity of heavy equipment. Maintenance of the DSWTP MSO would follow a routine schedule of inspections, preventative maintenance and necessary repairs (BLYTHE 2004a, 3.2.9.2). Based on the limited number of personnel, pieces of heavy equipment, and time required for long term maintenance of the DSWTP MSO, staff does not expect these activities to be a significant source of criteria pollutant emissions. As described in the main body of the RSA/DEA for the BEPTL, staff concludes that there would be no significant air quality impacts associated with corona discharge emissions resulting from the operation of the DSWTP MSO. Both the operations and general maintenance of electrical transmission lines produce negligible air emissions and no significant impact on ambient air quality.

Conclusions

If the construction Conditions of Certification proposed below are implemented, staff is confident that the short-term air quality impacts from the construction of the DSWTP MSO would not be significant. Staff is further convinced that the long-term operation of the DSWTP MSO would not generate any significant criteria pollutant emissions or air quality impacts.

Conditions of Certification

The following Conditions of Certification would be required to ensure that Air Quality impacts would be less than significant:

- **AQ-SC1** *Air Quality Construction Mitigation Manager (AQCMM)*
- **AQ-SC2** *Air Quality Construction Mitigation Plan (AQCMP)*
- **AQ-SC3** *Construction Fugitive Dust Control*
- **AQ-SC4** *Dust Plume Response Requirement*
- **AQ-SC5** *Diesel-Fueled Engines Control*

4.2 BIOLOGICAL RESOURCES

Laws, Ordinances, Regulations and Standards

The DSWTP MSO would be located within the BLM's Northern and Eastern Colorado Desert Coordinated Desert Management Plan (NECO) boundary. The majority of the LORS listed in the Biological Resources SA in the main body of the RSA/DEA would be applicable to the DSWTP MSO. As the DSWTP substation site is outside of the City of Blythe, however, the biological resources and conservation goals in the City of Blythe General Plan would not be applicable to the DSWTP MSO site.

Assessment of Impacts and Discussion of Mitigation

The DSWTP MSO would be constructed approximately 5.2 miles northwest of the proposed BEPTL Midpoint Substation analyzed in the main body of the RSA/DEA. The DSWTP MSO site is vegetated with Sonoran creosote bush scrub. A summary of the sensitive and special status species observed in the vicinity of the substation site is as follows:

- Desert tortoise habitat exists, however, the site is outside of designated critical habitat for this species;
- Mojave fringe-toed lizard (MFTL) was observed during surveys conducted in 2004;
- Harwood's milk-vetch (BLYTHE 2004a); and
- Abram's spurge, Arizona spurge, and Cove's cassia were not observed during surveys of this area, however, suitable habitat exists to support these plant species.

Biological Resources Table 2 in the BEPTL Biological Resources SA in the main body of the RSA/DEA lists the special status and rare plant species as well as threatened, endangered, candidate, and special status wildlife species that may occur in the vicinity of the DSWTP MSO site.

Desert Tortoise. Construction of the DSWTP MSO site would impact approximately 41 acres of desert tortoise habitat. In addition, the transmission line between the Buck Substation and the DSWTP MSO would impact between 16.61 and 29.63 acres of desert tortoise habitat between mileposts 6.7 and 11.9. Construction and operation activities could result in direct and indirect impacts to desert tortoise, including loss of desert tortoise habitat. The desert tortoise is a Federal and State-listed threatened species. Mitigation measures for impacts to desert tortoise include implementing measures to decrease the likelihood of incidental take of desert tortoise and desert tortoise habitat compensation.

Desert tortoise could be injured or killed, their activities altered, and their habitat degraded during construction and maintenance activities associated with the DSWTP MSO. Use of vehicles and equipment during construction activities could result in injury or death to tortoises. Hatchlings and immature desert tortoises are particularly vulnerable because their small size and coloration make them difficult to see. Desert tortoises could fall into uncovered holes or trenches that are dug during construction. In addition, desert tortoises could be entombed by equipment use and other construction

activities in proximity to occupied burrows. Casual handling of desert tortoises could result in the deleterious voiding of internal fluids and other physiological stress as well as the spread of respiratory tract and other diseases. Desert tortoises seeking shade under vehicles or equipment could be run over when the vehicles are started and moved.

Activities associated with the DSWTP MSO could attract common ravens to the area, thereby increasing predation on desert tortoise. Tortoise predation by individual ravens is dependent on a variety of factors, but the overall impact of raven predation on tortoise populations is considered to be substantial. Most desert tortoise predation occurs in the spring when tortoises are active and ravens are feeding their young. Any trash, refuse or surface water left at the DSWTP MSO site would attract ravens. Transmission line poles may provide nesting and perching sites, increasing local raven populations and desert tortoise predation.

The construction of the DSWTP MSO and the transmission line from the Buck Substation would result in the loss of between 57.91 acres and 70.93 acres of creosote bush scrub habitat that is suitable for desert tortoise. Construction activities may also cause the degradation of nearby desert tortoise habitat or aid the spread of non-native plant species detrimental to desert tortoise.

Western, BLM, Commission staff and Blythe Energy have proposed the purchase of desert tortoise mitigation land to offset the impact to 41.3 acres of desert tortoise habitat due to the construction of the BEPTL Midpoint Substation analyzed in the main body of the RSA/DEA. Due to the similar nature of impacts to desert tortoise under the DSWTP MSO, if the DSWTP MSO were selected for construction instead of the BEPTL Midpoint Substation, the purchase of mitigation land would also be appropriate mitigation to offset the impacts on desert tortoise habitat due to the construction of the DSWTP MSO. Given that these desert tortoise habitat disturbances occur outside of designated critical habitat, (Category I desert tortoise habitat), the disturbance must be compensated for at a 1:1 ratio as identified in the NECO Plan. Therefore, staff proposes a 1:1 habitat compensation ratio for this area. Staff requires the purchase of mitigation land to offset the impact of desert tortoise habitat loss from the construction of the DSWTP MSO as outlined in Condition of Certification **BIO-16** (BEPTL Habitat Compensation).

Conditions of Certification **BIO-1** and **BIO-14** include mitigation measures supported by BLM, Western, and Commission Staff to reduce the likelihood of impacts to desert tortoise, including a 15 mile per hour speed limit, limitation of vehicle traffic to designated access and spur roads, surveys, biological monitoring and other measures. Conditions of Certification **BIO-5** (Worker Environmental Awareness Program (WEAP)), **BIO-2** (Designated Biologist)**, BIO-3** (Designated Biologist Duties)**, BIO-4** (Construction Manager Duties)**,** and **BIO-9** (Desert Tortoise Exclusion Fencing) would also be applied during construction and operation of the DSWTP MSO to mitigate impacts to desert tortoise to less than significant levels.

As part of the “General Construction Measures”, Blythe Energy has proposed mitigation measures to contain and remove trash and food items. These measures will decrease the likelihood of attracting ravens to the project area and reduce impacts to less than

significant levels. The measures will be incorporated in the BRMIMP as outlined in Conditions of Certification **BIO-1** (Sensitive Species Protection) and **BIO-14** (BRMIMP).

Mojave Fringe-toed Lizard (MFTL). Construction of the DSWTP MSO would result in temporary and permanent loss of MFTL habitat and could result in direct mortality to MFTL (State species of special concern and BLM sensitive species). Mitigation of impacts would include implementation of measures to decrease the likelihood of harm to MFTL.

In addition to mitigation measures designed to reduce direct impacts to MFTL, habitat purchased for desert tortoise mitigation would be selected so that the land contains habitat capable of supporting MFTL. To reduce impacts to MFTL, staff recommends Conditions of Certification **BIO-1** (Sensitive Species Protection)**, BIO-14** (BRMIMP)**, BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol) to mitigate impacts to less than significant levels. The desert tortoise mitigation measures discussed earlier would also mitigate impacts to MFTL.

Harwood's milk-vetch. Harwood's milk-vetch was observed (BLYTHE 2004a) in the vicinity of the DSWTP MSO site. Construction of this component would directly and significantly affect Harwood's milk-vetch habitat.

Staff proposes Conditions of Certification **BIO-5** (WEAP), **BIO-13** (Harwood's milk-vetch compensation), **BIO-14** (BRMIMP), **BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol) be implemented to reduce impacts to Harwood's milk-vetch to less than significant levels.

Special-Status Plant Species. Abram's spurge, Arizona spurge, and Cove's cassia were not observed during surveys. However, suitable habitat exists to support these species and constructing and operating the project would directly affect habitat suitable to support them. Impacts to these special status plants would be mitigated through desert tortoise habitat compensation as discussed earlier. The Conditions of Certification require that the aforementioned plants be considered in determining the specific land to be purchased for desert tortoise habitat compensation. Staff proposes Conditions of Certification **BIO-14** (BRMIMP)**, BIO-16** (BEPTL Habitat Compensation), and **BIO-17** (Disturbance Calculation Protocol) be implemented to reduce impacts to less than significant levels.

Wildlife Habitat. Construction of the DSWTP MSO would cause the permanent loss of approximately 41.3 acres of wildlife habitat due to the substation as well as additional habitat loss due to 11.9 miles of transmission line construction. In addition, habitat fragmentation could occur as a result of the project. Desert tortoise habitat compensation fees as discussed in Conditions of Certification **BIO-16** (BEPTL Habitat Compensation) and **BIO-17** (Disturbance Calculation Protocol) would mitigate habitat loss and fragmentation impacts. In addition, implementation of Conditions of Certification **BIO-3** (Designated Biologist Duties)**, BIO-10** (Weed Reduction Program)**,** and **BIO-14** (Biological Resources Mitigation, Implementation, and Monitoring Plan (BRMIMP)) would further mitigate habitat loss and fragmentation impacts.

General Wildlife. Construction activities could result in direct wildlife mortality, temporary displacement of wildlife, and destruction of bird nests. Measures from the analysis of the BEPTL Midpoint Substation in the main body of the RSA/DEA would be implemented to minimize impacts to wildlife. Any wildlife residing within the DSWTP MSO area would potentially be displaced, injured, or killed during construction activities. Animal species in the construction area could fall into construction trenches, be crushed by construction vehicles or equipment, or be harmed by project personnel. In addition, construction activities may attract predators or crush animal burrows or nests, including loggerhead shrike and Leconte's thrasher nests. To ensure biological resources are protected, Conditions of Certification **BIO-2** and **BIO-5** would also be adopted. The Applicant has stated, and staff would require, that qualified biologists would monitor all work in habitat for desert tortoise and in areas where prior Blythe Energy surveys have documented the occurrence of one or more listed species. In conjunction with Blythe Energy's Environmental Inspector, the Designated Biologist would have the authority to advise the Construction Manager to avoid harm to a listed species and would assist in the overall implementation of protection measures for listed species during project operations (see Conditions of Certification **BIO-3** and **BIO-4**). Other mitigation requirements in the Conditions of Certification include speed limits in construction areas and clearance surveys prior to construction. All biological mitigation will be compiled into the BRMIMP (Condition of Certification **BIO-14**).

Avian Collision and Electrocution. The DSWTP MSO could result in increased avian mortality due to collision with and electrocution from new transmission lines entering and exiting the substation. The proposed mitigation measures for the BEPTL Midpoint Substation state that transmission lines will be installed according to Avian Powerline Interaction Committee (APLIC) Guidelines (BLYTHE 2004a). The APLIC Guidelines are designed to minimize avian-power line interactions. Condition of Certification **BIO-1** (Sensitive Species Protection) would require that the Applicant's proposed mitigation measures be included in the BRMIMP and be implemented.

Nesting Birds. The DSWTP MSO could impact nesting birds in violation of the Migratory Bird Treaty Act. To mitigate potential impacts to nesting birds, the Designated Biologist would perform preconstruction surveys and would have the authority to advise the Construction Manager to avoid harm to nesting birds (Conditions of Certification **BIO-3** and **BIO-4**).

Invasive and Exotic Weeds. Construction activities associated with the DSWTP MSO could result in the introduction and dispersal of invasive or exotic weeds. A weed reduction program would be implemented to reduce and mitigate impacts. The permanent and temporary earth disturbance adjacent to native habitats increases the potential for exotic, invasive plant species to establish and disperse into native plant communities, which leads to community and habitat degradation. Invasion of weed species within the disturbance areas would decrease suitable forage for the protected desert tortoises. Invasive plant species are less palatable and nutritious, and out-compete native plants preferred by tortoises. Although the incidence of fire is very low in this area, most invasive weed species are more prone to fire than native species. An increase in fire frequency in this area would inhibit native plant succession and growth.

To prevent indirect impacts from invasive weeds associated with the DSWTP MSO, surveys for invasive and noxious weeds and implementation of appropriate control methods as proposed by Blythe Energy for the BEPTL Midpoint Substation would be required as outlined in amended Condition of Certification **BIO-10**.

DSWTP MSO Operation. Potentially significant impacts would be associated with maintenance of the DSWTP Midpoint Substation. Vehicles traveling on access roads could be a source of injury or mortality to animals on the road. However, the access roads are not paved and the varying terrain would likely limit excessive vehicle speed. Educating drivers on species and protection measures would also mitigate potential impacts. Staff proposes including maintenance personnel in the WEAP per amended Condition of Certification **BIO-5** to reduce impacts to less than significant levels.

Conclusions

Blythe Energy has obtained a USFWS Biological Opinion (BO) for the BEPTL Midpoint Substation, and a separate BO for the DSWTP includes the DSWTP MSO site.

Constructing the DSWTP MSO would result in potentially significant impacts to desert tortoise and MFTL. Staff concludes that if the mitigation measures discussed in this document are implemented by the project owner as required by the Conditions of Certification and all permits are obtained, the project would not result in a significant impact to biological resources and would be in compliance with all state, Federal, and local LORS.

Conditions of Certification

The following Conditions of Certification ensure that Biological Resources impacts would be less than significant:

- **BIO-1** *Sensitive Species Protection*
- **BIO-2** *Designated Biologist*
- **BIO-3** *Designated Biologist Duties*
- **BIO-4** *Construction Manager Duties*
- **BIO-5** *Worker Environmental Awareness Program (WEAP)*
- **BIO-9** *Desert Tortoise Exclusion Fencing*
- **BIO-10** *Weed Reduction Program*
- **BIO-13** *Harwood's Milk-Vetch Compensation*
- **BIO-14** *Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)*
- **BIO-16** *BEPTL Habitat Compensation*
- **BIO-17** *Disturbance Calculation Protocol*

4.3 CULTURAL RESOURCES

Laws, Ordinances, Regulations and Standards

All of the LORS listed in CULTURAL RESOURCES Table 1 are applicable to the DSWTP MSO except for the BLM Alligator Rock Area of Critical Environmental Concern (ACEC) Final Management Plan and Environmental Assessment.

Assessment of Impacts and Discussion of Mitigation

The site of the DSWTP MSO is located within the Chuckwalla Valley adjacent to the DPV1 Transmission Line approximately 7.7 miles west of the Colorado River and 2.0 miles south of Interstate 10. The DSWTP Midpoint Substation site encompasses approximately 41.3 acres within the SE ¼ of the SE ¼ of Section 6 and the NE ¼ of the NE ¼ of Section 7 (T7S/R21E, SBBM), as shown on the Roosevelt Mine 7.5' USGS Topographic Quadrangle.

The DSWTP MSO site is characterized by low, unstable sand dunes interspersed with small pans or playas. The vast majority of the vegetation occurs in between the low-lying dunes, which support little to no vegetation. Creosote bush scrub is the dominant vegetation community present, along with "birdcage" primrose, and sparse desert grasses. Lithic materials within the area are predominately found on the playa surfaces, and consist of wind/water polished, sub-rounded gravels of a wide variety of materials.

A pedestrian survey of the DSWTP MSO site was conducted on February 21-22, 2006. Survey transects were spaced at a maximum of 15 m (50 ft) intervals. All landforms likely to contain or exhibit prehistoric or historically sensitive cultural resources were inspected carefully to ensure that all visible, potentially significant cultural resources were discovered and documented. Additionally, surveyors investigated any unusual landforms, contours, soil changes, features (e.g., road cuts, drainages), and other potential cultural site markers. Ground visibility at the DSWTP MSO site ranged from good to excellent (80–100%). However, no cultural resources of either historical or prehistoric sensitivity were encountered at this site. No new cultural resources were encountered this site and no previously recorded cultural resources are located at this site (CPUC/BLM 2006).

A Class II Resource Assessment identifies Traditional Cultural Properties (TCP) and Sacred Sites (SS) along the proposed DSWTP (Schaefer 2003). This assessment is not a complete inventory of all TCPs and SSs. The Class II assessment did not identify TCPs and SSs near the DSWTP MSO. Through the DSWTP EIS/EIR process and other Federal regulations, the Bureau of Land Management consulted with Native American Tribes. There have been no comments from the Tribes regarding the TCPs and SSs that would be affected or impacted by the proposed DSWTP MSO. For both proposed options this would be completed by the Federal agencies through the existing Programmatic Agreement (PA).

Under state laws, the identification of resources and the impact have not identified any cultural resources that would be impacted by the proposed DSWTP MSO. Application of the existing mitigation measures for the project would reduce the impacts to less than significant.

Conclusions

Although no cultural resources were identified at the DSWTP MSO site, Conditions of Certification **CUL-1** through **CUL-5**, and **CUL-7** through **CUL-20** are applied to the entire project. Application of the existing mitigation measures for the project would reduce the impacts to less than significant.

Conditions of Certification

The following Conditions of Certification would be applied to the entire project to ensure that Cultural Resources impacts would be less than significant:

- **CUL-1** through **CUL-5**
- **CUL-7** through **CUL-20**

4.4 GEOLOGY AND PALEONTOLOGY

Laws, Ordinances, Regulations and Standards

All of the LORS listed in GEOLOGY AND PALEONTOLOGY Table 1 are applicable to the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

The DSWTP MSO would be located along an existing transmission line corridor, and there are no viable geologic or mineral resources known to exist in this corridor. Areas with high mineral development potential lie more than 30 miles from the DSWTP MSO site (BLM Map 4-1).

Paleontological resources have been documented in the vicinity of the DSWTP MSO, and native materials exhibit a high sensitivity rating with respect to containing significant paleontological resources. Since the DSWTP MSO would include significant but localized amounts of grading and foundation excavation, staff considers the probability that paleontological resources would be encountered during such activities to be high when native materials are encountered, based on SVP assessment criteria. Conditions of Certification are designed to mitigate any paleontological resource impacts, as discussed above, to a less than significant level.

As described for the BEPTL in the main body of the RSA/DEA, the nearest faults to the DSWTP MSO site includes several concealed faults, which originate from inactive bedrock faults passing beneath Holocene age (recent) alluvium and the BEPTL route in the vicinity of the Chuckwalla Mountains and near the Julian Hinds Substation (CDMG, 1967). The closest known active fault is the San Andreas Fault, which is located more than 120 kilometers (75 miles) southwest of the DSWTP MSO site. Based on a review of this information, no active or potentially active faults have been identified in the vicinity of the DSWTP MSO site. Since no active faults are known to exist in the vicinity of the DSWTP MSO, the potential for surface rupture in this area is considered low. The anticipated peak horizontal ground acceleration for the area surrounding the DSWTP MSO site is estimated to be only 0.1 to 0.2g, although the site would be subjected to strong ground shaking during the associated earthquake. The DSWTP MSO site would have a low potential for liquefaction due to anticipated groundwater depths of greater

than 100 feet. No site-specific geotechnical exploration data was available for review to determine the potential for dynamic compaction resulting from groundshaking, and the potential presence of expansive soils. Under the Conditions of Certification, an evaluation of dynamic compaction and expansive soil potential would need to be performed. Potential liquefaction and expansive soils, in addition to strong ground shaking, could, however, be effectively mitigated through facility design.

Due to the relatively deep groundwater table beneath the DSWTP MSO site and the site being located in an area with low groundwater extraction, the potential for hydrocompaction and subsidence associated with the DSWTP MSO site would be low. The DSWTP MSO site would be located on a flat plain that is not susceptible to landslides. Additionally, due to the distance of the DSWTP MSO site to a large body of water, the potential for tsunami and seiche is considered to be low. Operation of the DSWTP MSO should not have any adverse impact on geologic, mineral resources, or paleontologic resources.

Conclusions

The DSWTP MSO would comply with applicable LORS, provided that the proposed Conditions of Certification are followed. The DSWTP MSO site would have no adverse impact with respect to design and construction of the project, and geologic, mineral, and paleontologic resources. Staff proposes to ensure compliance with applicable LORS through the adoption of the proposed Conditions of Certification listed below.

Conditions of Certification

The following Conditions of Certification would be required to ensure that Geology and Paleontology impacts would be less than significant:

- **GEO-1**
- **GEO-2**

4.5 HAZARDOUS MATERIALS MANAGEMENT

Laws, Ordinances, Regulations and Standards

All of the LORS listed in HAZARDOUS MATERIALS MANAGEMENT Table 1 are applicable to the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

Hazardous materials used during construction of the DSWTP MSO include gasoline, fuel oil, hydraulic fluid, lubricants, solvents, cleaners, sealants, welding gases and flux, paint, paint thinner, and wasp spray. Most of these would be used for fueling and maintenance of on-site vehicles and equipment to be used during construction activities. Cleaners, solvents, paint, and welding supplies would be used during construction of the substation.

Hazardous materials would be stored in proper containers in material yards and designated construction areas. Cleanup spill kits would also be stored in these areas. Refueling and maintenance of vehicles and equipment would be done in designated

areas that would be either bermed or covered with concrete or asphalt to control potential spills, and would be done by authorized and trained personnel. Refueling would be done from service trucks that would leave the work site once refueling is completed. Service trucks would have fire extinguishers and approved spill containment equipment, such as absorbents. In the event of a spill, any contaminated soil would be placed into approved containers and properly disposed of as a hazardous waste. Any impact of spills or other releases of the hazardous materials discussed above would be limited to the site due to the small quantities involved.

During normal operations at the DSWTP MSO there would be no use of any hazardous materials. Periodic maintenance may require the use of small quantities of hazardous materials. Methods and procedures similar to those used in the construction phase for these materials would continue to be used.

The hazardous materials to be used would be delivered periodically to the construction site. Transportation is regulated by and would comply with all DOT, U.S. Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC), California Highway Patrol (CHP) and the California State Fire Marshall regulations for the transportation of hazardous materials. The CHP has the authority to issue permits, and may specify the route for hazardous material delivery. Hazardous materials traffic to and from the site would mostly utilize I-10 from Blythe going west, or from Riverside going east, then travel a short distances on county and state roads. There is good road access, and area traffic is relatively light.

Conclusions

By incorporating Condition of Certification **HAZ-1**, the transport to/from and use of hazardous materials at the DSWTP MSO would not result in significant impacts to the public or the environment. Analysis shows that there would be no significant direct or cumulative impact to an environmental justice population.

Conditions of Certification

The following Conditions of Certification would be required to ensure that Hazardous Materials Management impacts would be less than significant:

- **HAZ-1**

4.6 LAND USE

Laws, Ordinances, Regulations and Standards

The LORS listed in LAND USE Table 1 for the BLM are the only LORS applicable to the DSWTP MSO. The National Park Service, County of Riverside, and City of Blythe LORS do not apply to this option.

Assessment of Impacts and Discussion of Mitigation

As described in the Land Use SA for the BEPTL, all actions associated with the DSWTP MSO would be in conformance with applicable BLM land use plans and any actions not in conformance would require the approval of a land use plan amendment. As the DSWTP MSO would be located within an existing utility corridor, this option would

minimize the number of separate rights-of-way and would encourage the joint use of utility corridors. Staff concludes that the DSWTP MSO is consistent with BLM and Commission principles, in that it would be located in an established corridor designated by BLM for this type of use. Based on these conclusions, staff finds that the DSWTP MSO is consistent with the California Desert Conservation Area Plan (CDCAP). To ensure compliance with BLM requirements, staff is proposing Condition of Certification **LAND-6**.

The DSWTP MSO would be constructed on approximately 41 acres of BLM land in unincorporated Riverside County (BLM and IID, 2005). The substation site would be adjacent to the existing DPV1 ROW. The DSWTP MSO site can be characterized as open space, with no residential or commercial development within the vicinity of the site. Because the substation site is situated on BLM lands, compliance with the standards of the Riverside County zoning ordinance is not required. The substation is consistent with and will not require an amendment to the CDCAP.

The DSWTP MSO would be constructed adjacent to existing electrical transmission lines and would be approximately 0.75 miles south of underground gas pipelines. Any potential conflicts with these utilities would be mitigated with standard engineering practices, including locating towers to reduce or eliminate any direct effects and maintaining standard electrical conductor height minimums in order to maintain a safe distance.

Conclusions

Staff's analysis of the project and the project's compliance with LORS finds that:

- The proposed project does not require any amendment to the CDCAP.
- The proposed project conforms to all BLM requirements for location within a designated utility corridor and does not conflict with existing land use plans, policies, or regulations.
- The proposed project does not conflict with current or proposed land uses.
- The proposed project would not prevent reasonable future utility uses of the utility corridor.
- The proposed project would not adversely affect wilderness areas, wilderness study areas, or other areas of special environmental concern.

Conditions of Certification

The following Conditions of Certification would be required to ensure that Land Use impacts would be less than significant:

- **LAND-6**

4.7 NOISE

Laws, Ordinances, Regulations and Standards

The Federal and State LORS listed in NOISE Table 1 would be applicable to the DSWTP MSO. As the site would be located away from developed areas, the Riverside County LORS listed would not be applicable to the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

The DSWTP MSO would be located away from developed areas, so no noise impacts on residences and businesses would occur. This DSWTP MSO, however, would expose construction workers to occupational noise hazards. Consequently, a Hearing Conservation Program and Personal Protective Equipment Program would be implemented as a part of construction activities to protect construction workers (BLYTHE 2004a, AFC § 5.13.2, Table 5.13-1). To ensure that construction workers are, in fact, adequately protected, the DSWTP MSO must comply with existing Condition of Certification **NOISE-3**.

The nearest residence or sensitive receptor to the DSWTP MSO site is more than four miles away. Therefore, no operational noise impacts are expected from the DSWTP MSO.

Conclusions

The DSWTP MSO, if built and operated in conformance with the proposed Conditions of Certification below, would comply with all applicable noise and vibration LORS, and would produce no significant adverse noise impacts, either direct or cumulative.

Conditions of Certification

The following Conditions of Certification would be required to ensure that Noise impacts would be less than significant:

- **NOISE-3**

4.8 SOCIOECONOMICS

Laws, Ordinances, Regulations and Standards

There are no applicable LORS for the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

The DSWTP MSO would be in a different location than the proposed BEPTL Midpoint Substation analyzed in the main body of the RSA/DEA. However, because the DSWTP MSO would include the same components and would be in the same region as the BEPTL Midpoint Substation, impacts associated with population and employment would be the same for the DSWTP MSO as for the BEPTL Midpoint Substation.

Construction of the DSWTP MSO is expected to require an average workforce of 60 workers, which would be small compared to Riverside County's 2001 workforce of 52,500. Very few workers would be expected to relocate to the area since staff has

observed that construction workers will typically commute as much as two hours one-way to work. Those workers that would relocate during construction would probably not bring their families. As described for the BEPTL in the main body of the RSA/DEA, Blythe Energy and staff agree that most construction workers would come from Riverside County. No population is expected to be displaced by the BEPTL.

According to Federal standards, permanent housing is considered to be in short supply if the vacancy rate is less than five percent (Cleary 1989). Staff does not expect any housing to be displaced (moved) as a result of this project. Sufficient vacant housing exists to accommodate any workers that elect to temporarily relocate to the DSWTP MSO site area. As of January 1, 2004, there were approximately 659,795 total housing units in Riverside County, with a vacancy rate of 13.3 percent. For the City of Blythe, there were 5,171 total housing units with a vacancy rate of 16.1 percent (California Department of Finance 2004). The Blythe area has approximately 23 motels with 1,100 rooms, 300 mobile home spaces, over 600 RV spaces, and additional apartments and condominiums (BLYTHE 2004a, AFC page 5.7-3). Again, most of the construction workforce would be expected to come from Riverside County residents. There is adequate supply of motel space to accommodate those workers who may relocate (most likely on a week-to-week basis).

Although the DSWTP MSO would be farther from the City of Blythe than the BEPTL Midpoint Substation, the City of Blythe would still be the closest developed area to the DSWTP MSO. Consequently, all fiscal and non-fiscal impacts would be the same as described for the BEPTL Midpoint Substation.

Operation of the DSWTP MSO would not require any addition to the current workforce, so the Palo Verde Unified School District would not likely experience any increase in enrollment due to construction and operation of the project. Additionally, as the DSWTP MSO would not permanently or significantly increase the population in the area, construction and operation of the DSWTP MSO would not result in significant demands on law enforcement or medical services, nor would it result in increased demands on public services such as water or waste disposal. The nearest residences would be more than four miles from the DSWTP MSO, so no populations, high-minority, low-income, or otherwise, would be affected by the DSWTP MSO and no communities would be broken up by the DSWTP MSO.

Conclusions

Estimated gross direct public benefits from the DSWTP MSO would include increases in sales taxes, employment, and income for Riverside County. For example, there are estimated to be 60 average direct project-related construction jobs for the period of construction. Staff concludes that the DSWTP MSO would not cause a direct or cumulative significant adverse socioeconomic impact on the study area's housing, schools, law enforcement, emergency services, hospitals, and utilities.

Conditions of Certification

None.

4.9 SOIL AND WATER RESOURCES

Laws, Ordinances, Regulations and Standards

All of the LORS listed in SOIL AND WATER RESOURCES Table 1 except for the City of Blythe water policies and goals would be applicable to the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

The direct and indirect impacts of the DSWTP MSO in the Soil and Water Resources technical area are primarily related to drainage, erosion, and sedimentation control during both the construction and operational phases of the DSWTP MSO. Most of the potential impacts would be expected to occur during construction, with a lower potential of occurring during the operation and maintenance phase of activities. These are discussed as follows.

Soil related issues in the project area include a high potential for wind and water erosion, especially while soils are disturbed during construction, lacking their normal, although limited, natural vegetative cover. All excavated soil at the DSWTP MSO site would be retained and placed onsite, with minimal grading needed. Topographic maps indicate that an ephemeral drainage could run through the DSWTP MSO site, and water could erode loose soil placed within the drainage. While the water erosion would not be expected to compromise the integrity of structures within the substation, the freshly disturbed area would be more likely to erode and transport/deposit sediment downstream within an ephemeral drainage, which would result in a significant adverse impact. To avoid a significant impact, the Applicant has established some general approaches for erosion and sediment control which include the following:

- Minimizing initial land disturbance and clearing within the working area;
- Segregating topsoil, stockpiling and replacing;
- Applying temporary and permanent erosion control measures; and
- Restoration of disturbed areas.

The Applicant proposes to use natural seed stock in the topsoil to germinate and re-establish vegetation, without planting of additional seed or more mature vegetation. The proposed revegetation methods for the DSWTP MSO appear adequate and applicable to the DSWTP MSO site.

Mitigation measures have been designed to reduce any soil erosion impacts to less than significant levels. Condition of Certification **SOIL AND WATER-1** requires the project owner to comply with all of the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity. At this time, the Applicant is preparing a combined Drainage, Erosion and Sedimentation Control (DESC)/Storm Water Pollution Prevention Plan (SWPPP), which will serve both the Commission's and Regional Water Quality Control Board's (RWQCB's) purposes. Condition of Certification **SOIL AND WATER-2** requires the project owner to obtain the Commission Compliance Project Manager's (CPM) approval for a site-specific final Drainage, Erosion and Sedimentation Control Plan (DESCP) that addresses all project elements and ensures protection of water and soil resources for both the construction

and operational phases of the project. Condition of Certification **SOIL AND WATER-3** requires the project owner to comply with all requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity. The project owner would be required to develop and implement a SWPPP for the operation of the DSWTP MSO.

The BLM requires the Applicant to prepare a plan of development to address use of existing roads and adjacent construction areas on BLM managed lands and mitigate any potential impacts. The plan is intended to include reviewing the need for installation of culverts and other road improvements if necessary on a site-specific basis to address construction impacts. Condition of Certification **SOIL AND WATER-12** requires the Applicant to prepare and submit the Access Road Use Plan to BLM for review and approval, and to the CPM with evidence that BLM has approved the plan prior to construction. Staff also may receive additional input from BLM as to recommendations for permanent BMPs including initial revegetation practices to disturbed soils and/or performance monitoring that could lead to subsequent erosion control treatment associated with the project that would be specified in the Final DESC/SWPPP and BLM's required plan of development to be approved by the CPM during the compliance phase of the construction activities.

The DSWTP MSO would not be located within a 100-year floodplain, or within an ephemeral drainage, and thus would not exacerbate flood conditions. It also appears unlikely that groundwater would be encountered or affected by the construction or operation of the DSWTP MSO.

The DSWTP MSO's potential for significant impacts to the local or regional water supply is considered to be low since the DSWTP MSO's estimated daily water use appears reasonable for the nature of construction activities proposed and is short-term (approximately 12-18 months); significant impacts to the water supply have not been identified and are not expected subject to the applicant securing and complying with agreements for purchasing water during construction. Condition of Certification **SOIL AND WATER-13** would assure the applicant properly secures and complies with its Water Supply Service Agreements during construction. In addition to providing the Commission with copies of its agreements prior to initiating construction, water use during construction would be monitored to confirm that the quantity and pattern of water use is reasonable and consistent with the supply agreements. Operation of the DSWTP MSO would not have significant impacts to water supplies since no permanent water or sewer facilities are proposed, nor is water needed for operation. Construction and operation of the DSWTP MSO would not generate any sanitary wastewater, since no new sewer facilities are proposed for the DSWTP MSO.

For the BEPTL analyzed in the main body of the RSA/DEA, staff requested and obtained a draft DESCP update to the plan, which the Applicant has combined with the SWPPP for both efficiency and comprehensiveness. This plan allows also for the evaluation of construction activities associated with the DSWTP MSO. The purpose of the draft plan is to provide staff with a document of sufficient detail that clearly identifies all potential impacts and mitigation measures, ensures only the minimum area necessary is disturbed, protects disturbed and sensitive areas, retains and controls sediment on-site, and minimizes off-site effects of water and wind erosion. The DSWTP

MSO must comply with all applicable LORS and incorporate all related requirements of other responsible agencies, to include Western, the BLM, the State Water Resources Control Board/Regional Water Quality Control Board (SWRCB/RWQCB), CA Department of Fish and Game, Metropolitan Water District, and Riverside County. For the purpose of staff's evaluation of the DSWTP MSO's impacts under CEQA, and based on the original and updated information provided by the Applicant in support of its draft DESC/SWPPP, the proposed BMPs and implementation plans appear adequate to demonstrate significant drainage and erosion impacts can be avoided or mitigated.

For the DSWTP MSO, an area of approximately 41 acres would be needed in total for construction laydown and permanent equipment. The area would be cut and filled using all existing material to create a plant grade. The area would be gravel-surfaced except for concrete foundations for the substation equipment. A perimeter road would encircle the switchgear and gravel area, and natural vegetation would grow on soil between the perimeter and fenced boundary. The site would be graded such that the post-development stormwater discharge would not exceed the pre-development stormwater flowrates consistent with Riverside County's regulations.

The Applicant would be required to design the DSWTP MSO facilities according to the Riverside County Hydrology Manual (Riverside 2005). Based on the Applicant's analysis, the DSWTP MSO would be designed to manage stormwater as follows:

1. During construction activities, the stormwater system will be capable of collecting and conveying runoff resulting from the 10-Year, 24-hour storm.

2. During operations, the stormwater system will avoid flooding of the site and will be capable of collecting and conveying runoff resulting from the 25-Year, 24-hour storm.

3. During operations, the site will be protected from major flood damage resulting from the 100-Year, 24-hour storm.

The surface drainage system for the DSWTP MSO would be designed to prevent flooding of the plant facilities and to avoid soil and water resource impacts from drainage discharging offsite from the substation. As part of the compliance phase, staff would need to review the specific site conditions for adequacy of proposed drainage facilities and calculations supporting the Applicant's pre- and post-development stormwater flow rate estimates. Similar to the proposed Midpoint Substation location associated with the BEPTL Project, staff may also recommend for the DSWTP MSO that the Applicant reconsider the need for erosion control fabric or other lining of the perimeter channels due to the erosive nature of the soils. These would be reviewed during compliance in accordance with Condition of Certification **SOIL AND WATER-2** during review of the final DESC/SWPPP.

Conclusions

With implementation of the recommended Conditions of Certification, staff concludes there would not be any significant adverse impacts to soil and water resources as a result of the DSWTP MSO and that the DSWTP MSO would comply with all applicable LORS. Staff's conclusions are based on the Applicant's response to issues identified in

their draft Drainage, Erosion and Sedimentation Control /Stormwater Pollution Prevention Plan (DESC/SWPPP), and the opportunity to remedy any outstanding issues during compliance. Where actual or potential impacts are identified, staff has recommended either elimination of the impact or mitigation measures to reduce the significance of the impact and, as appropriate, has recommended Conditions of Certification.

Staff reviewed the draft DESC/SWPPP and subsequent update filed in May 2005, and has recommended specific areas where additional clarification or details would serve to make the final DESC/SWPPP complete during the compliance phase of the project and to assure no significant adverse impacts occur to soil and water resources. These issues listed under Condition of Certification **SOIL AND WATER-2.**

Conditions of Certification

The following Conditions of Certification would be required to ensure that Soil and Water impacts would be less than significant:

- **SOIL AND WATER-1**
- **SOIL AND WATER-2**
- **SOIL AND WATER-3**
- **SOIL AND WATER-12**
- **SOIL AND WATER-13**

4.10 TRAFFIC AND TRANSPORTATION

Laws, Ordinances, Regulations and Standards

All of the LORS listed in TRAFFIC AND TRANSPORTATION Table 1 except for the City of Blythe General Plan Circulation Element would be applicable to the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

From a traffic standpoint, construction of the DSWTP MSO would generate the same number of trips as the BEPTL Midpoint Substation. Construction of the DSWTP MSO would require the use and installation of heavy equipment such as cranes, cement mixers and graders. As shown in the analysis of the BEPTL in the main body of the RSA/DEA, construction of the DSWTP MSO would generate an estimated average of 13 vehicle round trips per day during average months and 33 vehicle round trips per day during peak months. Construction of the DSWTP MSO would generate an estimated average of 10 peak hour round trips during average months and 26 peak hour round trips during peak months. As demonstrated in TRAFFIC AND TRANSPORTATION Tables 5 and 6 project construction worker traffic would not change LOS levels during peak periods.

Deliveries to the construction site would include small quantities of hazardous materials such as petroleum products and hydraulic fluids to be used during Substation construction. These deliveries of hazardous materials to and from the various sites would be conducted in accordance with Federal and State laws. Condition of

Certification **TRANS-3** in the original BEP decision requires compliance with Federal and State regulations for hazardous materials transport. The DSWTP MSO would continue to comply with this condition.

Transportation of equipment that would exceed the load size and limits of certain roadways would require special permits from Caltrans. California Streets and Highways Code, Sections 117 and 660-72, and California Vehicle Code 35780 et seq., require permits for the transportation of oversized loads on State and county roads. By law, Commission certification takes the place of all necessary State, local and regional permits. However, staff typically requires Applicants to get permits from Caltrans for oversized loads, encroachment and activities within road right-of-ways. Condition of Certification **TRANS-2** in the original certification for the BEP requires that the Applicant secure necessary encroachment permits from local and state agencies for encroachment rights within their right-of-way. The DSWTP MSO would continue to comply with this condition.

There are no height/weight restrictions or maximum street capacities for Riverside County roadways and highways in the proposed construction truck route. Condition of Certification **TRANS-1** in the original application for the BEP requires the Applicant to comply with county and Caltrans vehicle size and weight requirements. The DSWTP MSO would continue to comply with this condition. The proposed amended Condition of Certification **TRANS-8** requires a road mitigation plan for any roads damaged by oversize or overweight vehicles.

The local roads in the vicinity of the transmission line access points have minimal traffic congestion levels, with LOS expected to remain at C or above. Staff concludes that construction of the DSWTP MSO, including construction workforce commuting activity and truck traffic, would not affect emergency services access to or from the DSWTP Midpoint Substation site.

All design features of the highways, local roads and intersections that would be used during construction of the DSWTP MSO are to current Caltrans design standards and are not considered a hazard for construction workers driving to the construction site. Access points from the local roadway to the DSWTP Midpoint Substation site for rights-of-way will be designed in accordance with Riverside County Public Works standards.

Operation and maintenance of the DSWTP MSO would not require any additional labor force. Other project-related trips (i.e., delivery trucks to the site), are expected to be minor additions to surrounding local streets and highways and would not significantly affect the LOS levels of these roads.

Conclusions

With implementation of the recommended Conditions of Certification and continued compliance with conditions now in place for the BEP, the DSWTP MSO would be consistent with the Circulation Element of the County of Riverside General Plan and all other applicable LORS. The project would not have a significant impact on the local and regional road/highway network. During the construction phase, local roadway and

highway demand resulting from the daily movement of workers and materials would not increase beyond significance thresholds established by Riverside County.

Conditions of Certification

The following Conditions of Certification would be required to ensure that Traffic and Transportation impacts would be less than significant:

- **TRANS-1**
- **TRANS-2**
- **TRANS-3**
- **TRANS-8**

4.11 TRANSMISSION LINE SAFETY AND NUISANCE

Laws, Ordinances, Regulations and Standards

The majority of the LORS listed in TRANSMISSION LINE SAFETY AND NUISANCE Table 1 are applicable to the DSWTP MSO. Due to the distance between the DSWTP MSO and the Blythe Airport or any other airstrips, however, the FAA standards and regulations do not apply to the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

The DSWTP MSO would be built and maintained according to standard Western and SCE practices that minimize surface irregularities and discontinuities which would result in radio-frequency interference and corona-related audible noise. As the nearest populated area in the vicinity of the DSWTP Midpoint Substation would be more than four miles away, staff does not expect any corona-related radio-frequency interference or noise complaints resulting from the DSWTP MSO.

Standard fire prevention and suppression measures for all Western and SCE lines would be implemented for the DSWTP MSO (Blythe Energy 2004a, pages 5.14-6, 5.14-7 and 5.14-14 and 5.14-15). Blythe Energy's intention to ensure compliance with the clearance-related aspects of GO-95 would be an important part of this compliance approach. Moreover, the DSWTP MSO would be constructed in a mostly desert area without the trees that could pose a fire hazard from line contact.

Applicant's stated intention to implement the GO-95 measures against direct contact with energized lines (Blythe Energy 2004a, pages 5.14-14 and 5.14-15) at the DSWTP MSO would serve to minimize the risk of hazardous shocks. Staff recommends Condition of Certification **TLSN-1** to ensure implementation of the necessary mitigation measures. The potential for nuisance shocks around the DSWTP Midpoint Substation would be minimized through standard industry grounding practices (Blythe Energy 2004a, page 5.14-14).

Since optimum EMF-reducing measures would be incorporated into the DSWTP MSO design, and considering that the nearest developed area is more than four miles from the DSWTP MSO site, staff considers further mitigation to be unnecessary, but would seek to validate Applicant's assumed efficiency of EMF field strength reductions.

Conclusions

Long-term, mostly residential magnetic field exposure at the root of health concerns would be insignificant given the absence of residences in the vicinity of the DSWTP MSO. On-site worker or public exposure would be short term and at levels expected for Western and SCE facilities of similar designs and current-carrying capacity. Such exposure is well understood and has not been established as posing a significant human health hazard.

Since the DSWTP MSO would be designed to minimize the safety and nuisance impacts of specific concern to staff, and located with no nearby residences, staff does not recommend further mitigation and recommends approval of the proposed design and operational plan. If such approval were granted, staff would recommend that the Commission adopt the Conditions of Certification specified below to ensure implementation of the measures necessary to achieve the field reduction and line safety specified by the Applicant.

Conditions of Certification

The following Conditions of Certification would be required to ensure that Transmission Line Safety and Nuisance impacts would be less than significant:

- **TLSN-1**
- **TLSN-3**

4.12 TRANSMISSION SYSTEM ENGINEERING

Laws, Ordinances, Regulations and Standards

LORS as listed in the Transmission System Engineering (TSE) section of the RSA/DEA are also applicable to the DSWTP MSO 2 location.

Description of Proposed Transmission Modifications

The DSWTP MSO location would be about 5.2 miles northwest of the BEPTL Midpoint Substation (MS) preferred location. Consequently, the selected transmission line route from Buck Boulevard Substation would be 11.9 miles long with the DSWTP MSO as opposed to the 6.7 miles from the Buck Boulevard Substation to the BEPTL MS. The other BEPTL project, the proposed Buck Boulevard-Julian Hinds substation 230 kV transmission line, would remain unchanged. Changes in the description of the proposed BEPTL projects have been incorporated in Items 1.a, 1.b, 2.a & 2.b. of the Project Description section of the RSA/DEA.

Transmission System Impact Analysis and Mitigation

The DSWTP MSO would be constructed to accommodate the following transmission interconnections:

- Buck Boulevard-DPV1 230 kV line
- DSWTP 500 kV with 520 MW of generation output from the proposed Blythe II plant
- DPV2 500 kV

Staff discussed the system impacts of the BEPTL project at the DSWTP MSO with representatives of SCE and Blythe Energy during the Commission's workshop on August 16, 2006. Blythe Energy and SCE stated that because the BEPTL project have a higher interconnection queue position than the DSWTP; the location of the Midpoint Substation would have a negligible effect on differences in power flows or other impacts exclusively associated with the BEPTL project. Consequently, no new or supplemental System Impact Study for the proposed BEPTL project would be necessary for the DSWTP MSO. Staff was in agreement with Blythe Energy and SCE and concur that the identified system impacts and mitigation measures as stated in the TSE section of the RSA/DEA for the BEPTL MS preferred location would be the same for the DSWTP MSO location. Please refer to Response to Public and Agency Comments, TSE section of Appendix C.

Conclusions

Since the identified system impacts and mitigation measures associated with the proposed BEPTL project components would not be affected by either the preferred or DSWTP location of the Midpoint Substation, staff's conclusions and recommendations remain unchanged as stated in the RSA/DEA Transmission System Engineering section in the main body of this document.

Additional TSE Conditions of Certification

The additional Conditions of Certification suggested for the proposed BEPTL projects would remain the same for the DSWTP MSO in the RSA/DEA.

- **TSE–4**
- **TSE-11**

4.13 VISUAL RESOURCES

Laws, Ordinances, Regulations and Standards

The majority of the LORS listed in VISUAL RESOURCES Table 1 are applicable to the DSWTP MSO. As the DSWTP MSO would be located on a flat plain in unincorporated Riverside County, the Slope policies listed for the Riverside County General Plan would not be applicable to the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

Although the DSWTP MSO would be sited in an undeveloped area well away from most high-traffic viewpoints, the DSWTP MSO site could potentially be viewed from a number of areas. The DSWTP MSO would be located just southwest of the access road to Mule Mountains ACEC and approximately four miles from the nearest residence in the Mesa Verde residential community on Nicholls Warm Springs Road. The DSWTP MSO would also be approximately two miles south of I-10. Due to the flat nature of the landscape surrounding the DSWTP MSO site, viewers along I-10 and at residences in the Mesa Verde residential community would likely be able to see the substation.

From the south edge of the Mesa Verde residential area, the DSWTP MSO would create a weak visual contrast as the substation would be approximately four miles away

and silhouetted against the Palo Verde Mountains in the background. The substation would not dominate the view from the nearest residence. In addition, the DSWTP MSO would be consistent with existing visual features within the viewshed (e.g., transmission lines and structures), and would not change the landscape character of this scene. Overall the scenic quality which is now low would remain the same.

Similarly, the DSWTP MSO viewed from a distance of two miles away from I-10 would also be seen against the backdrop of the Palo Verde Mountains and in the context of the existing DPV1 transmission line. Consequently, the DSWTP MSO would not create any substantial new visual contrasts to viewers from I-10 and any resulting visual impacts would be less than significant.

Just as the Applicant has included measures to reduce lighting impacts at the BEPTL Midpoint Substation as analyzed in the main body of the RSA/DEA, lighting impacts resulting from the DSWTP MSO would also be reduced by the installing one low wattage light to guide workers from the entrance gate to the equipment control building. Any other lighting would be shielded and directed downward. The switchyard and electric transmission structures within the substation would be constructed using non-glare surface treatment(s) and fencing for the substation would be non-reflective.

Conclusions

Staff has determined that with the design features of the DSWTP MSO and the proposed mitigation measures instituted, the visual impacts of the DSWTP MSO would be less than significant.

Conditions of Certification

The following Conditions of Certification would be required to ensure that Visual Resources impacts would be less than significant:

- **VIS-6** *Site Surface Restoration*
- **VIS-7** *Surface Treatment of Project Structures and Buildings*
- **VIS-8** *Permanent Exterior Lighting*
- **VIS-9** *Signage*

4.14 WASTE MANAGEMENT

Laws, Ordinances, Regulations and Standards

All of the LORS listed in WASTE MANAGEMENT Table 1 are applicable to the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

Impacts resulting from existing contamination would be similar to the BEPTL, although as opposed to the BEPTL, no military ordinance contamination has been identified in the vicinity of the DSWTP MSO. With the general lack of waste-generating activities at the DSWTP MSO site, staff does not consider construction activities as warranting a remediation survey for generalized worker health protection.

Waste-generating activities for both construction and operation of the DSWTP MSO would produce non-hazardous solid waste such as metal, plastic, and wood, excess concrete, cardboard, and various non-hazardous empty containers. Operation of the DSWTP MSO would generate waste materials in much smaller amounts than that generated from the construction phase. Waste that cannot be recycled would be disposed of at the local Blythe Class III sanitary landfill. Non-hazardous liquid wastes would be managed as discussed in the **Soil and Water Resources** section. The Blythe Landfill is projected to remain operational until 2073 and presently accepts an average of 50 tons per day. The volume of non-hazardous wastes expected from construction and operation of the proposed project lines and related substations is expected to be a fraction of one percent of the Blythe Landfill's annual capacity. The total remaining capacity is estimated to be in excess of one million cubic yards, meaning that the volume of solid non-hazardous waste and unused excavation soil would be insignificant compared to the existing disposal capacity (Blythe Energy 2004a, page 5.12-3).

Hazardous wastes to be generated during construction and operation of the DSWTP MSO include liquid hazardous wastes such as cleaning solvents, caustic fluids, acids, chemical test liquids, and hydrocarbon-based compounds, and relatively small amounts of solid wastes including welding materials, dried paint, and joint-sealing compounds. Such wastes would be accumulated at satellite locations and then transported daily to the construction contractor's 90-day hazardous waste storage area located in the construction laydown area. The wastes thus accumulated would be properly manifested, transported and disposed of at a permitted hazardous waste management facility by a licensed hazardous waste collection and disposal company. Three regional hazardous waste disposal facilities (Kettleman Hills in King's County, Buttonwillow in Kern County, and Westmoreland in Imperial County) would be available for such disposal. These three Class I landfills collectively have an excess of 20 million cubic yards of capacity that translates into a remaining operational life of over 50 years. The relatively small amounts of hazardous construction and operation-related wastes would be insignificant relative to available disposal capacity.

Conclusions

Staff has determined that management of the wastes generated during construction and operation of the DSWTP MSO would not result in any significant adverse environmental impacts if the waste management measures proposed in the Amendment Request and for the existing Blythe Energy Project are implemented. Staff's analysis specifically shows that there would be no significant direct or cumulative impacts on the waste handling ability of the area's waste management facilities.

Conditions of Certification

None.

4.15 WORKER SAFETY AND FIRE PROTECTION

Laws, Ordinances, Regulations and Standards

All of the LORS listed in WORKER SAFETY Table 1 are applicable to the DSWTP MSO.

Assessment of Impacts and Discussion of Mitigation

Workers at the DSWTP MSO site would be exposed to loud noises, moving equipment, trenches, and confined space entry and egress problems. The workers may experience falls, trips, burns, lacerations, and numerous other injuries. They have the potential to be exposed to falling equipment or structures, chemical spills, hazardous waste, fires, explosions, and electrical sparks and electrocution. However, if construction and operation of the DSWTP MSO complies with all LORS, workers would be adequately protected from health and safety hazards.

The Safety and Health Program prepared by Blythe Energy for the BEPTL as described in the main body of the RSA/DEA as mitigation would also apply to the DSWTP MSO. As described in the main body of the RSA/DEA, this would include a Construction Safety and Health Program and an Operations and Maintenance Safety and Health Program. Both of these would include the following:

- Injury and Illness Prevention Program;
- Emergency Action Plan;
- Fire Prevention Plan;
- Personal Protective Equipment Program;
- Operations and Maintenance Written Safety Program; and
- Operations and Maintenance Safety Training Programs.

Conditions of Certification **WORKER SAFETY-1** and **2** would ensure that the Safety and Health Program prepared by Blythe Energy would be provided to the necessary agencies and are implemented as described in the main body of the RSA/DEA.

Conclusions

If Blythe Energy provides a Construction Safety and Health Program and an Operations and Maintenance Safety and Health Program as required by existing Conditions of Certification **WORKER SAFETY-1** and **2**, staff believes that the project would incorporate sufficient measures to ensure adequate levels of industrial safety, and comply with applicable LORS. The Safety and Health Programs apply to all project-related construction and operations. Staff also concludes that the DSWTP MSO would not have significant impacts on local fire protection services.

Conditions of Certification

The following Conditions of Certification would be required to ensure that Worker Safety and Fire Protection impacts would be less than significant:

- **WORKER SAFETY-1**
- **WORKER SAFETY-2**

5.0 CONCLUSION

Construction and operation of the DSWTP MSO would result in potentially significant impacts in a variety of environmental and engineering disciplines. Staff concludes that if the mitigation measures discussed in this document are implemented by the Applicant as required by the Conditions of Certification and all permits are obtained, the project would not result in any significant impacts and would be in compliance with all state, Federal, and local LORS. Additionally, with the Conditions of Certification in place, it is anticipated that any outstanding issues would be remedied during compliance. Staff also concludes that analysis shows that there would be no significant direct or cumulative impact to an environmental justice population.

6.0 REFERENCES

Blythe Energy, LLC, Blythe, California. (BLYTHE) 2004a. Petition for post certification amendment. Submitted to the Docket on October 12, 2004.

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7.0 LIST OF CONTRIBUTORS

Introduction and Purpose ..... Jack Caswell

Background for Analysis..... Jack Caswell and Susan Lee

Project Description of DSWTP Midpoint Substation..... Jack Caswell

Air Quality..... Gabriel D Taylor and Will Walters

Biological Resources..... Christopher Huntley, John Mathias, and Rick York

Cultural Resources..... Dennis P. McDougall, Joan George, and Susan K. Goldberg

Geology and Paleontology .....Patrick A. Pilling, Ph.D., P.E., G.E.

Hazardous Materials Management ..... Geoff Lesh, P.E. and Rick Tyler

Land Use..... Amanda Stennick and Jacob Hawkins

Noise and Vibration.....Steve Baker and Jacob Hawkins

Socioeconomics ..... Joseph Diamond and Jacob Hawkins

Soil and Water Resources.....John Kessler and Richard Sapuder

Traffic and Transportation ..... David Flores

Transmission Line Safety and Nuisance ..... .Obed Odoemelam, Ph.D.

Transmission System Engineering..... Susan Lee and Jacob Hawkins

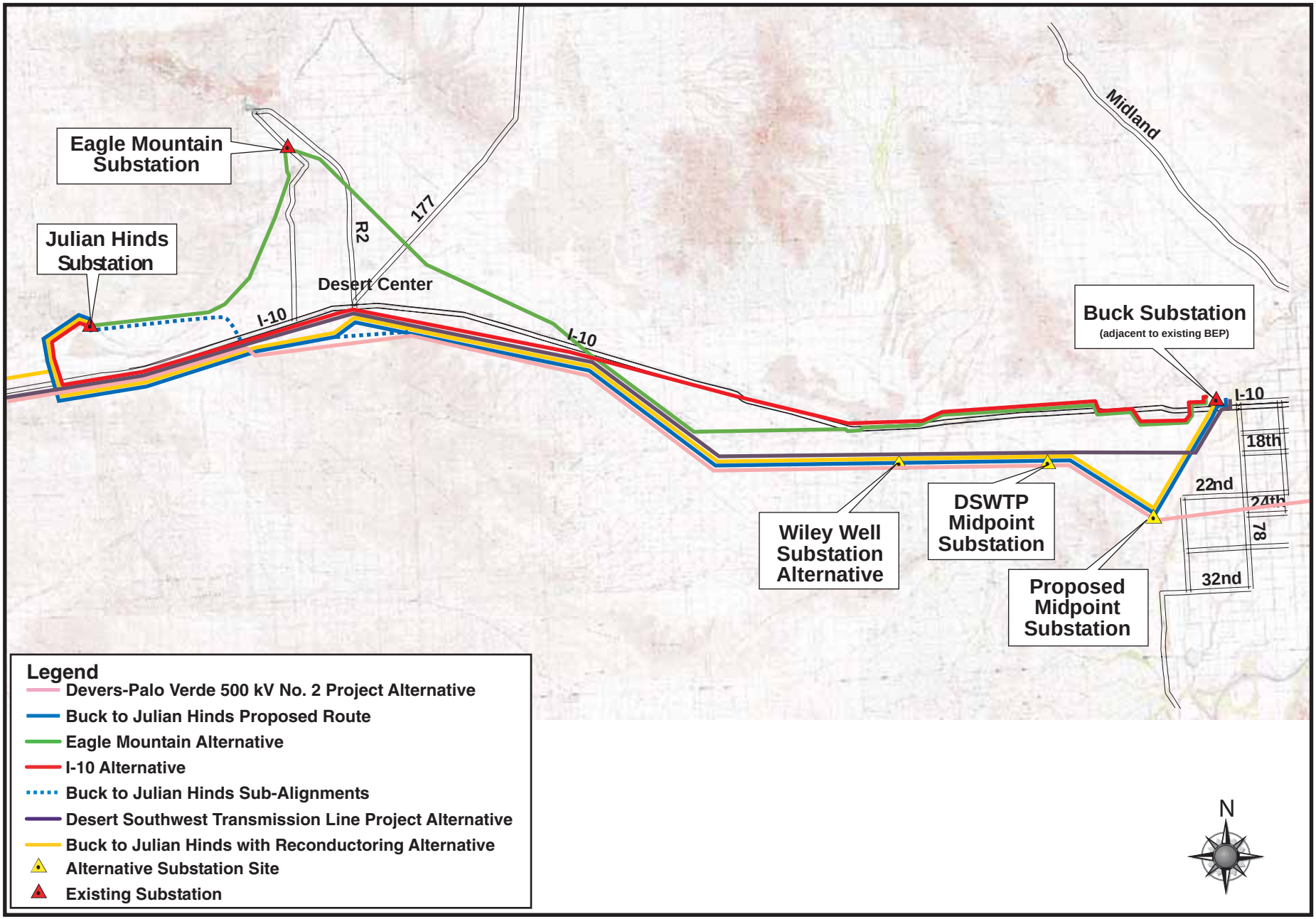
Visual Resources .....David Flores and Michael Clayton

Waste Management ..... Obed Odoemelam, Ph D.

Worker Safety and Fire Protection ..... Geoff Lesh, P.E. and Rick Tyler

APPENDIX B - FIGURE 1

Blythe Energy Transmission Line Project - General Area Map

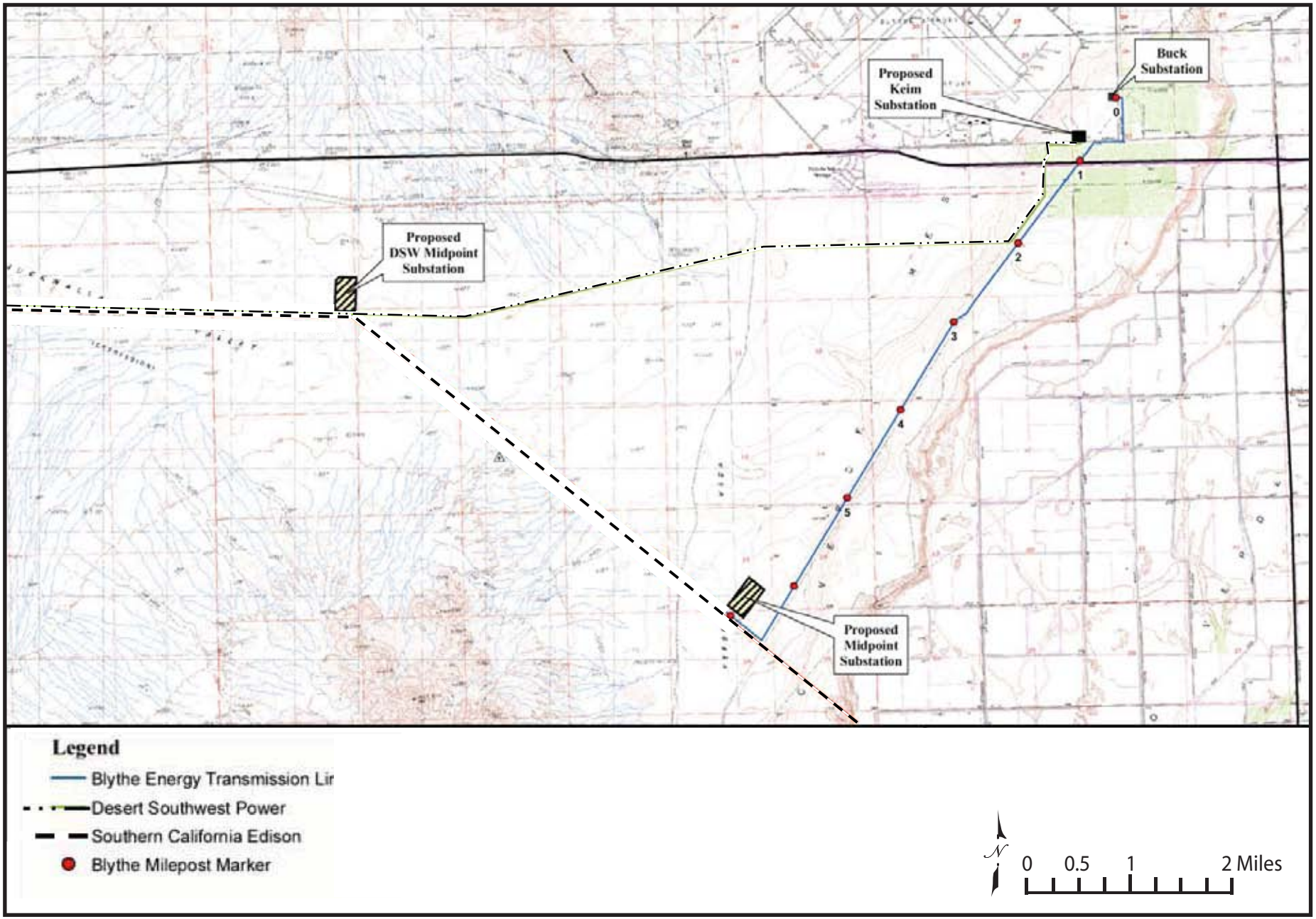


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, SEPTEMBER 2006

SOURCE: Blythe Energy, LLC.

APPENDIX B - FIGURE 2

Blythe Energy Transmission Line Project - Midpoint Substation Location & Pole Alignment

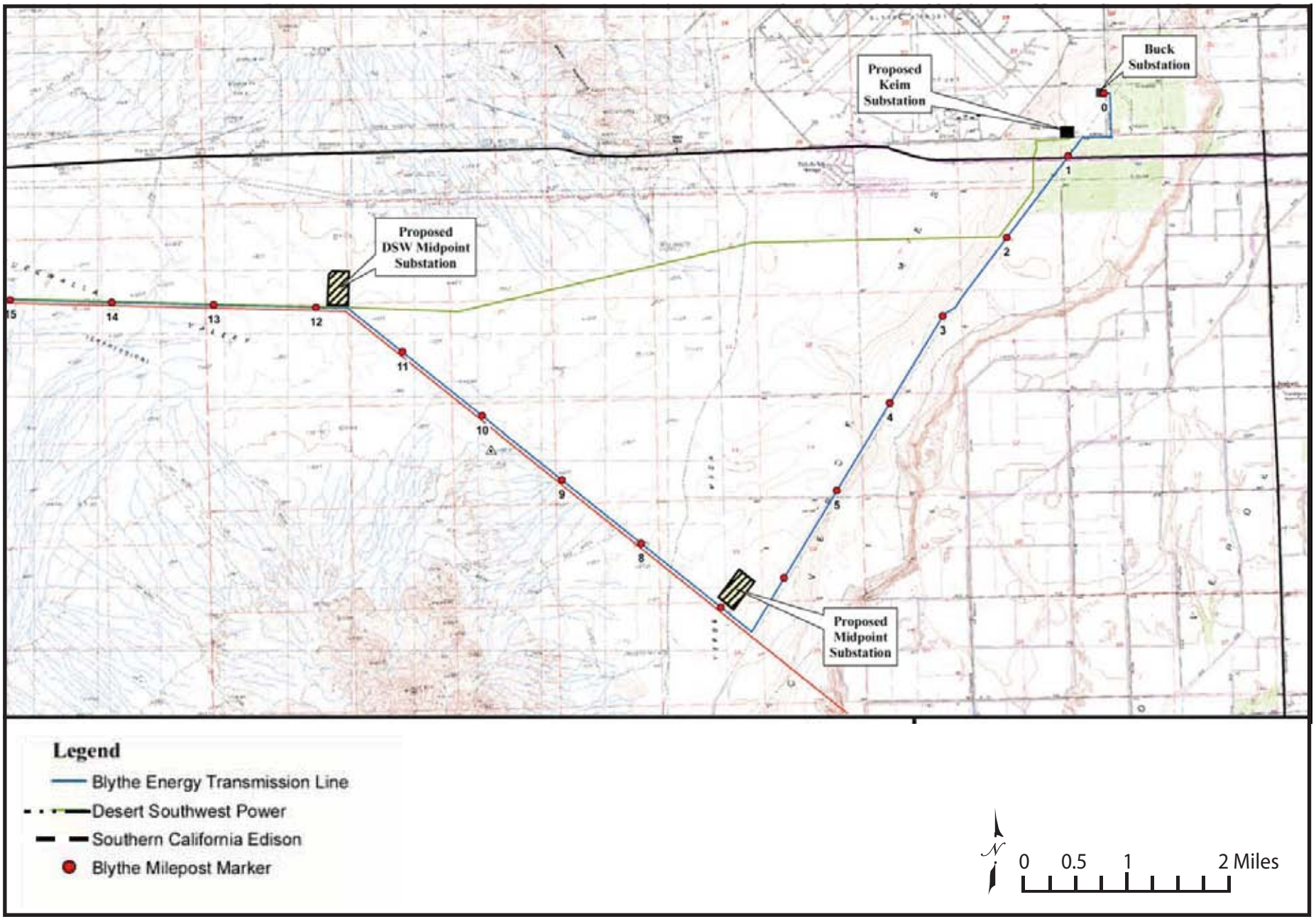


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, SEPTEMBER 2006

SOURCE: Petition to Amend the Blythe Power Plant, October 2004

APPENDIX B - FIGURE 3

Desert Southwest Transmission Project Option - Midpoint Substation Location & Pole Alignment



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, SEPTEMBER 2006

SOURCE: Petition to Amend the Blythe Power Plant, October 2004

APPENDIX C

RESPONSE TO COMMENTS ON THE STAFF ASSESSMENT DRAFT ENVIRONMENTAL ASSESSMENT FOR THE BLYTHE ENERGY PROJECT TRANSMISSION LINE MODIFICATION AMENDMENT PETITION

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RESPONSE TO COMMENTS FILED ON THE STAFF ASSESSMENT / DRAFT ENVIRONMENTAL ASSESSMENT

Testimony of Jack W. Caswell

1.0 INTRODUCTION

The following information was developed in response to comments received on the Energy Commission's Preliminary Staff Assessment and the Staff Assessment/Draft Environmental Assessment for the Blythe Energy Project Transmission Line Modifications amendment petition. Additionally, staff has considered prehearing briefs filed by: Blythe Energy LLC, Caithness Blythe II, LLC and the Metropolitan Water District. The following is a list of agencies, intervenors, and interested parties that provided comments or filed prehearing briefs on the SA/DEA published on May 25, 2006: South Coast Air Quality Management District, Blythe Energy, LLC, Caithness Blythe II, LLC, Metropolitan Water District and National Parks Service. Where appropriate the Conditions of Certification (COC) have been edited from the original license issued to Blythe Energy, LLC. The suggested changes to the COC are displayed in the main body of the Revised Staff Assessment / Draft Environmental Assessment (RSA/DEA) in Underline or ~~Strikethrough~~ for the COC published in the SA/DEA on May 25, 2006. All revisions to the COC published after the May 25th SA/DEA are displayed in Double Underline and ~~Double Strikethrough~~ in this RSA/DEA.

2.0 AIR QUALITY

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Comment

On March 29, 2005, the South Coast Air Quality Management District (SCAQMD) commented on the Preliminary Staff Assessment (PSA). SCAQMD expressed concern that this analysis did not quantify the potential construction emissions for comparison to established significance thresholds.

Response to Comment

Staff has prepared an estimate of the maximum daily emissions on the linear facility construction. This estimate is based on the mobile equipment list in Table 3.2-4 of the application (BLYTHE 2004a, pg. 3.23), SCAQMD composite emission factors obtained from South Coast (SCAQMD 2005c), and SCAQMD Air Quality Significance Thresholds (SCAQMD 2005b). This maximum estimate assumes that half of the listed maximum number of pieces of equipment are operating concurrently for six hours per day on a limited portion of the approximately 67.4 mile long linear construction site.

AIR QUALITY Table 3
Estimated Maximum Daily Construction Emissions

Equipment	#	CO	NOx	PM10
Bore/Drill Rigs	1	3.0	9.1	0.4
Cranes	2	4.4	13.9	0.7
Generator Sets	2	4.1	8.4	0.6
Graders	2	6.8	19.5	1.0
Off-Highway Trucks	4	18.4	74.9	2.7
Other Construction Equipment	5	18.8	44.4	2.1
Tractors/Loaders/Backhoes	1	2.5	5.1	0.5
Trenchers	1	2.3	3.9	0.4
Totals (lbs/day)		60.2	**179.2**	8.4
SCAQMD Thresholds (lbs/day)		550	100	150

Source: BLYTHE 2004a, CEC Staff calculations, SCAQMD 2005b and SCAQMD 2005c.

This estimate predicts that daily NO_x emissions would be significant. However, this is a conservative estimate since the construction equipment will be spread out among multiple structure erection sites, and some of the pieces of equipment would not function at the same time, or even in the same air quality district. Additionally, staff recommends that diesel powered construction equipment meeting SCAQMD Tier 1 emission standards be required (see Condition of Certification **AQ-SC5**), so that the daily NO_x emissions will be reduced below the SCAQMD threshold.

3.0 BIOLOGICAL RESOURCES

BLYTHE ENERGY

Comment

Blythe Energy requested eliminating the requirement in Condition of Certification **BIO-1** for an additional protocol level desert tortoise survey prior to the start of construction. Blythe Energy's request was based on the fact that protocol surveys were conducted in 2004 and 2005 and that pre-construction surveys will be conducted prior to construction.

Response to Comment

Staff reviewed Blythe Energy's request, and staff agrees with the request. Staff communicated as such in the workshop it held on August 16, 2006, and staff has removed the requirement for an additional protocol level desert tortoise survey from Condition of Certification **BIO-1**.

Comment

Blythe Energy requested changes to language in Conditions of Certification **BIO-16** and **BIO-17** to ensure that any interest accrued on funds deposited in the desert tortoise habitat compensation fee escrow account be returned to Blythe Energy.

Response to comment

Staff discussed this issue with Blythe Energy at the workshop on August 16, 2006. During the workshop, staff and Blythe Energy agreed that upon release of funds in the escrow account, interest on any portion of funds released to the Desert Tortoise Preserve Committee (DTPC) would also be released to the DTPC. Similarly, interest on any portion of funds returned to Blythe Energy would also be returned to Blythe Energy. Staff has clarified the language in Condition of Certification **BIO-17** to reflect this agreement.

Comment

Blythe Energy requested changes in Condition of Certification **BIO-17** to eliminate the provision that any funds in the escrow account that are unclaimed more than 180 days after approval of the final disturbance calculation and compensation report be dispersed to the DTPC.

Response to comment

Staff agrees with Blythe Energy's request and has rewritten Condition of Certification **BIO-17** to comply with the request and to ensure that all funds in the escrow account be dispersed within 30 days of the approval of the final habitat disturbance calculation and compensation report.

4.0 LAND USE

NATIONAL PARKS SERVICE

Comment

The National Park Service should be included as a relevant Federal agency and should be listed within the Land Use Table 1 since part of the project area is in and adjacent to Joshua Tree National Park. Include reference to the National Park Service and its applicable laws, as was done with Riverside County and U.S. Bureau of Land Management.

Response to comment

Staff has acknowledged the comments from the National Park Service (NPS) and has included the NPS as a relevant Federal agency in **LAND USE Table 1.** Staff contacted the NPS to determine which applicable laws the NPS would consider relevant to the project; it has not responded to staff's inquiries.

Comment

Metropolitan Water District determined that BEPTL's revised alignment of its transmission line on Hayfield Road would not interfere with Metropolitan's ability to use the airstrip that runs parallel with Hayfield Road.

Metropolitan Water District proposed an additional condition of certification requiring the project owner to obtain a right-of-way grant from Metropolitan for the protection and operation of its facilities.

Response to comment

The alignment was discussed at an August 16, 2006 staff workshop where Metropolitan Water District and Blythe Energy, LLC agreed that the preferred alignment was the revised one, as shown in Figure 3-1 in BEPTL's Supplemental Analysis, submitted to the California Energy Commission in August 2006.

Staff has included Metropolitan Water District's proposed condition in the Land Use COC's **Land 7** in the RSA/DEA.

5.0 SOIL AND WATER RESOURCES

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Comment

In its statement filed prior to the July 31, 2006 Prehearing Conference, the Metropolitan Water District (MWD) expressed concern for Blythe Energy's plans to draw a portion of its water needed for construction from MWD's supply in the Colorado River Aqueduct. MWD stated that it was unaware of any request by Blythe Energy to use Colorado River Aqueduct water, and had MWD been aware, it would have advised the applicant that such use is precluded by Section 132 of the MWD Act that forbids sale of water outside its service area.

Response to Comment

Following the July 31, 2006 Prehearing Conference, the applicant filed a Supplemental Analysis for the DSWTP Midpoint Substation Option and Alignments for Milepost 65.5 – 67.4 near Julian Hinds dated August 7, 2006. In this document, the applicant acknowledged MWD's concern, and proposed an alternate water supply from the Kaiser Eagle Mountain mining operation that would eliminate any project use of MWD's water supplies. Staff concurs with Blythe Energy that the issue can be resolved by the Blythe Energy's proposed alternate water supply from Kaiser Eagle Mountain mining operation. MWD has since confirmed that it also accepts this resolution as stated via teleconference by Diana Mahmud, Senior Deputy General Counsel for MWD, during the August 16, 2006 staff workshop held at the Energy Commission.

Staff has updated the RSA/DEA in several places to reflect the change in the applicant's proposed water supply for supporting construction on the western portion of the project. The edits are shown under the heading Construction and Operation Water Use in both the Environmental Setting section and Assessment of Impacts and Discussion of Mitigation section on pages 4.8-8 and 4.8-14 respectively. In addition, staff has proposed a new Condition of Certification **Soil and Water 13** on page 4.8-24, which would require the applicant to provide the Commission's Compliance Project Manager (CPM) with copies of its Water Supply Service Agreements prior to initiating construction, and copies of water use records during the course of construction. The proposed condition is intended to assure that the applicant secures agreements for its water supply and to monitor water use during construction.

Comment

In a statement filed prior to the July 31, 2006 Prehearing Conference, MWD expressed a desire to review and comment on the Drainage, Erosion and Sediment Control Plan (DESCP) in consideration that a part of the project would be constructed on MWD's property. Under the Verification of **Soil and Water 2**, MWD proposed to insert its name as a party who would have the opportunity to review and comment on the DESCP.

Response to comment

Staff concurs with MWD's request and has included MWD as a party who may review and comment on the DESCP prior to the applicant initiating construction, as reflected in the Verification of **Soil and Water 2** on page 4.8-23. The Applicant also expressed its concurrence with adding MWD as a reviewing party of the DESCP, as they stated during the August 16, 2006 staff workshop.

6.0 TRAFFIC AND TRANSPORTATION

NATIONAL PARKS SERVICE

Comment

Page 239-"Please clarify that the Hayfield Road does not provide access into the park, though it does provide access up to the park boundary."

Response to Comment

The RSA/DEA has been updated in the Setting section of the analysis to reflect this information.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Comment

"This SA/DEA section erroneously identifies Eagle Mountain Road and Hayfield Road as county roadways. In fact both are private roads on Metropolitan property."

Response to comment

The Setting section of the RSA/DEA has been corrected to reflect private ownership of these roadways.

Comment

MWD expressed concerns with the possible road damage from construction activities and acknowledgement of the responsible parties for the repair of the road damage if necessary. Blythe Energy suggested revisions to Metropolitan's proposed modifications to Condition **TRANS-8**.

Response to comment

TRANS-8 has been modified to include Blythe Energy as a responsible agency, insuring that any damage to roadways from the BEPTL construction activities will be repaired as identified under the verification section of **TRANS-8**.

7.0 TRANSMISSION SYSTEM ENGINEERING

BLYTHE ENERGY

Comment

Blythe Energy has requested modifications to the proposed Conditions of Certification **TSE-5** & **TSE-11**, because a public utility may construct and ultimately own the proposed BEPTL facilities and such public utility may be exempt from certain registration requirements for its project and responsible engineers.

Response to Comment

Staff has reviewed the matter and could not find any provision in laws (Professional Engineers Act) or State rules where any exemption of deployment of registered engineers for construction of transmission facilities by public utilities is mentioned. Additionally staff does not know yet who will do the construction. However, the Commission's general practice is to review the matter during compliance and act according to the circumstances. Staff, therefore, does not agree to any changes in the TSE Condition of Certification for the exemption of registered engineers.

Comment

Blythe Energy has requested all references to National Electric Code (NEC) requirements be deleted from the proposed Condition of Certifications **TSE-8** & **TSE-11** to accommodate the scenario that a public utility may design, construct and operate the proposed BEPTL facilities and such utilities are understood to be exempt from compliance with NEC requirements.

Response to comment

Staff concurs that according to the NEC manual, construction of facilities by public utilities is exempt from NEC requirements. However, instead of deleting references to NEC requirements in the Condition of Certifications staff prefers to keep the reference to NEC requirements in the proposed Condition of Certification's with a comment for an exception for construction of facilities by public utilities within parenthesis. Accordingly, staff has incorporated necessary changes in Condition of Certifications **TSE-8** & **TSE-11**.

Comment

Blythe Energy has requested modifications to Condition of Certification **TSE-8**, since Western does not issue a formal final interconnection approval letter in the same manner as the CAISO. Western's approval to construct the facility will be memorialized in the execution of a Transmission Facility Construction Agreement.

Response to comment

Staff has reviewed the matter and finds that according to Western interconnection rules, prior to start of construction of the proposed facilities Blythe Energy needs to sign a Transmission Facility Construction Agreement with Western and an interconnection agreement is signed only on completion of the construction. In view of the Transmission Facility Construction Agreement Western does not issue any formal interconnection approval letter. Staff has therefore, incorporated necessary changes in Condition of Certification **TSE-8**.

Comment

Blythe Energy has requested that proposed Condition of Certification **TSE-10** be modified to remove reference to "Western, DSW" and replace it with "Western" in order to avoid any confusion with the Desert Southwest Transmission Project (DSWTP).

Response to comment

Staff has reviewed the matter and replaced the Condition of Certification **TSE-8** reference to "Western, DSW", with "Western, DSW office" to avoid confusion with the DSWTP.

BLYTHE ENERGY AND SCE

Comment

Blythe Energy has submitted a copy of an email dated 8/2/06 received from John Tucker of Southern California Edison (SCE), which stated that it is SCE's belief that the impacts of moving the proposed Midpoint substation to the location proposed by DSWTP would be negligible from a power flow perspective. It would likely have negligible short circuit duty impacts as well. SCE would not need to perform a restudy of the System Impact Study (SIS). During the ratings study, SCE will be able to take a closer look at the short circuit duty impacts, if any. SCE's current Buck-DPV1 Facility study for Blythe Energy will take into account any cost differences related to the modified site location.

Response to comment

Staff discussed the matter with SCE's David Franklin and John Tucker and with Blythe Energy's Gary Palo during the Commission staff's workshop on August 16, 2006. Blythe Energy and SCE stated that because the BEPTL project has a higher interconnection position in SCE's queue than the DSWTP, changes to the Midpoint substation location for DSWTP will not affect the identified transmission impacts of the BEPTL projects. The system impacts exclusively related to the addition of the BEPTL projects with the BEPTL Midpoint substation option location have been identified in the SISs performed by SCE. Differences in power flows or other impacts for the BEPTL project due to the option of moving the Midpoint substation location should be negligible. Subsequently SCE has also performed a separate SIS for addition of both the BEPTL project and DSWTP with the new Midpoint substation option location.

Staff finds the reasons acceptable and notes that in the subsequent Facility and Ratings studies for the BEPTL project, SCE will take into consideration the option of moving the

Midpoint substation location. Staff, therefore, concurs with SCE that for the new DSWTP Midpoint location with and without the proposed DSWTP, there is no need for any new or supplemental SIS for the proposed BEPTL projects.

8.0 VISUAL RESOURCES

NATIONAL PARKS SERVICE

Comment

Page 269: Within the "Visual Resources **Table 1**" the National Park Service Dark Night Sky program is relevant to the "Light Pollution" section and should be referenced here.

Response to Comment

The Visual Resources **Table 1**, Laws, Ordinances, Regulations, and Standards section has been revised adding the National Parks Service as an applicable LORS agency.

Comment

Page 286: Under Permanent Exterior Lighting, there should be no allowances for "variances" related to architectural lighting. All lighting should be shielded to prevent light pollution. Discrepancies between the multiple approving entities for light pollution mitigation are not clear. NPS asked whether an expectation that unanimous agreement will be required prior to approval of a lighting plan.

Response to Comment

Under the section heading "PROPOSED AMENDED CONDITIONS OF CERTIFICATION", **VIS-8** was written as to not allow variances to the lighting conditions. All lighting will be shielded to prevent light pollution, particularly illumination into the nighttime sky. As indicated in the condition, the lighting requirements will be reviewed by the responsible agencies for consistency with CEQA, NEPA and LORS. The Energy Commission, BLM, and Western jointly prepared the RSA/DEA and are in agreement that the lighting requirements as outlined within **VIS-8** will be enforced as written.

9.0 WASTE MANAGEMENT

BLYTHE ENERGY

Comment

Blythe Energy requests that the proposed Condition of Certification, **Waste-6** be modified to reflect the fact that a general survey has already been conducted for readily detectable military ordnance along the route for the proposed line. None were discovered. Blythe Energy therefore, suggests that further surveys be focused on locations of past military activity or excavations since these are areas where such ordnance are most likely to be found if indeed there are any in the project area.

Response to Comment

Staff agrees with the comment and has revised Condition of Certification, **Waste-6** to change the focus of the recommended survey.

10.0 REFERENCES

FPL Energy, LLC/ G. Palo (FPL) 2006a (tn:37598). Supplemental Information in the Petition for Post Certification Amendment, Response to Prehearing Conference Statements. Dated 8/7/2006. Submitted to Dockets on 8/8/2006.

Metropolitan Water District/D. Mahmud (METROPOLITAN) 2006d (tn:37495). Metropolitan's Petition For Intervention. Dated July 26, 2006. Submitted to the Docket on July 28, 2006.

South Coast Air Quality Management District, Diamond Bar, California. (SCAQMD) 2005a. SCAQMD's Comments on the Preliminary Staff Assessment. Submitted to the Docket on March 30, 2005.

Department of Interior National Parks Service, J.Caswell/J.Kalish 2006a National Parks Service Comments on SA/DEA dated June 28, 2006. Submitted to the Docket on July 10, 2006.

11.0 LIST OF CONTRIBUTORS

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Biological Resources: John Mathias

Land Use: Amanda Stennick

Soil and Water Resources: John Kessler

Traffic and Transportation: David Flores

Transmission System Engineering: Mark Hesters

Visual Resources: David Flores

Waste Management: Obed Odoemelam

Staff Counsel: Paul Kramer

PREPARATION TEAM

BLYTHE TRANSMISSION LINE AMENDMENT (99-AFC-8C)
REVISED STAFF ASSESSMENT / DRAFT ENVIRONMENTAL ASSESSMENT
PREPARATION TEAM

Executive Summary	Jack Caswell
Introduction	Jack Caswell
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Air Quality	Gabriel D Taylor
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Noise and Vibration	Kevin Robinson and Steve Baker
Socioeconomics	Joseph Diamond
Soil and Water	John Kessler and Richard Sapuder
Traffic and Transportation	David Flores
Transmission Line Safety and Nuisance	.Obed Odoemelam, Ph.D.
Visual Resources	David Flores
Waste Management	Obed Odoemelan, Ph D.
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Transmission System Engineering	Ajoy Guha, MSEE, P.E. and Mark Hesters
Alternatives	Susan V. Lee
Appendices A, B, and C	Jack Caswell
Project Assistant	Keith A. Muntz, Dora Gomez and Angela Hockaday

DECLARATION OF
Jack W. Caswell, Project Manager

I, Jack W. Caswell

1. I am presently employed at the California Energy Commission, in the Siting Office of the Systems Assessments and Facilities Siting Unit as a Project Manager.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepare the staff testimony on the Executive Summary and Appendix A, B and C for the Blythe Energy Project Transmission Line Modification amendment based on my independent analysis of the amendment petition, supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify thereto.

   I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 9/7/06 Signed: _____

At: Sacramento, California

JACK W. CASWELL

California Energy Commission Project Manager

EXPERIENCE SUMMARY

Thirty Five years of experience in project and staff management: Energy Commission; Project Manager, State Water Resources Control Board, Business Management Officer, Electrical Construction, Supervisor for residential and commercial projects, Quality Control/ Quality Assurance, Supervisor in the steel manufacturing industry, United Steelworkers of America; Union Grievance Person and US Army SGT.

PROFESSIONAL EXPERIENCE

ENERGY COMMSSION PROJECT MANAGER 2000 to Present

California Energy Commission: Project lead for the following licensing and amendment processes; Western Midway (99-AFC-09), Hanford Energy Park (00-SPPE-1), Warnerville SRG (00-AFC-11), Huntington Beach GRS (01-AFC-13), Valero Cogeneration Project (01-AFC-05), Russell City Energy Center (01-AFC-7), Tesla Power Project (01-AFC-21), Kings River Conservation District Peaking Plant (03-SPPE-2) and Morro Bay Power Plant Project (00-AFC-12), Blythe Energy Project Transmission Line Modification (99-AFC-8C), Delta Energy 98-AFC-03C) and Los Medanos Energy Centers (98-AFC-01C), air quality minor amendments and transmission line major amendment (2005-2006).

FACILITIES BUSINESS MANAGEMENT OFFICER 1993 to 2000

State Water Resources Control Board: Associate Business Management Analysts (ABMA); senior technical person and project lead for real estate and construction; including construction budget analysis, project cost benefit analysis, project scope development. Lead staff person responsibility for the Facilities Analysis Section for Regional Water Quality Control Boards (RWQCB). Provide project recommendations to SWRCB Director and RWQCB Executive Officers. Project Manager for SWRCB facility system development state wide.

LEAD ELECTRICIAN 1990 to 1993

Department of General Services: Installation of electrical transmission lines and equipment; provide cost estimates, develop drawings, operation of small power generating plants, manage complex electrical projects, supervise contractors on state projects and develop maintenance procedures.

ELECTRICAL CONSTRUCTION SUPERVISOR 1981 to 1990

Electrical Contractors: Construction supervision for commercial construction projects; responsible for industrial manufacturing plants, water and sewer treatment plants, to include large residential projects. Responsible for the supervision of project staff, development of schedules, advised on technical engineering changes, and construction material ordering.

QUALITY CONTROL INSPECTOR 1973 to 1981

Steel Manufacturing: Conducted quality control inspections and implement quality assurance procedures in the steel manufacturing industry. Elected as a grievance representative in 1974; responsible for representing Sacramento local United Steelworkers of America membership in grievance proceedings with a local steel product manufacturing company.

US ARMY/RA 1970 to 1972

Infantry Sergeant/Fort Ord California and Fort Lewis Washington, Military Police, Pan Mun Jom Korea.

Education

- Sierra College
- State Training Center, Analyst Course Studies and Supervisory Development Program
- Electrical Construction Technical School

DECLARATION OF
Gabriel D. Taylor

I, **Gabriel D. Taylor** declare as follows:

1. I am presently employed by the California Energy Commission, in the **Environmental Office** of the Energy Facilities Siting and Environmental Protection Division as a **Mechanical Engineer.**

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepared the staff testimony on **Air Quality**, for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the amendment petition, supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

   I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 9/7/06 Signed: _____

At: Sacramento, California

Gabriel D. Taylor

1516 9th Street, MS 40, Sacramento, CA 95814
gtaylor@energy.state.ca.us
(916) 654-4482

OBJECTIVE

A position involving detailed problem solving, technical analysis and hands-on engineering with opportunities for professional growth.

EMPLOYMENT HISTORY

California Energy Commission, MECHANICAL ENGINEER, Sacramento, CA (Dec. 1999 – Present)
Systems Assessment & Facility Siting Division, Air Quality section. Reviewed and analyzed permit amendments and Applications For Certification (AFC) for power plants of greater then 50 MW output. Testified as an expert witness in support of my analyses.

General Electric Nuclear Energy, ENGINEERING CO-OP, San Jose, CA (Jan. – Aug. 1998)
Chemistry Technologies Group, Hydrogen Water Chemistry (HWC) division. Participated in the production process for HWC systems from the receipt of the purchase order through delivery. My duties included mechanical design & verification, AutoCAD drafting, complete document issuing, and factory acceptance testing.

Laney College, TEACHING ASSISTANT, Oakland, CA (Jan. – Dec. 1996)
Engineering 45 (Properties of Materials): Repaired laboratory equipment (including six metallurgical microscopes), prepared laboratory exercises and conducted lab sessions, graded thirty to thirty-five homework assignments per week, tutored students individually and in groups.

University of California, Berkeley, TECHNICAL TUTOR, Berkeley, CA (Aug. – Dec. 1996)
Privately tutored college students in Calculus, Linear Algebra & Differential Equations, Physics, Chemistry, Properties of Materials, and Engineering Statics.

Peet's Coffee & Tea, SALES ASSOCIATE, Emeryville, CA (April 1994 – July 1996)

COMPUTER SKILLS

- Windows 3.1/95/98
- MS-DOS
- UNIX
- Mac OS
- AutoCAD 13/14
- Claris CAD
- MathCAD 6.0
- Visio
- MS Excel
- MS Power Point
- MS Word 97
- HP-VEE
- DOS Batch Programming
- FORTRAN 77/90
- Hardware Assembly
- Software Installation

EDUCATION

University of California, Berkeley
Bachelor of Science
Double Major: Mechanical Engineering and Materials Science & Engineering
3.12 UCB GPA (1993 – Graduation)

Peralta Community College (Fall 1993 – Fall 1996)
4.0 Overall GPA

TECHNICAL COURSE WORK

- Bonding, Crystallography & Crystal Defects
- Corrosion & Electrochemistry
- Electronic Techniques for Engineers
- Energy, Politics and Society
- Engineering Mechanics
- Experimental Materials Science Laboratory
- Experimentation & Measurement Laboratory
- Fluid Dynamics & Applied Fluid Dynamics
- Heat & Mass Transfer
- Mechanical Behavior & Processing of Materials
- Mechanical Engineering Design Laboratory
- Phase Transformation & Kinetics
- Properties of Materials
- Technical Communication & Writing
- Thermal Environmental Control Systems
- Thermodynamics

RECOGNITION & ACTIVITIES

- Published: "The Challenges Facing Hydroelectric Power" in The California Engineer (Fall 1997)
- Hazardous Waste Operations and Emergency Response Certified (HAZWOPER, Title 8 CCR 5192)
- President, UC Berkeley Materials Science & Engineering Association (MSEA) (Fall 1997)
- Industry Liaison, UC Berkeley Engineer's Joint Council (Fall 1997)
- MSEA Representative to the UC Berkeley Engineer's Joint Council (Spring 1997)
- Member of the UC Berkeley Materials Science & Engineering Association (MSEA)

DECLARATION OF
John Mathias

I, **John Mathias,** declare as follows:

1. I am presently employed by the California Energy Commission in the **Environmental Office** of the Energy Facilities Siting and Environmental Protection Division as an Energy Analyst **for the Biological Resources Unit.**

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepared the staff testimony on **Biological Resource** for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the **Amendment Petition,** supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: August 31, 2005 Signed: _____

At: Sacramento, California

John Mathias

Energy Analyst

Education

Brown University, Providence, Rhode Island
Bachelor's Degree - Biology *1996*

Selected course work:

- **Biology**: Ecology; Evolutionary Biology; Animal Behavior; Behavioral Ecology; Plant Biology; Mammalian Physiology; Radiation Health Hazards
- **Chemistry**: Introductory Chemistry; Thermodynamics, Reactions, and Inorganic Chemistry
- **Math**: Applied Mathematics I and II; Intermediate Calculus - Differential Equations
- **Engineering**: Mechanics and Engineering Computations; Engineering Dynamics and Vibrations

Univeristy of California Davis Extension, Sacramento, California *2004*
Course work: California Environmental Quality Act: A Step-by-Step Approach

Work Experience

California Energy Commission, Sacramento, California *2005-present*
Energy Analyst / Biologist

- Prepare technical analyses assessing biological resource implications of proposed power plant projects
- Evaluate compliance with power plant condition of certification related to biological resources
- Review biological section of EIRs submitted to the California Energy Commission
- Gather, tabulate, and analyze data relating to biological resources

University of Chicago, Far North Queensland, Australia *1997*
Biological Field Research Assistant

- Researched red-backed fairy wren mating behavior
- Improved study design by identifying relevant data and creating data collection protocols

Fire Island National Seashore, New York *1997*
Field Biologist for Division of Natural Resource Management

- Wrote report detailing research findings and issuing recommendations regarding habitat management
- Educated the public about threatened/endangered species and environmental laws
- Monitored compliance with environmental laws
- Completed piping plover habitat suitability study

DECLARATION OF
Richard York

I, **Richard York** declare as follows:

1. I am presently employed by the California Energy Commission in **the Environmental Protection Office** of the **Systems Assessments and Facilities Siting Division** as a **Planner III**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepared the staff testimony on **Biological Resources** for the Blythe Transmission Line Project based on my independent analysis of the application and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 10, 2006 Signed: Richard York

At: Sacramento, California

RICHARD YORK

WORK EXPERIENCE SUMMARY

Experienced in biological resource assessment including endangered species surveys, field survey protocols, endangered species mitigation and monitoring, coordination with state and federal agencies, and wetland delineation. Educational background emphasized biological resources, plant identification and taxonomy, general ecology, and herbarium specimen curatorship.

WORK EXPERIENCE

1989 – to date **PLANNER II, California Energy Commission.** I provide independent biological resource assessments of proposed energy facilities and review implementation of biological resource conditions of certification required by the Warren-Alquist Act and the California Environmental Quality Act. Once energy facilities are constructed and operating, I am responsible for making sure each facility operates in compliance with associated biological resources conditions of certification. These conditions of certification involve endangered species protection, habitat restoration and monitoring, off-site habitat compensation, and wildlife surveys.

I am also involved with various preserves in the San Joaquin Valley (Semitropic Ridge and Lokern) that were established with Energy Commission mitigation funds. Also, I edited the endangered species and sensitive biological resource policy paper for the California Energy Commission's Energy Facilities Siting and Environmental Protection Division.

1986 - 1989 BOTANIST, The Nature Conservancy. Collected, mapped and computerized rare plant location and ecological information for the California Natural Diversity Data Base while under contract to the California Department of Fish and Game. Required statewide coordination with many other botanists, some field work, and management of contracts.

1980 - 1986 **BOTANIST, California Native Plant Society.** Compiled and co-edited the 3rd edition of the California Native Plant Society's statewide *Inventory of Rare and Endangered Vascular Plants of California.* Work involved field surveys, attendance at public meetings and statewide board meetings, coordination and supervision of volunteers, data base management and quality control, endangered species regulatory review and comment, coordination with state and federal agencies, and writing special plant status reports.

1975 - 1980 **BOTANIST/RANGE TECHNICIAN** (Bureau Land Mgmt., Wyoming)
HERBARIUM ASSISTANT (Humboldt State University)
RESEARCH ASSISTANT (California Native Plant Society)
PARK AIDE (California Department of Parks and Recreation)
PRIVATE BOTANICAL CONSULTANT (Six Rivers National Forest)

EDUCATION

- B. S. **BOTANY**, 1979, Humboldt State University, Arcata, California
- B. A. **PSYCHOLOGY**, 1979, Humboldt State University, Arcata, California

AWARDS

- 1992 RARE PLANT CONSERVATION AWARD – California Native Plant Society

PROFESSIONAL AFFILIATIONS

- California Native Plant Society
- California Botanical Society
- The Nature Conservancy
- Interagency Botanists

DECLARATION OF
Gary Reinoehl

I, **Gary Reinoehl** declare as follows:

1. I am presently employed by the California Energy Commission in the **Environmental Office** of the Energy Facilities Siting and Environmental Protection Division as a **Planner II.**

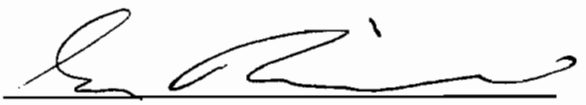
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepare the staff testimony on **CULTURAL RESOURCES SECTION**, for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the **Amendment Petition,** supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: August 31, 2005 Signed: 

At: Sacramento, California

Gary L. Reinoehl
9156 Linda Rio Drive
Sacramento, CA 95826
(916) 363-9156
email: garreb@quiknet.com

Education

School	Field	Degree	Year
Portland State University	Major: Mathematics Minor: Anthropology	Bachelor of Arts	1969
Sonoma State University	Cultural Resources Management	Master of Arts	1998

Experience

State of California, California Energy Commission *2000 to present*
Planner
Duties: Review cultural resources studies submitted to the Commission by energy permit applicants. Write data request in accordance with Commission regulations. Assess eligibility of cultural resources under California Register of Historical Resources criteria. Write Preliminary and Final Staff Assessments for cultural resources, including conditions for the permit to assure the impacts to cultural resources are minimized to be less than significant, if possible. Develop mitigation measures to minimize impacts to cultural resources. Review and evaluate the work of consultants. Provide testimony to commissioners in Evidentiary Meetings. Work with other staff to draft changes in the Commission regulations. Review and provide comments to Compliance Project manager regarding compliance with Conditions of Certification. Consult and coordinate with staff from other agencies.

State of California, Department of Transportation *1999 to 2000*
Associate Environmental Planner
Duties: Conduct background research and prepare environmental documents for a variety of highway projects. Assess environmental impacts in accordance with the California Environmental Quality Act and the National Environmental Policy Act. Request permits from various state and federal agencies. Request record searches, conduct historic property surveys, write historic property survey reports, and coordinate with other agencies. Work with Project Management teams and other specialists to meet project deadlines.

State of California, Department of Parks and Recreation *1982 to 1999*
Associate State Archeologist
Duties: Inventory of park properties and State lands from the north coast to the southern desert, including prehistoric sites, historic sites and historic buildings. Excavate prehistoric and historic sites within State Parks for both test purposes and data recovery. Design inventory strategies and excavation strategies for projects on State lands and within State Parks. Provide mitigation measures for projects under the California Environmental Quality Act. Work with historians preparing detailed historic structures reports.
Other Duties: Catalogue and analyze archeological collections; write archeological reports; work with maintenance staff, equipment operators, construction crews, managers, rangers, historians, architects, engineers, personnel staff, accounting staff, convict crews, and the general public; supervise seasonal employees and volunteers; work in both state (California Environmental Quality Act) and federal (National Historic Preservation Act) regulatory contexts and provide advice on the Archeological

Resource Protection Act, the Native American Graves Protection and Repatriation Act, National Environmental Protection Act, and State Burial Laws; write programmatic agreements and memorandum of agreements under Section 106 of the National Historic Preservation Act; work with Federal agencies, private contractors, and local agencies; and develop public outreach and educational materials.

Sacramento Archeological Society *1994 to 2002*
Member of Board of Directors
Planned activities of board and society as Director of Board for two and one half years. Worked with board members to ensure smooth and efficient operation of the Society. Worked with professional archeologists in providing educational and practical experience for the interested public. Assisted in fund raising and public outreach activities for the Society. Coordinated with other interested groups and agencies to enhance the Society's activities.

California Institute for Peruvian Studies *1986 to 1987*
Travel Coordinator and archeological crew chief
Advanced planning for filed trips to Peru, escorted volunteers while in Lima, Peru, and while continuing their trip until arrival in Acari, Peru. Supervised field crews and coordinated recording and detailed mapping of Nazca period structural remains and other sites in Acari Valley.

Additional Experience *1972 to 1982*
Eastern Washington University, U.S. Forest Service (Ochoco National Forest), National Park Service (Petroleum Reserve #4, Alaska; Fort Vancouver National Monument, Vancouver, WA), Archaeological Associates - Northwest, Archaeological Resources Consulting, California State Parks, Oregon Archaeological Society

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Professional Societies
Society for California Archeology
Society for Historical Archeology
Society for American Archeology
California Council for the Promotion of History

DECLARATION OF
Geoffrey Lesh, P.E.

I, **Geoffrey Lesh** declare as follows:

1. I am presently employed by the California Energy Commission in the **Engineering Office** of the Energy Facilities Siting and Environmental Protection Division as a Mechanical Engineer.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Hazardous Materials Management**, and on **Worker Safety and Fire Protection**, for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the **Amendment Petition,** supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: July 13, 2005 Signed: 

At: Sacramento, California

Geoffrey Lesh, P.E.
Mechanical Engineer

WORK HISTORY

California Energy Commission Mechanical Engineer 2002 - Current
• Review and analyze applicants' plans for safe management of hazardous materials, and for protecting worker safety.

Self-Employed Independent Investor 2000 - 2002
• Wrote market analysis computer software and traded personal account.

Read-Rite Corp Wafer Engineering Manager 1994 - 2000
• Designed and developed wafer manufacturing processes for computer data storage systems. Managed team of engineers and technicians responsible for developing wet and dry chemical processes for manufacturing, including process and safety documentation.
• Managed process and equipment selection for manufacturing processes.
• Processes included vacuum processed metals and ceramics, grinding-polishing, plating, etching, encapsulation, process troubleshooting, and SPC reporting.

Dastek Corp (Komag Joint Venture Start-up) Wafer Engineering Manager 1992 - 1994
• Developed wafer processes for new technology recording head for hard disk drives.
• Managed team of engineers and technicians.
• This position included start-up of wafer fab, including line layout, purchase, installation, and startup of new process equipment, etc.

Komag, Inc Alloy Development Manager 1989 - 1992
• Developed new vacuum-deposited recording alloys
• Responsible for planning and carrying-out tests, designing experiments, analyzing results, managing test lab conducting materials characterizations.
• Extensive process modeling and data analysis.

Verbatim Corp (Kodak) Process Development Manager 1983 - 1989
• Mechanical engineering for computer disk manufacturing, including product, process, and equipment including metal-ceramic-plastic processes for optical disk development.
• Production processes included plating, metal evaporation, reactive sputtering, laser-based photolithography, injection molding.
• Steering Committee Member, *Center for Magnetic Recording Research, UC San Diego*

IBM Corp Mechanical/Process Engineer 1977 - 1983
• Product development for photocopiers and computer tape-storage systems.

EDUCATION

Stanford University, Master of Science Degree	Materials Science and Engineering
UC-Berkeley, Bachelor of Science Degree (Double Major)	Mechanical Engineering, Materials Science and Engineering
University of Santa Clara, Graduate Certificate	Magnetic Recording Engineering
Registered Professional Engineer, California	Mechanical #M32576 Metallurgical #MT1940

DECLARATION OF
Rick Tyler

I, **Rick Tyler** declare as follows:

1. I am presently employed by the California Energy Commission in the **Engineering Office** of the Energy Facilities Siting and Environmental Protection Division as a Mechanical Engineer.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I supervised the preparation of the staff testimony on **Hazardous Materials Management**, and on **Worker Safety and Fire Protection**, for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the **Amendment Petition,** supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: July 13, 2005 Signed: 

At: Sacramento, California

RICK TYLER

Associate Mechanical Engineer

CALIFORNIA ENERGY COMMISSION

EDUCATION B.S., Mechanical Engineering, California State University, Sacramento. Extra course work in Statistics, Instrumentation, Technical Writing, Management; Toxicology, Risk Assessment, Environmental Chemistry, Hazardous Materials Management, Noise Measurement, and regulations regarding control of toxic substances.

Near completion of course work necessary to obtain a certificate in hazardous materials management from University of California, Davis.

EXPERIENCE

Jan. 1998-Present — California Energy Commission - Senior Mechanical Engineer
Energy Facility Siting and Environmental Protection Division

Responsible for review of Applications for Certification (applications for permitting) for large power plants including the review of handling practices associated with the use of hazardous and acutely hazardous materials, loss prevention, safety management practices, design of engineered equipment and safety systems associated with equipment involving hazardous materials use, evaluation of the potential for impacts associated with accidental releases and preparation and presentation of expert witness testimony and conditions of certification. Review of compliance submittals regarding conditions of certifications for hazardous materials handling, including Risk Management Plans Process Safety Management.

April 1985-Jan. 1998 — California Energy Commission - Health and Safety
Program Specialist; Energy Facility Siting and Environmental Protection Division.

Responsible for review of Public Health Risk Assessments, air quality, noise, industrial safety, and hazardous materials handling of Environmental Impact Reports on large power generating and waste to energy facilities, evaluation of health effects data related to toxic substances, development of recommendations regarding safe levels of exposure, effectiveness of measures to control criteria and non-criteria pollutants, emission factors, multimedia exposure models. Preparation of testimony providing Staff's position regarding public health, noise, industrial safety, hazardous materials handling, and air quality issues associated with proposed power plants. Advise Commissioners, Management, other Staff and the public regarding issues related to health risk assessment of hazardous materials handling.

Nov. 1977-
April 1985

California Air Resources Board - Engineer (last 4 years Associate level)

Responsible for testing to determine pollution emission levels at major industrial facilities; including planning, supervision of field personnel, report preparation and case development for litigation; evaluate, select and acceptance-test instruments prior to purchase; design of instrumentation systems and oversight of their repair and maintenance; conduct inspections of industrial facilities to determine compliance with applicable pollution control regulations; improved quality assurance measures; selected and programmed a computer system to automate data collection and reduction; developed regulatory procedures and the instrument system necessary to certify and audit independent testing companies; prepared regulatory proposals and other presentations to classes at professional symposia and directly to the Air Resources Board at public hearings. As state representative, coordinated efforts with federal, local, and industrial representatives.

PROFESSIONAL AFFILIATIONS/ LICENSES

Past President, Professional Engineers in California Government Fort Sutter Section;
Past Chairman, Legislative Committee for Professional Association of Air Quality Specialists. Have passed the Engineer in Training exam.

PUBLICATIONS, PROFESSIONAL PRESINTATIONS AND ACCOMPLISHMENTS

Authored staff reports published by the California Air Resources Board and presented papers regarding continuous emission monitoring at symposiums.

Authored a paper entitled "A Comprehensive Approach to Health Risk Assessment", presented at the New York Conference on Solid Waste Management and Materials Policy.

Authored a paper entitled "Risk Assessment A Tool For Decision Makers" at the Association of Environmental Professionals AEP Conference on Public Policy and Environmental Challenges.

Conducted a seminar at University of California, Los Angeles for the Doctoral programs in Environmental Science and Public Health on the subject of "Health Risk Assessment".

Authored a paper entitled "Uncertainty Analysis -An Essential Component of Health Risk Assessment and Risk Management" presented at the EPA/ORNL expert workshop on Risk Assessment for Municipal Waste Combustion: Deposition, Uncertainty, and Research Needs.

Presented a talk on off-site consequence analysis for extremely hazardous materials releases. Presented at the workshop for administering agencies conducted by the City of Los Angeles Fire Department.

Evaluated, provided analysis and testimony regarding public health and hazardous materials management issues associated with the permitting of more than 20 major power plants throughout California.

Developed Departmental policy, prepared policy documents, regulations, staff instruction, and other guidance documents and reference materials for use in evaluation of public health and hazardous materials management aspects of proposed power plants.

Project Manager on contracts totaling more than $500,000.

RES.RT

DECLARATION OF
Amanda Stennick

I, **Amanda Stennick** declare as follows:

1. I am presently employed by the California Energy Commission in the **Environmental Protection Office** of the Energy Facilities Siting Division as a **Planner II.**

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Land Use,** for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the amendment petition, supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

   I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: September 7, 2006 Signed: Amanda Stennick

At: Sacramento, California

AMANDA STENNICK

EDUCATION

B.A. 1986 University of California, Davis, Urban and Economic Geography

WORK EXPERIENCE

Oct. 1993 to April 1998 **Planner I.** California Energy Commission, Energy Facilities Siting and Protection Division.

Provide technical analysis of proposed energy planning, conservation, and development programs on land use and socioeconomic resources. Specific tasks include the analysis of potential impacts, identification of suitable mitigation measures, preparation of testimony, and project monitoring to ensure compliance with local, state and federal environmental laws and regulations. Recent work includes participation in the environmental justice task force, and preparation of environmental justice white paper, presented to Commissioners; research and preparation of discussion on discount rates and net present value for the SFEC siting project; preparation of socioeconomic section on 1996 Quincy Library Group Report; preparation of forestry section on 1997 CEC Global Climate Change Report; ongoing demographic research for environmental justice issues in siting cases.

April 1998 present **Planner II.** California Energy Commission, Energy Facilities Siting and Protection Division.

Provide technical analysis of proposed energy planning, conservation, and development programs on land use and socioeconomic resources. Specific tasks include the analysis of potential impacts, identification of suitable mitigation measures, preparation of testimony, and project monitoring to ensure compliance with local, state and federal environmental laws and regulations. Recent work includes participation in the environmental justice task force, and preparation of environmental justice white paper, presented to Commissioners; research and preparation of discussion on discount rates and net present value for the SFEC siting project; preparation of socioeconomic section on 1996 Quincy Library Group Report; preparation of forestry section on 1997 CEC Global Climate Change Report; ongoing demographic research for environmental justice issues in siting cases.

1992 to 1993 **Environmental Analyst/Planner.** Beak Consultants.

Environmental Planner for EIR/EA for the Mammoth County Water District, involving the analyses of potential impacts resulting from lake water transfers and maintenance of instream flows in the Mammoth Lakes Basin. Prepared land use, socioeconomics, recreation, and public services and utilities sections of EIR/EA.

Environmental Planner for an Effluent Treatment Plant EIR for Simpson Paper company. Prepared land use, socioeconomics, recreation, public services and utilities, cumulative impacts sections, and mitigation monitoring.

Environmental Planner for Folsom/SAFCA Reoperation. Work involved determining parameters of project description with respect to water modeling, project geographic boundaries, and agency jurisdictional boundaries; compliance with federal, state, and local plans and policies.

1990 to 1992 **Environmental Analyst/Project Manager.** ECOS. Inc.

Project Manager/Planner. EIR for a Planned Development, General Plan Amendment, and rezone request for a 504-acre Business and Industrial Park expansion for the Port of Sacramento. Prepared work scope and budget for Public Improvements Plan and a Specific Plan for 80-acre Mixed Use/Water Related development; and Mitigation Monitoring Plan and Statement of Overriding Considerations for the City of West Sacramento. Specific tasks included coordination with subcontractors on technical sections of EIR; meetings with Assistant Port Director and City staff to present Public Improvements Plan, Specific Plan, tentative parcel map, and critical project phasing; discussion with CDFG and Port staff on regional approach to mitigation for project-impacted endangered species.

Project Manager/Planner. EIR for the Wildhorse Residential/Recreational Planned Development for the City of Davis. Specific tasks included CEQA compliance, writing technical sections on land use, project alternatives, and cumulative impacts, and determining appropriate project alternatives as based on traffic models and allowable housing densities.

Project Manager. Yolo County Powerline Ordinance. Project tasks included developing siting policies and mitigation measures for placement of powerlines and substations.

1989 to 1990 **Assistant Planner.** Sacramento County Planning Department.

Principal Author. Energy Component of the Public Services and Facilities Element of the Sacramento County General Plan. Coordinate work efforts with the CEC, SMUD, and PG&E to develop environmental and siting policies for energy facilities and transmission lines; identify environmental impacts and appropriate mitigation measures.

1987 to 1989 **Planner/Assistant Planner.** Yolo County Community Development

Planning liaison for Homestake Mining Company's (HMC) McLaughlin Mine. Conducted meetings on the Technical Review Panel's environmental monitoring of HMC's McLaughlin Mine, and prepared staff reports on the implementation of use permit phasing, regarding issues of water quality, and impacts of the tailings pond on biologic resources. Specific tasks included site visits to monitor the revegetation plan and other mitigation measures as specified in the use permit; oral and written presentations to the Planning Commission.

1988 **Consultant.** Pan Pacific Energy Development Corporation.

Consulting job to develop a regional energy plan for rural areas of developing countries including decentralized non-fossil fuel power plants in agricultural regions. Attended IREC and AWEA International Conference in Honolulu.

PROFESSIONAL AND CONTINUING EDUCATION

1988	California Environmental Quality Act (UC Davis)
1989	Subdivision Map Act (UC Davis)
1991	Fiscal Impact Analysis (UC Davis)
1994	APA Conference (San Francisco)
1994	Environmental Justice Conference (UC Berkeley)
1998	California Environmental Quality Act (California Energy Commission)

PROFESSIONAL AFFILIATIONS

Association of Environmental Professionals
American Planning Association

DECLARATION OF
Kevin Robinson

I, **Kevin Robinson,** declare as follows:

1. I am presently employed by the California Energy Commission in the **Engineering Office** of the Systems Assessment and Energy Facilities Siting Division as a **Mechanical Engineer**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepared the staff testimony on **Noise and Vibration** for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the Amendment Petition, supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: July 12, 2005 Signed: 

At: Sacramento, California

KEVIN ROBINSON
Mechanical Engineer

Experience Summary

Four years experience in the electric generation field, including mechanical design, QA/QC and construction of hydroelectric plant systems; and engineering and policy analysis of geothermal, natural gas-fired and thermal power plant regulatory issues.

Education

- California State University, Chico—Bachelor of Science, Mechanical Engineering
- Certified EIT, California

Professional Experience

2001 to Present—Mechanical Engineer, Systems Assessment & Facility Siting Division, Engineering Section – California Energy Commission

Responsible for analysis of generating capacity, reliability, efficiency, noise, and the mechanical, civil/structural engineering aspects of power plant siting cases.

2000 to 2001—Mechanical Engineer, Oroville Field Division, Engineering Section – California Department of Water Resources

Assist in the preparation of designs, technical specifications and cost estimates for mechanical equipment at a hydroelectric power plant. Coordinate the design, installation, and inspection of mechanical equipment. Assist in preparing test reports, and recommendations for corrective action.

DECLARATION OF
Steve Baker

I, **Steve Baker,** declare as follows:

1. I am presently employed by the California Energy Commission in the **Engineering Office** of the Energy Facilities Siting Division as a **Senior Mechanical Engineer**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepared the staff testimony on **Noise and Vibration** for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the Application, supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 9/7/06 Signed: Steve Baker

At: Sacramento, California

STEVE BAKER, P.E.
Senior Mechanical Engineer

Experience Summary

Thirty-one years experience in the electric power generation field, including mechanical design, QA/QC, construction/startup and business development/licensing of nuclear, coal-fired, hydroelectric, geothermal and windpower plants; and engineering and policy analysis of thermal power plant regulatory issues.

Education

- California State University, Long Beach--Master of Business Administration
- California State Polytechnic University, Pomona--Bachelor of Science, Mechanical Engineering
- Registered Professional Engineer (Mechanical), California — No. M27737 expires 6/30/06

Professional Experience

1990 to Present--Senior Mechanical Engineer, Siting & Environmental Division - California Energy Commission

Technical lead person for the analysis of generating capacity, reliability, efficiency, noise, and the mechanical, civil/structural and geotechnical engineering aspects of power plant siting cases. Key contributor to Commission's investigation into market impediments to the deployment of advanced high-efficiency generating technologies.

1987 to 1990--Generation Systems/Facility Design Unit Supervisor, Siting & Environmental Division - California Energy Commission

Responsible for supervising the analysis of generating capacity, reliability, efficiency, safety, and mechanical, civil/structural, and geotechnical engineering aspects of power plant siting cases.

1981-1986--Operations Manager, Alternate Energy - Santa Fe Pacific Realty Corporation

Participated in and supervised identification, evaluation and feasibility analysis, licensing and permitting of hydroelectric, geothermal, windpower and biomass power projects.

1974-1981--Mechanical Engineer, Quality Engineer - Bechtel Power Corporation and Bechtel National, Inc.

Wrote equipment specifications, drew flow diagrams and P&ID's, performed system design and safety analysis for nuclear power plants and nuclear fuel processing plant. Wrote and implemented QA/QC procedures for nuclear power plant. Participated in construction/startup of large coal-fired power plant.

DECLARATION OF
Joseph Diamond

I, **Joseph Diamond** declare as follows:

1. I am presently employed by the California Energy Commission in the **Environmental Protection Office** of the Energy Facilities Siting Division as a **Planner-II Economist.**

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepared the staff testimony on **Socioeconomics,** for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the amendment petition, supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

   I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 9/7/2006 Signed: Joseph Diamond

At: Sacramento, California

Joseph Diamond Ph. D.
Work: (916) 654-3877

Ph.D. with experience in economic policy.

BUSINESS AFFILIATION

California Energy Commission
1516 9th St. MS-40
Sacramento, CA 95814

EDUCATION

Michigan State University	Ph.D.	Resource Development
University of Rhode Island	M.A.	Economics
University of New Hampshire	B.A.	Economics

DECLARATION OF
John S. Kessler

I, John S. Kessler, declare as follows:

1. I am presently a consultant employed by the California Energy Commission in the Water and Soil Resources Unit of the Energy Facilities Siting and Environmental Protection Division as a Senior Technical Specialist.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on Soil and Water Resources, for the **Blythe Energy Project Transmission Line Modifications** based on my independent analysis of the Application for Certification and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 8/9/05 Signed: John D. Kessler

At: Pollock Pines, California

JOHN S. KESSLER
Kessler and Associates, LLC
2801 Shady Lane, Pollock Pines, CA 95726
Ofc: (530) 644-2010, Fax: (530) 644-2051
Email: zephyr@innercite.com

PROFESSIONAL EXPERIENCE:

Mr. Kessler is a licensed Civil Engineer in California with over 25 years experience in water supply and power generation, which includes planning and managing project dams, water conveyance facilities and powerhouses with responsibilities in operations, maintenance, regulatory compliance and safety. Since forming Kessler and Associates, LLC in May 2000, Mr. Kessler has served on numerous projects evaluating and coordinating water supply developments. As a consultant to the California Energy Commission, Mr. Kessler has assessed potential soil and water resource impacts and evaluated water supply alternatives for over ten proposed gas-fired generation plants, ranging in total development costs from $10 - $500 million. His guidance to the Energy Commission has been instrumental in conserving the state's limited fresh water supplies for higher priority uses such as domestic and irrigation needs, and substantiating a sound basis for the Commission to approve power plants subject to avoiding or minimizing the use of fresh water for power plant cooling. The Water Supply Alternatives analyses have included evaluation of alternative sources of water supply, pipeline routes, reliability, environmental effects and economic feasibility. In 2001, Mr. Kessler was awarded the Outstanding Performance Award from the California Energy Commission, and continues to support the Energy Commission in this capacity today.

Another significant water supply project was accomplished when Mr Kessler, teamed with Carlton Engineering, managed the replacement of Utica Power Authority's (UPA's) Flume 14 on the Utica Canal following the Darby Fire in September 2001. This expedited flume replacement project was completed within 9 months and involved environmental analysis, regulatory permitting and approvals, preparation of plans, specifications and a quality control inspection program, construction during fall – spring, and mitigating significant personnel safety challenges working in the steep Stanislaus River canyon. The project was completed in-budget for a cost of about $2.5 million, and was performed in a manner that made UPA eligible and successful in reimbursement from OES disaster relief funds. Also noteworthy, is that the USFS - Stanislaus National Forest highly commended UPA and the consulting team for the manner in which the project was planned and conducted. At the USFS' request, the project team and USFS jointly presented a summary of the project at the April 2003 conference titled "Managing Water", held at Columbia College and sponsored by the Central Sierra Watershed Coalition. Mr. Kessler also serves UPA as their dam safety engineer and environmental coordinator, which included guiding the final stages of FERC Relicensing and preparing and/or coordinating all resource management plans prepared in accordance with the new Angels and Utica Project licenses and USFS 4(e) conditions.

During 1997 – 1999 as Hydroelectric Director of El Dorado Irrigation District (EID), Mr. Kessler supported negotiations to acquire the El Dorado Hydroelectric Project from PG&E, managing regulatory

processes before FERC, CPUC and the supporting EIR in compliance with CEQA. Following the successful acquisition of the El Dorado Hydroelectric Project in October 1999, Mr. Kessler was awarded the Outstanding Achievement Award by EID's Board of Directors for Transfer of the El Dorado Hydroelectric Project from PG&E to EID.

May 2000 - Present: Principal - Kessler and Associates
Established Kessler and Associates to provide engineering, regulatory and operating services related to energy and associated water supply projects;

California Energy Commission (CEC) – Soil & Water Resource Assessments of Proposed Gas-Fired Generating Facilities (Serving as Project Manager or Technical Lead to assess potential soil and water resource impacts and evaluate water supply alternatives for the following projects:)

- Valero Cogeneration Project, 01-AFC-05, a 4-month certification proceeding of two combustion turbine generators rated at 51 MW each; Provided a unique water conservation condition to avoid use of fresh water by either implementing recycled water from City of Benicia or by conserving an equivalent quantity of fresh water within the refinery operations, so as to avoid a net increase from existing fresh water use; Testified in Evidentiary Hearings and the final Commission decision adopted our recommendation to require use of recycled water or to otherwise conserve;

- East Altamont Energy Center, 01-AFC-6, a 12-month certification proceeding of a natural gas-fired, combined cycle generating facility rated at 1,100 MW; Prepared a Water Supply Alternatives Analysis, and coordinated closely with representatives of DWR, Byron-Bethany Irrigation District and the Mountain House Community to demonstrate the feasibility of using recycled water for EAEC cooling and landscape irrigation purposes; Testified in Evidentiary Hearings and the final Commission decision adopted our recommendation to require use of recycled water;

- Russell City Energy Center, 01-AFC-7, a 6-month certification proceeding of a natural gas-fired, combined cycle generating facility rated at 600 MW; Developed conditions to assure the implementation of recycled water supply as proposed;

- Los Esteros Critical Energy Facility, 01-AFC-12, a 4-month certification proceeding of four combustion turbine generators rated at a combined total of 180 MW; Developed conditions to assure the implementation of recycled water supply as proposed, and coordinated the resolution of storm water discharge issues into Coyote Creek with responsible agencies including City of San Jose, Santa Clara Valley Water District, San Francisco Regional Water Quality Control Board, and the U.S. Army Corps of Engineers; Testified in Evidentiary Hearings;

- Inland Empire Energy Center, 01-AFC-17, a 12-month certification proceeding of a natural gas-fired, combined cycle generating facility rated at 670 MW; Developed conditions to assure the implementation of recycled water supply as proposed;

- Avenal Power Plant, 01-AFC-20, a 12-month certification proceeding of a natural gas-fired, combined cycle generating facility rated at 600 MW; Duke Energy suspended processing of its application until further notice.

- Tesla Power Plant, 01-AFC-21, a 12-month certification proceeding of a natural gas-fired, combined cycle generating facility rated at 1,120 MW; Prepared a Water Supply Alternatives Analysis, and coordinated closely with representatives of DWR, Zone 7 of the Alameda County Flood Control District and City of Tracy to demonstrate the feasibility of using recycled water for Tesla cooling, process and landscape irrigation purposes; Testified in Evidentiary Hearings and the final Commission decision adopted our recommendations to require use of recycled water;

- San Joaquin Valley Energy Center, 01-AFC-22, a 12-month certification proceeding of a natural gas-fired, combined cycle generating facility rated at 1,060 MW; Developed conditions to assure the implementation of recycled water supply as proposed; Testified in Evidentiary Hearings;

- Blythe II Energy Project, 02-AFC-01, a 12-month certification proceeding of a natural gas-fired, combined cycle generating facility rated at 520 MW; Prepared a Water Supply & Cooling Alternatives Analysis to demonstrate the feasibility of using Dry Cooling to minimize use of Colorado River groundwater for cooling, process and landscape irrigation purposes;

- San Francisco Electric Reliability Project, 04-AFC-01, a 12-month certification proceeding of a natural gas-fired, simple cycle generating facility rated at 145 MW; Developed conditions to assure the implementation of recycled water supply as proposed;

CEC – Assessment of Alternative Generation Technologies
Served as the author of the Hydropower Chapter discussing the status of development, potential for new development, costs, and deployment constraints including environmental effects, in comparison to development of gas-fired generation technologies;

CEC - Water Discharge Assessment of Coastal Power Plants – Executive Order 22-01
Served as Project Manager of Water Resources to assess the generation curtailments resulting from regulatory-required cooling water discharge limitations at various coastal thermal power plants;

CEC - Environmental Performance Report of California's Electric Generation Facilities
Co-authored the 2001 and draft 2003 Water and Biological Resources Sections, providing research and analysis of trends in power plant water resource utilization affected by technological changes, improved environmental safeguards, regulatory influences in market development, and diminishing supplies of fresh water;

CPUC – EIR for PG&E's Application for Authorization to Divest its Hydroelectric Generating Facilities and Related Assets
Served as Hazards Section Leader and Team Member of the Public Services and Utilities Section in preparing the EIR for considering PG&E's divestiture of its entire hydroelectric system; The environmental assessment included evaluating the safety and potential risks of PG&E's dams throughout its hydroelectric system in Northern California.

Upper Hangtown Creek Watershed Restoration Project
Serving as the Hydrologist to define reaches of stream running as both surface and sub-surface flow, and quantifying contributions from those reaches in order to assess and recommend restoration opportunites to Upper Hangtown Creek after 150 years of alteration from mining and lumber mill activities. The project is being coordinated with the Resource Conservation District and other local, state and federal agencies.

Utica Power Authority – Dam Safety and Regulatory Compliance Services
Serving as UPA's FERC License Coordinator, managing the implementation of new license conditions for environmental protection and compliance monitoring in consultation with state and federal agencies. I have personally prepared resource management plans in water resources addressing minimum instream flows, flushing flows, drought contingencies, water conveyance, canal dewatering, water quality monitoring, stream gaging, and transportation. In addition, I have guided the preparation of other resource management plans including those in biological, cultural resource and geotechnical categories. Serving as UPA's Dam Safety Engineer in analyzing project monitoring data and advising on various regulatory matters, including the successful restoration of Flume 14 ($2.5 MM) that was destroyed in a wildfire during September 2001 which presented numerous environmental, construction and safety challenges in the Stanislaus River canyon; Prepared a comprehensive regulatory checklist and schedule for compliance monitoring of applicable federal, state and local regulations and agreements.

El Dorado Irrigation District – Regulatory Permitting and Compliance Services
Supported EID with regulatory permitting including securing a FERC License Amendment for its El Dorado Hydroelecric Project. Project repairs, at a cost of over $30MM, were recently completed to repair flood damages to El Dorado Diversion Dam, construct a new 2-mile long tunnel, and rehabilitate two generating units and associated equipment. In support of EID's dam safety program, I prepared new Emergency Action Plans for Caples, Silver, and Echo Lakes and El Dorado Forebay Dams in accordance with FERC's revised guidelines. Subsequently, I provided annual updates and personnel training including facilitating EAP Tabletop and Functional Exercises with emergency response agencies. I am currently preparing Standard Operating Procedures and facilitating employee training for project operations, supporting historic water rights documentation, preparing license compliance plans in accordance with the Relicensing Settlement Agreement, and developing a work management database for scheduling future regulatory compliance and O&M tasks, and documenting history.

Haida Corporation – Advisor for Project Feasibility, Regulatory and Strategic Matters
Served as co-author and preparer of a feasibility study and report for development of the Reynolds Creek Hydroelectric Project on Prince of Wales Island, Alaska; I also developed regulatory permitting and interconnection negotiating strategies in preparation for project construction;

September 1995 – April 2000: Hydroelectric Director - El Dorado Irrigation District
Managed operation, maintenance and regulatory activities and the acquisition of the El Dorado Hydroelectric Project from PG&E to EID; Acquisition activities included providing technical expertise in sale negotiations, FERC and CPUC regulatory approval processes, serving as EID's representative before hearings at the CPUC, and managing the preparation of the EIR to support EID's Acquisition, Operation and Permanent Repairs of the El Dorado Hydroelectric Project and the Acquisition of 17,000 AF/year New Water Rights; After several previous court challenges, this EIR continues to be valid and served as a critical step in the SWRCB issuing its final decision to award EID with the new water rights. The EIR also supported EID's success in acquiring the El Dorado Project on October 15, 1999 that included an unprecedented $15 Million payment from PG&E to EID to assume ownership. During 1998 – 2000, I represented EID and assisted in the preparation of a License Application for renewing the major license of the El Dorado Hydroelectric Project. This project has significant public and regulatory interests to assure that it provides a balance of environmental protection, focusing on aquatic resources and recreation in the alpine lakes and South Fork American River.

Aug. 1993 – Sept. 1995: Project Engineer - Northern California Power Agency
Managed planning of various enhancements and aquatic resource studies, including small hydro and fish screen improvements, associated with the North Fork Stanislaus River Hydroelectric Project and relicensing studies associated with the Angels and Utica Projects; Coordinated initial development phases of new biomass generation for the Gridley Rice Straw Project in conjunction with D.O.E., private and U.C. Davis research groups which led to receiving a $1 Million federal grant for prototype development testing in the production of ethanol;

July 1984 – August 1993: Hydro Supervisor – Pacific Gas & Electric Company
Supervised the operations, maintenance, capital improvements and regulatory compliance activites for the El Dorado and Chili Bar Hydroelectric Projects;

Aug. 1979 – July 1984 - Hydraulic Engineer and Hydrographer/Hydrologist - PG&E
Managed various capital projects within PG&E's and its water district/agency partner's hydroelectric systems; Coordinated the establishment of computerized operations modeling for PG&E's hydroelectric system for the purpose of predicting hydropower production in order to determine the most economical mix of hydro and thermal resources, and supported various relicensings throughout PG&E's hydroelectric system. I also maintained numerous stream gages and prepared final records for USGS approval and publication.

EDUCATION AND PROFESSIONAL CERTIFICATES:

- State Of California Professional Civil Engineer, License No. C034897;
- B.S. Civil Engineering, University Of California, Davis, June 1979;
- A.A. Diablo Valley College, Pleasant Hill, June 1976;

HONORS AND AWARDS:

- 2001 Outstanding Performance Award from the State of California - Energy Commission;
- 1999 Outstanding Achievement Award for Transfer of the El Dorado Hydroelectric Project from PG&E to the El Dorado Irrigation District;

PROFESSIONAL ASSOCIATIONS:

- American Society of Civil Engineers

Jsk:JK's Resume – 2005

DECLARATION OF
Richard Sapudar

I, **Richard Sapudar** declare as follows:

1. I am presently employed by the California Energy Commission in the **Environmental Office** of the Systems Assessments and Facilities Siting Division as an **Energy Facility Siting Planner II**.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Soil and Water Resources** section, for the **Blythe Energy Project Transmission Line Modifications** amendment based on my independent analysis of the Application for Certification and supplements hereto, data from reliable documents and sources, my professional experience and knowledge, and the direction of staff counsel on legal matters and LORS.

4. It is my professional opinion that the testimony I prepared is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony I prepared and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 7/13/05 Signed: Richard A Sapudar

At: Sacramento, California

RICHARD A. SAPUDAR
Energy Facility Siting Planner II

EXPERIENCE SUMMARY

Experienced in the water resources, water quality, wastewater discharges, and soil resources technical areas. Have education, training, and experience in environmental transport, fate, and toxicology of chemicals in the environment, water quality impacts and regulatory requirements of wastewater discharges, water supply and water resource issues related to small and large water systems, watershed investigations, and the evaluation, regulation, and management of source water quality for drinking water.

EXPERIENCE RECORD

1999 – Present: California Energy Commission, Environmental Protection Office. Reviews and analyzes data and prepares oral and written testimony on water and soil resource impacts of power plant siting projects, including water resources, water quality, and wastewater discharges. Evaluates the adequacy of project siting documents, significant impacts, and impact mitigation. Determines compliance of power plant applications with existing laws, ordinances, regulations, and standards and prepares environmental documentation as required by the California Environmental Quality Act (CEQA). Coordinates with other federal, State and local agencies as required.

1995 – 1999: California Department of Water Resources, Water Quality Assessment. Designed, coordinated, and conducted studies and field investigations related to the State Water Project watersheds, source waters, reservoirs and associated project facilities. Performed environmental studies, sanitary surveys, drinking water quality investigations, soil, and aquatic sediment monitoring studies related to Delta channel dredging and levee maintenance, and source water quality for the State Water Project. Produced reports, gave committee and conference presentations reporting findings.

1985 – 1995: California State Water Resources Control Board, Division of Water Quality. Developed aquatic sediment assessment methods and sediment quality objectives for the bays and estuaries of the State that considered both environmental chemistry and toxicological testing endpoints. Designed, coordinated and conducted monitoring studies in ground and surface waters, sediment, and biota. Developed ambient water quality objectives to regulate waste discharges to ocean waters in accordance with the California Ocean Water Quality Control Plan and the Federal Clean Water Act

1983 – 1985: Chevron Corporation, Chevron Environmental Health Center. Acted as lead person for the central emergency information and environmental incident contact team and assessed the degree of human or environmental exposure, in the event of human, terrestrial, or aquatic contamination incidents. Performed background research in support of product registration, licensing, and litigation resulting from human or environmental contamination involving company products.

EDUCATION

B.S. in Environmental Toxicology from the University of California at Davis, 1982

PROFESSIONAL AFFILIATION

Society of Environmental Toxicology and Chemistry, Northern California Regional Chapter

DECLARATION OF
David Flores

I, **David Flores** declare as follows:

1. I am presently employed by the California Energy Commission in the **Environmental Office** of the Energy Facilities Siting Division as a **Planner II for Land Use and Traffic/Transportation Unit.**

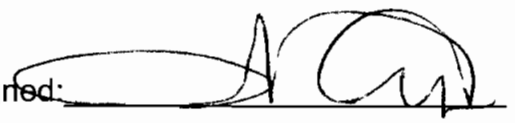
2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I prepared the staff testimony on **Visual Resources and Traffic and Transportation,** for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the amendment petition, supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issues addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

   I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: September 7, 2006 Signed: 

At: Sacramento, California

DAVID FLORES

WORK EXPERIENCE

Sept. 1998 to Present — **Planner 2.** California Energy Commission, Energy Facilities Siting and Protection Division.

- Provide technical analysis of proposed energy planning, conservation, and development programs on land use, visual and traffic and transportation resources. Specific tasks include the analysis of potential impacts, identification of suitable mitigation measures, preparation of testimony, and project monitoring to ensure compliance with local, state and federal environmental laws and regulations.

March 29,1988 to September 12, 1998 — **Senior Planner.** County of Yolo Planning and Public Works Department

Senior Planner - Current and Advanced Planning (Resources Management and Planning)

Responsibilities included the following:

Administered the establishment of Planning schedules and timeframe completion schedules; Administration and staff support to Planning Commission and Board of Supervisors; Staff support and liaison to citizen's committees. Preparation of Environmental documents (Negative Declarations, preparation of Environmental Impact Reports and Categorical Exemptions) in accordance with State and Federal Regulations.

PLANNING ACHIEVEMENTS

- Principal staff involved in development of the County Right to Farm and Williamson Act/ Blue Ribbon Ordinances.
- Staff liaison to citizen committees for the communities of Yolo County
- Substantial experience in working successfully with community organizations and committees on controversial projects.
- Responsible for the administration of the California Environmental Quality Act (CEQA) for all matters going before the Planning Commission and Board of Supervisors.

EDUCATION

California State University @ Sacramento
University of California @Davis
Major: Environmental Studies
Minor: Business Administration

Continuing education has included: Writing for Managers, CEQA Updates, Managing the Office, CEQA Update, Subdivision Map Act, General Plan Update

DECLARATION OF

Dr.Obed Odoemelam

I, **Obed Odoemelam** declare as follows:

1. I am presently employed by the California Energy Commission in the Facilities Siting Office of the Systems Assessments and Facilities Siting Division a Staff Toxicologist.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Transmission Line Safety and Nuisance** for the Blythe project based on my independent analysis of the Application for Certification and supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 2/15/06 Signed: Odoemelam

At: Sacramento, California

RESUME

DR. OBED ODOEMELAM

EDUCATION:

1979-1981 University of California, Davis, California. Ph.D., Ecotoxicology

1976-1978 University of Wisconsin, Eau Claire, Wisconsin. M.S., Biology.

1972-1976 University of Wisconsin, Eau Claire, Wisconsin. B.S., Biology

EXPERIENCE:

1989
The Present: California Energy Commission. Staff Toxicologist.

Responsible for the technical oversight of staffs from all Divisions in the Commission as well as outside consultants or University researchers who manage or conduct multi-disciplinary research in support of Commission programs. Research is in the following program areas: Energy conservation-related indoor pollution, power plant-related outdoor pollution, power plant-related waste management, alternative fuels-related health effects, waste water treatment, and the health effects of electromagnetic fields. Serve as scientific adviser to Commissioners and Commission staff on issues related to energy conservation. Serve on statewide advisory panels on issues related to multiple chemical sensitivity, ventilation standards, electromagnetic field regulation, health risk assessment, and outdoor pollution control technology. Testify as an expert witness at Commission hearings and before the California legislature on health issues related to energy development and conservation. Review research proposals and findings for policy implications, interact with federal and state agencies and industry on the establishment of exposure limits for environmental pollutants, and prepare reports for publication.

1985-1989 California Energy Commission.

Responsible for assessing the potential impacts of criteria and noncriteria pollutants and hazardous wastes associated with the construction, operation and decommissioning of specific power plant projects. Testified before the Commission in the power plant certification process, and interacted with federal and state agencies on the establishment of environmental limits for air and water pollutants.

1983-1985 California Department of Food and Agriculture.

Environmental Health Specialist.

Evaluated pesticide registration data regarding the health and environmental effects of agricultural chemicals. Prepared reports for public information in connection with the eradication of specific agricultural pests in California.

DECLARATION OF
PATRICK A. PILLING, Ph.D., P.E., G.E.

I, **PATRICK A. PILLING,** declare as follows:

1. I am presently employed by Black Eagle Consulting, Inc. under contract with the California Energy Commission Systems Assessment and Facilities Siting and Environmental Protection Division as a **GEOTECHNICAL ENGINEER.**

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **GEOLOGY AND PALEONTOLOGY**, for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the **Amendment Petition**, supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: July 12, 2005 Signed: 

At: Reno, Nevada

PATRICK A. PILLING, Ph.D., P.E., G.E.

Executive Vice President
Principal Geotechnical Engineer

Education

- B.S. - Civil Engineering -1986 - Santa Clara University
- M.S. - Civil Engineering - 1991 - San Jose State University
- Ph.D. - Civil Engineering - 1997 - University of Nevada, Reno

Registrations

- P.E. - Civil - Nevada – No. 9153
- P.E. - Civil – California – No. C 49578
- P.E. - Geotechnical – California – No. GE 2292
- P.E. - Civil - Oregon – No. 19675PE
- P.E. – Geotechnical – Oregon – No. 19675PE
- P.E. - Civil – Arizona – No. 35310
- P.E. - Civil – Utah – No. 971338-2202

Associated Experience

- University of Nevada, Reno - Course Instructor - CE 771 - Mining Waste Containment Desig.
- University of Nevada, Reno - Course Instructor - CE 771 - Practical Foundation Engineering

Experience

1997 to Present: Black Eagle Consulting, Inc.; Executive Vice President. Dr. Pilling maintains over 18 years of construction, geotechnical, transportation, and mining engineering experience, and has supervised the engineering and construction of such projects throughout the western United States and South America. As Executive Vice President, Dr. Pilling oversees daily office operations, including personnel and accounting issues, coordinates company marketing efforts, and performs project management, engineering and laboratory analyses, and report preparation on most projects. Dr. Pilling presently serves as our project manager of the Reno Retrack construction management team reviewing geotechnical design submittals for this rail project.

1996 to 1997: SEA, Incorporated; Senior Geotechnical Engineer. Dr. Pilling provided project coordination, management, supervision, and development, and performed field exploration, engineering analyses, and report preparation.

1990 to 1996: WESTEC; Project Manager. Mr. Pilling was responsible for general geotechnical analyses on most projects, as well as design, management, and permitting of heap leach and tailings storage facilities projects. His experience varied from foundation design recommendations for small pump house structures to detailed liquefaction and seepage/slope stability analyses for large earthen embankments.

1986 to 1990: Case Pacific Company; Project Manager. Mr. Pilling provided cost estimating, project management, and contract negotiation on a wide variety of projects. Responsibilities included design and construction of drilled shafts, earth retention, and underpinning systems, in addition to construction scheduling and cost control.

Affiliations

- American Public Works Association
- American Concrete Institute: Concrete Field Testing Technician Grade I
- National Society of Professional Engineers
- Secretary/Treasurer - National Society of Professional Engineers, Northern Nevada Chapter
- American Society of Civil Engineers
- International Association of Foundation Drilling
- National Council of Examiners for Engineering and Surveying
- American Society of Engineering Education
- Deep Foundations Institute

Publications

Ashour, M., P. A. Pilling, G. M. Norris, and H. Perez, June 1996, "Development of a Strain Wedge Model Program for Pile Group Interference and Pile Cap Contribution Effects," Report No. CCEER-94-4, University of Nevada, Reno; Federal Study No. F94TL16C, Submitted to State of California Department of Transportation (CalTrans).

Ashour, M., P. A. Pilling, and G. M. Norris, March 1997, "Documentation of the Strain Wedge Model Program for Analyzing Laterally Loaded Isolated Piles and Pile Groups," Proceedings, 32nd Symposium on Engineering Geology and Geotechnical Engineering, Boise, Idaho, pp. 344-359.

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Pilling, P. A. and P. V. Woodward, March 1995, "Dependent Facility Closure in California," Proceedings, Mine Closure: Creating Productive Public and Private Assets, Sparks, Nevada, pp. 315-326.

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Pilling, P.A., July 2002, "Assessing the Liquefaction Potential of Sand Deposits Containing an Appreciable Amount of Gravel," Program with Abstracts 2002 Annual Meeting Association of Engineering Geologists and American Institute of Professional Geologists, Reno, Nevada, p35.

Awards

- Hugh B. Williams Industry Advancement Scholarship, International Association of Foundation Drilling (ADSC), 1993-94.
- National Society of Professional Engineers, Northern Nevada Chapter, Young Engineer of the Year, 1996.

DECLARATION OF
AJOY GUHA

I, **Ajoy Guha,** declare as follows:

1. I am presently employed by the California Energy Commission in the **Transmission System Engineering unit** of the Systems Assessments and Facilities Siting as an Associate Electrical Engineer.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Transmission System Engineering**, for the **Blythe Energy Project Transmission Line Modification Amendment** based on my independent analysis of the Amendment petition and supplements hereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 9-7-06 Signed: A. Guha

At: Sacramento, California

RESUME

AJOY GUHA

Associate Electrical Engineer
California Energy Commission
1516 Ninth Street, MS 46
Sacramento, CA 95814

EDUCATION:
MSEE, POWER SYSTEMS ENGINEERING, PURDUE UNIVERSITY, INDIANA
BSEE, ELECTRICAL ENGINEERING, CALCUTTA UNIVERSITY, INDIA

CERTIFICATIONS:
REGISTERED PROFESSIONAL ENGINEER, CALIFORNIA, INDIANA & ILLIINOIS
MEMBER OF IEEE; MEMBER OF THE INSTITUTION OF ENGINEERS OF INDIA

SUMMARY OF PROFESSIONAL BACKGROUND:

Ajoy Guha, P. E. has years of electric utility experience with an extensive background in evaluating and determining current and potential transmission system reliability problems and their cost effective solutions. He has a good understanding of the transmission issues and concerns. He is proficient in utilizing computer models of electrical systems in performing power flow, dynamic stability and short circuit studies, and provide system evaluations and solutions, and had performed generator interconnection studies, area transfer and interconnected transmission studies, and prepared five year transmission alternate plans and annual operating plans. He is also experienced in utilizing Integrated Resource Planning computer models for generation production costing and long term resource plans, and had worked as an Executive in electric utilities and experienced in construction, operation, maintenance and standardization of transmission and distribution lines.

WORK EXPERIENCE:

CALIFORNIA ENERGY COMMISSION, ENERGY FACLITIES SITING AND ENVIRONMENTAL DIVISION, SACRAMENTO, CA, 11/2000-Present.
Working as Associate Electrical Engineer in the Transmission System Engineering unit on licensing generation projects. Work involves evaluating generation interconnection studies and their impacts on transmission system, and providing staff assessments and testimony to the commission, and coordination with utilities and other agencies.

ALLIANT ENERGY, DELIVERY SYSTEM PLANNING, MADISON, WI, 4/2000-9/2000.
Worked as Transmission Services Engineer, performed Generator Interconnection studies and system planning studies.

IMPERIAL IRRIGATION DISTRICT, POWER DEPT., Imperial, California, 1985-1998.
Worked as Senior Planning Engineer in a supervisory position and in Transmission, Distribution and Integrated Resource planning areas. Performed interconnection studies for 500 MW geothermal plants and developed plan for a collector system, developed methodologies for transmission service charges , scheduling fees and losses. Worked as the Project Leader in the 1992 Electricity Report (ER 92) process of the California Energy Commission. Worked as the Project Leader for installation of an engineering computer system and softwares. Assumed the Project Lead in the standardization of construction and materials, and published construction standards.

CITY LIGHT & POWER, Frankfort, Indiana, 1980 – 1985.
Worked as Assistant Superintendent and managed engineering, construction and operation depts.

WESTERN ILLINOIS POWER CO-OP., Jacksonville, Illinois, 1978 – 1980.
Worked as Planning Engineer and was involved in transmission system planning.

THE CALCUTTA ELECTRIC SUPPLY CORPORATION LTD. (CESC), Calcutta, India, 1964 –1978.
Worked as District Engineer and was responsible for managing customer relations, purchasing and stores, system planning, construction, operation and maintenance departments of the most industrialized Transmission and Distribution division of the Utility. Worked as PROJECT MANAGER for construction of a 30 mile Double Circuit 132 kV gas-filled Underground Cable urban project. During 1961-63, worked as Factory Engineer for design, manufacturing and testing of transformers, motor starters and worked in a coal-fired generating plant.

DECLARATION OF SUSAN V. LEE

I, Susan V. Lee, declare as follows:

1. I am presently employed by Aspen Environmental Group, consultant to the California Energy Commission's Facilities Siting Office of the Systems Assessments and Facilities Siting Division as a Senior Associate.

2. A copy of my professional qualifications and experience is attached hereto and incorporated by reference herein.

3. I helped prepare the staff testimony on **Alternatives** for the Blythe Energy Project Transmission Line project based on my independent analysis of the Application for Certification and supplements thereto, data from reliable documents and sources, and my professional experience and knowledge.

4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue addressed therein.

5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: February 10, 2006 Signed: Susan Lee

At: Sacramento, California

Aspen
Environmental Group

SUSAN V. LEE
Senior Associate
Vice President, San Francisco Operations

ACADEMIC BACKGROUND
M.S., Applied Earth Science, Stanford University, 1984
B.A., Geology, Oberlin College, 1977

PROFESSIONAL EXPERIENCE

Ms. Lee has over 22 years of technical and managerial experience in environmental assessment, and she currently manages Aspen's San Francisco Office. Her expertise is in management of environmental assessment for energy projects (pipelines, transmission lines, and electric power plants) under both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Prior to employment at Aspen, Ms. Lee worked for 10 years with the Federal government [the U.S. Minerals Management Service (MMS) and the U.S. Geological Survey (USGS)]. As a geologist and team leader at the USGS and MMS, she worked extensively with land use planning issues and offshore oil and gas exploration and development, including planning, regulatory enforcement, and environmental review.

Aspen Environmental Group **1993 to present**

Ms. Lee has contributed to both technical and project management aspects of Aspen's environmental projects, including the following:

- **California Energy Commission**. Ms. Lee has supported CEC staff since the fall of 2000. To date, she has prepared analyses for 12 power plants throughout the State, and she has also contributed to several special project reports. She has participated in numerous public workshops and hearings around the state, and completed the CEC's Expert Witness Training. Her major efforts for the CEC include the following:
  - Ms. Lee has prepared staff assessment **Alternatives Analyses** (consistent with CEQA and the CEC's procedures) for the CEC's staff reports considering proposed new or repowered power plants at Blythe (BEPII), Morro Bay, El Segundo, Avenal, San Joaquin Valley, Potrero Unit 7 (San Francisco), Tracy, East Altamont, Henrietta, the San Francisco Electric Reliability Project, and the Blythe Transmission Modifications Project. This work included making presentations at PSA Workshops and testifying at Evidentiary Hearings.
  - Ms. Lee is currently managing a transmission corridor modeling project, **Planning Alternative Corridors for Transmission (PACT)**, in conjunction with PIER's Environmental Program. The model will use Geographic Information Systems and decision modeling to assist in comparing potential alternative transmission corridors. Aspen's work includes development and management of a Project Steering Committee and a series of Technical Advisory Groups.
  - Ms. Lee prepared a detailed Background Report and made a presentation at an Energy Commission workshop on **"Comparative Alternatives to Transmission"** as part of the Integrated Energy Policy Report (IEPR) 2004 Update process. This project evaluated non-wires alternatives to transmission lines; ongoing work is related to development of a methodology for consideration of these alternatives as part of the transmission planning process.
  - Ms. Lee served as the CEC's **Project Manager** for the Small Power Plant Exemption (SPPE) environmental review process for the Woodland Generation Station 2, an 80-megawatt power plant proposed by the Modesto Irrigation District. In this role, she managed preparation of a Draft and Final Initial Study

(including mitigation measures, or "conditions of exemption"), held workshops to hear Applicant and public comments, coordinated extensively with CEC staff counsel, and represented the CEC at the Evidentiary Hearing for the project which was approved by the CEC in 2002 and was constructed during 2003.

- Ms. Lee managed preparation of **Power Plant Cooling Options Reports** for the Potrero Unit 7 Project, Morro Bay, SMUD Cosumnes, and El Segundo power plants. These analyses include conceptual design of dry cooling systems, hybrid cooling systems, and water supply options including use of reclaimed water in both once through and hybrid cooling systems.
- Ms. Lee has provided management and technical support to Aspen's preparation of several reports for the CEC: the Environmental Performance Report, the Coastal Power Plant Study, and the Alternative Generation Technology study.

- **SCE Devers-Palo Verde No. 2 Transmission Line Project EIR/EIS**. Under contract to the CPUC, Ms. Lee is currently managing preparation of an EIR/EIS to evaluate the impacts of a constructing a 230-mile 500 kV transmission line between the Palo Verde generating hub in Arizona and SCE's Devers Substation. The project also includes 50 miles of transmission upgrades through more developed areas of southern California (Riverside and San Bernardino Counties). Ms. Lee is managing the work of 11 subcontractors and coordinating with the U.S. Bureau of Land Management to ensure that the EIR/EIS meets both NEPA and CEQA requirements. The Draft EIR/EIS will be published in May 2006.

- **South San Joaquin Irrigation District's (SSJID) Proposed Acquisition of PG&E's Electric Distribution System**. For the County of San Joaquin, Ms. Lee is managing preparation of an EIR that will evaluate the proposed acquisition of electric distribution assets within the SSJID. The acquisition requires construction of a new distribution substation and modification of existing distribution lines.

- **Jefferson-Martin 230 kV Transmission Line Project**. Ms. Lee managed preparation of an EIR for PG&E's proposed 27-mile transmission line through scenic San Mateo County in the Highway 280 corridor, urban Colma and Daly City, and across San Bruno Mountain for the California Public Utilities Commission (CPUC). This controversial and high profile project is considered to be an essential component of San Francisco's energy supply, and involved coordination with numerous local and regional jurisdictions. The Draft EIR was published in July 2003, and over 800 pages of comments were submitted. The 2,600-page, three-volume Final EIR included responses to all comments and was published in November 2003. The Final EIR was awarded first place in the Outstanding Environmental Analysis Document competition by the Association of Environmental Professionals (April 2004). The CPUC approved the project and certified the EIR in August 2004, and construction is now underway.

- **PG&E Los Banos-Gates ("Path 15") 500 kV Transmission Project**. Ms. Lee managed preparation of a Supplemental EIR for the California Public Utilities Commission (CPUC) to evaluate potential impacts of an 84-mile transmission line in the San Joaquin Valley. This line is considered critical to enhancing electric reliability in the State, and will relieve transmission congestion between southern and northern California. Aspen's team included 8 subcontractors. The Draft SEIR was released in October 2001 and the Final SEIR was published in February 2002. The project was ultimately not approved by the CPUC because it was constructed under approval by the Western Area Power Administration.

- **PG&E Northeast San Jose Transmission Reinforcement Project**: Ms. Lee served as the Project Manager for this CPUC contract to evaluate PG&E's proposed transmission improvements in Santa Clara and Alameda Counties. The project included a 7-mile 230 kV transmission line, a new substation, and connections to several 115 kV distribution lines. A major environmental issue was biological resources (the proposed transmission line route would have passed through the San Francisco Bay National Wildlife Refuge and the habitat of several endangered species) and potential effects on high-tech business parks along the transmission line route (in the heart of "Silicon

Valley"). Numerous alternative transmission line routes were identified and evaluated in the Draft EIR, Supplemental Draft EIR, and Final EIR. The Final EIR, including a recommended 3.5-mile underground 230 kV transmission line segment, was certified by the CPUC in April 2001. Ms. Lee also managed the mitigation monitoring program for this contract, which was completed when construction finished in mid-2003.

- **PG&E Tri-Valley 2002 Capacity Increase Project.** Ms. Lee managed preparation of the Draft and Final EIRs for this controversial and complex project during 2000 and 2001, which was certified by the CPUC in May 2001. The Draft EIR (over 800 pages) evaluated proposed transmission lines and substations in the Tri-Valley area (Cities of Pleasanton, Dublin, Livermore, and San Ramon) of Alameda and Contra Costa Counties, and responded to a high level of local concern regarding electric and magnetic fields (EMFs). The EIR presented a range of route and electrical system alternatives for the transmission line segments proposed by PG&E. Ms. Lee developed the project description and managed the alternatives screening and analysis process, and also supervised a team of 11 subcontractors. The Final EIR was certified in November 2001 and construction began in mid-2002. Ms. Lee is also managing the mitigation monitoring phase of the project; the first two phases of a three-phase construction process were completed in November 2003. Phase 3 construction, with mitigation monitoring services also provided by Aspen, is underway and will be completed in 2006.

- **U.S. Department of Interior Minerals Management Service (MMS) Environmental Information Document.** Ms. Lee served as Deputy Project Manager for preparation of a comprehensive summary of environmental effects of potential new southern California's offshore oil and gas exploration and development, including a cumulative impact assessment. The Department of Interior's MMS will use the EID to support Coastal Consistency Determinations for the remaining undeveloped leases offshore Santa Barbara, Ventura, and San Luis Obispo Counties.

- **U.S. Department of Agriculture, Forest Service Region 5, On-Call Environmental Services**. Ms. Lee is Aspen's Program Manager for this three-year on-call contract to provide environmental and NEPA compliance services to National Forests in California. Two task orders have been awarded to Aspen to date:

  - **Angeles National Forest (ANF) Vegetation Management**. Aspen completed biological and cultural resources surveys for nearly 2,000 acres within the ANF, prepared biological and cultural reports, Decision Memos, and air quality conformity analyses for projects that would improve fire protection for the forest.

  - **Mendocino National Forest Soils Survey**. Aspen and a subconsultant soils scientist completed a soils survey of an area proposed for vegetation removal. Potential erosion and sedimentation impacts were assessed, and mitigation measures were developed to protect soils.

- **Kinder Morgan Concord-Sacramento Pipeline**. Ms. Lee managed preparation of an EIR for the California State Lands Commission evaluating a proposed 70-mile petroleum products pipeline through Contra Costa, Solano, and Yolo Counties. Major issues related to pipeline safety and the protection of Sacramento/San Joaquin Delta waterways and surrounding biological resources. Ms. Lee managed Aspen's in-house technical and management staff, as well as 7 subcontractor firms. The Final EIR was published in September 2003 and certified by the CSLC in November 2003.

- **Telecommunications On-Call Contract**. Ms. Lee is the Program Manager for an on-call contract awarded to Aspen in 2002 by the CPUC to evaluate telecommunications projects throughout California and to provide mitigation monitoring services.

- **Deputy Program Manager and Delivery Order Manager, U.S. Army Corps of Engineers General Environmental Services Contracts.** For Aspen's on-call environmental services contracts with the Los Angeles District, Army Corps of Engineers between 1998 and 2003, Ms. Lee has managed several projects requiring NEPA compliance in southern California and Arizona. She has managed preparation of Environmental Assessments for federal agencies, local flood control and recreation

districts and military facilities. Projects have included a mitigation measure implementation plan for the U.S. Army's Fort Irwin National Training Center and a variety of environmental assessments related to flood control projects and biological resources in southern California

- **PG&E Hydrodivestiture Project**. The 11-volume Draft EIR prepared for the CPUC to consider PG&E's proposed divestiture of its hydroelectric assets was prepared in Aspen's San Francisco office. Ms. Lee assisted in project and contract management, technical review, and document production.

- **Kinder Morgan Carson-Norwalk Pipeline EIR and Mitigation Monitoring, Compliance, Reporting, and Program (MMCRP).** As Project Manager, Ms. Lee managed the CEQA evaluation of a proposed 13-mile petroleum products pipeline in urban Los Angeles for the CPUC. The project included review of Kinder Morgan's Proponent's Environmental Assessment (PEA), preparation of an Initial Study, and a Draft and Final EIR. The Final EIR was completed in May 1998 (certified in October 1998). Public participation activities included Scoping Meetings, an Informational Workshop, a Public Participation Hearing, a project newsletter, and creation of an Internet website. Alternatives to five portions of the proposed pipeline route were identified. Sensitive issues included pipeline safety, potential impacts on water wells and surface waters, and construction impacts such as noise and air quality degradation. Ms. Lee also managed the MMCRP for the construction of the Carson-Norwalk Pipeline.

- **Yellowstone Pipeline Reroute EIS.** Aspen prepared an EIS for the USDA Forest Service, Lolo National Forest, for a controversial petroleum products pipeline in western Montana. Ms. Lee served as Issue Area Coordinator for three issue areas: Hydrology and Water Resources; Geology, Mineral Resources, and Paleontology; and Soils. Her responsibilities included coordination of management issues with project scientists and agency personnel, review of technical reports, oversight of fieldwork, and writing of EIS text from technical reports prepared by issue area specialists.

CERTIFICATES/AWARDS

- Association of Environmental Professionals – First Place Award for Outstanding Environmental Analysis Document (2004): Jefferson-Martin 230 kV Transmission Line EIR

- California Energy Commission's Outstanding Performance Award for 2001

TRAINING

California Energy Commission Expert Witness Training

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION
OF THE STATE OF CALIFORNIA

PETITION TO MODIFY THE APPLICATION FOR CERTIFICATION OF THE BLYTHE ENERGY POWER PLANT PROJECT	Docket No. 99-AFC-8C *Revised 09/22/05

PROOF OF SERVICE

DOCKET UNIT

Send the original signed document plus the required 12 copies to the address below:

CALIFORNIA ENERGY COMMISSION
DOCKET UNIT, MS-4
Attn: Docket No. 99-AFC-8C
1516 Ninth Street

Sacramento, CA 95814-5512

* * * *

In addition to the documents sent to the Commission Docket Unit, also send individual copies of any documents to:

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**Revisions to POS List, i.e. updates, additions and/or deletions.*

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**Revisions to POS List, i.e. updates, additions and/or deletions.*

DECLARATION OF SERVICE

I, Angela Hockaday, declare that on September 7, 2006, I deposited copies of the attached Revised Staff Assessment/Draft Environmental Assessment for the Blythe Energy Project Transmission Line Amendment Petition (99-AFC-8C) in the United States mail at Sacramento, California with first class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above. Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. I declare under penalty of perjury that the foregoing is true and correct.

Angela Hockaday
(original signed in Dockets)

**Revisions to POS List, i.e. updates, additions and/or deletions.*

* * * *

INTERNAL DISTRIBUTION LIST

FOR YOUR INFORMATION ONLY! Parties **DO NOT** mail to the following individuals. The Energy Commission Docket Unit will internally distribute documents filed in this case to the following:

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**Revisions to POS List, i.e. updates, additions and/or deletions.*