COMMISSION DECISION

APPLICATION FOR CERTIFICATION

BLYTHE
ENERGY PROJECT

Docket No 99-AFC-8

MARCH 2001

CALIFORNIA ENERGY COMMISSION

Gray Davis, *Governor*

P 800-01-010

CALIFORNIA
ENERGY
COMMISSION
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Sacramento, CA 95814

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NOTICE OF AVAILABILITY
OF THE
COMMISSION DECISION
ON THE
APPLICATION FOR CERTIFICATION
FOR THE
BLYTHE ENERGY PROJECT
CEC DOCKET NO. 99-AFC-8

The full Commission adopted the Presiding Member s Proposed Decision for the Blythe Energy Project at its regularly scheduled Business Meeting held on March 21, 2001. Copies of the Commission Decision are available from:

Commission Publications Unit,
1516 9th Street, MS-13,
Sacramento, California 95814
Telephone: (916) 654-5200

Refer to Publication No. P800-01-010

The Decision will also be available on the Commission Web Site as follows:

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STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	)	**Docket No. 99-AFC-8**
	)	**(Order No. 01-0321-17)**
Application for Certification	)	**COMMISSION ADOPTION ORDER**
for the	)	
BLYTHE ENERGY PROJECT	)	
	)	

This Commission Order adopts the Commission Decision on the **BLYTHE ENERGY PROJECT.** It incorporates the Presiding Member s Proposed Decision (PMPD) in the above-captioned matter and the Committee Errata, dated March 20, 2001, thereto. The Commission Decision is based upon the evidentiary record of these proceedings (Docket No. 99-AFC-8) and considers the comments received at the March 21, 2001, business meeting. The text of the attached Commission Decision contains a summary of the proceedings, the evidence presented, and the rationale for the findings reached and Conditions imposed.

This ORDER adopts by reference the text, Conditions of Certification, Compliance Verifications, and Appendices contained in the Commission Decision. It also adopts specific requirements contained in the PMPD which ensure that the proposed facility will be designed, sited, and operated in a manner to protect environmental quality, to assure public health and safety, and to operate in a safe and reliable manner.

FINDINGS

The Commission hereby adopts the following findings in addition to those contained in the accompanying text:

1. The **BLYTHE ENERGY PROJECT** is a merchant power plant whose capital costs will not be borne by the State s electricity ratepayers.

2. The Conditions of Certification contained in the accompanying text, if implemented by the Applicant, ensure that the project will be designed, sited, and operated in conformity with applicable local, regional, state, and federal laws, ordinances, regulations, and standards, including applicable public health and safety standards, and air and water quality standards.

3. Implementation of the Conditions of Certification contained in the accompanying text will ensure protection of environmental quality and assure reasonably safe and reliable operation of the facility. The Conditions of Certification also assure that the project will neither result in, nor contribute substantially to, any significant direct, indirect, or cumulative adverse environmental impacts.

4. Existing governmental land use restrictions are sufficient to adequately control population density in the area surrounding the facility and may be reasonably expected to ensure public health and safety.

5. The evidence of record does not establish the existence of any environmentally superior alternative site.

6. The analysis of record assesses all potential environmental impacts associated with the 520 MW configuration.

7. The Decision contains measures to ensure that the planned, temporary, or unexpected closure of the project will occur in conformance with applicable laws, ordinances, regulations, and standards.

8. The proceedings leading to this Decision have been conducted in conformity with the applicable provisions of Commission regulations governing the consideration of an Application for Certification and thereby meet the requirements of Public Resources Code, sections 21000 et seq., and 25500 et seq.

ORDER

Therefore, the Commission ORDERS the following:

1. The Application for Certification of **BLYTHE ENERGY,** a limited liability corporation, a subsidiary of Caithness Blythe, LLC., as described in this Decision is hereby approved and a certificate to construct and operate the project is hereby granted.

2. The approval of the Application for Certification is subject to the timely performance of the Conditions of Certification and Compliance Verifications enumerated in the accompanying text and Appendices. The Conditions and Compliance Verifications are integrated with this Decision and are not severable therefrom. While the project owner may delegate the performance of a Condition or Verification, the duty to ensure adequate performance of a Condition or Verification may not be delegated.

3. For purposes of reconsideration pursuant to Public Resources Code section 25530, this Decision is deemed adopted when filed with the Commission s Docket Unit.

4. For purposes of judicial review pursuant to Public Resources Code section 25531, this Decision is final thirty (30) days after its filing in the absence of the filing of a petition for reconsideration or, if a petition for reconsideration is filed within thirty (30) days, upon the adoption and filing of an Order upon reconsideration with the Commission s Docket Unit.

5. The Commission hereby adopts the Conditions of Certification, Compliance Verifications, and associated dispute resolution procedures as part of this Decision in order to implement the compliance monitoring program required by Public Resources Code section 25532. All conditions in this Decision take effect immediately upon adoption and apply to all construction and site preparation activities including, but not limited to, ground disturbance, site preparation, and permanent structure construction.

6. The Executive Director of the Commission shall transmit a copy of this Decision and appropriate accompanying documents as provided by Public Resources Code section 25537 and California Code of Regulations, title 20, section 1768.

Dated:

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

Absent
WILLIAM J. KEESE
Chairman

MICHAL C. MOORE
Commissioner

ROBERT A. LAURIE
Commissioner

ROBERT PERNELL
Commissioner

ARTHUR H. ROSENFELD
Commissioner

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INTRODUCTION

A. SUMMARY OF THE PROPOSED DECISION

This Decision contains our rationale for determining that the Blythe Energy Project (BEP) complies with all applicable laws, ordinances, regulations, and standards, and may therefore be licensed. It is based exclusively upon the record established during these certification proceedings and summarized in this document. We have independently evaluated this evidence, provided references to the record[1] supporting our findings and conclusions, and specified the measures required to ensure that the BEP is designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

BEP, as proposed by Blythe Energy, LLC (Applicant), will be located in eastern Riverside County in the City of Blythe on private property about 5 miles west of downtown Blythe. The project is a combined cycle 520 (nominal) megawatt (MW) natural gas-fired power plant sited on a 76-acre parcel. Associated facilities include a new 600-foot, 160/230 kilovolt (kV) electric overhead transmission line that will interconnect to Western Area Power Administration s existing Blythe Substation; a new 0.8-mile natural gas fuel supply line that connects with the SoCal Gas Pipeline and/or an 11.5-mile natural gas fuel supply line that connects with the El Paso Gas Facility in Ehrenberg, Arizona; and on-site water supply wells.

BEP electrical output will be sold into the California electricity market, as well as to wholesale power consumers pursuant to bilateral sales agreements and other markets. Project construction is expected to commence in the second quarter of 2001; capital costs are estimated at $225-$250 million. The project will provide

[1] All references to the Reporter s Transcript appear as date RT page. The dates refer to 2000 unless otherwise noted. Exhibits that were included in the evidentiary record are cited as Ex. number . A list of all exhibits is contained in Appendix C of this Decision.

481 construction jobs at peak employment, as well as 20 permanent operational jobs. Full-scale commercial operation is anticipated by mid- to late-2002. The project labor will be provided by qualified workers from the local region for project construction, maintenance, and operation. Condition **SOCIO-2** ensures that the project owner will make a good faith effort to recruit employees and purchase materials/supplies in Riverside County.

Extensive coordination occurred in the process with numerous local, state, and federal agencies. The Commission s review process has been conducted jointly with the Western Area Power Administration (Western). Western and the Energy Commission have signed a Memorandum of Understanding (MOU) by which staffs of each agency have worked jointly as an independent party in the proceedings. Western is the lead federal agency for the purposes of National Environmental Policy Act (NEPA) compliance. The Energy Commission and Western are issuing this joint NEPA/CEQA (California Environmental Quality Act) document.

Western, Applicant and Commission staff worked with the City of Blythe, the Riverside County Planning Department, the Mojave Desert Air Quality Management District (MDAQMD or Air District), the South Coast Air Quality Management District; the California Air Resources Board (CARB), the U.S. Environmental Protection Agency (USEPA), the United States Fish & Wildlife Service, the California Department of Fish and Game, the California Department of Health Services, U.S. Army Corps of Engineers, the Regional Water Quality Board, the Palo Verde Irrigation District, the City of Blythe and Riverside County Fire Departments, Riverside County Planning Department, the California Independent System Operator (Cal-ISO), as well as Intervenor Carmela F. Garnica and the public at large.

MDAQMD was responsible for coordinating input from the USEPA and CARB, in consultation with Commission staff, in drafting its Final Determination of

Compliance (FDOC) on the project s conformity with state and federal air quality standards. BEP has provided more than sufficient offsets to comply with MDAQMD s requirements. The project will use the best available control technology (BACT), identified by MDAQMD, to reduce emissions to levels of insignificance. The conditions imposed by MDAQMD are incorporated into this Decision.

Best Available Control Technology (BACT) to control Project air emissions includes Selective Catalytic Reduction (SCR) control technology to reduce NOx emissions. SCR, the industry standard emission control technology, relies on ammonia in the NOx cleansing process.

Intervenor Carmela F. Garnica was an active Intervenor in this proceeding. She was concerned that project-related water usage would be too great, that air emissions would degrade air quality and cause detrimental health effects to farmworkers from ammonia slip during the SCR process and that the gas supply lines were too dangerous. The evidence of record clearly establishes, however, that the project complies with all applicable federal, state, and local regulatory programs that are designed to protect air quality and public health and safety. Both Staff and Applicant went to great lengths in attempts to satisfy her concerns.

BEP will provide habitat compensation funds to mitigate potential impacts to the Desert Tortoise. Mitigation also includes revegetation of Harwood s milkvetch as a precautionary measure, even though there was no conclusive evidence of significant impact. The evidentiary record reveals a complete examination of potential impacts to protected species under federal, state, and local laws, ordinances, regulations, and standards (LORS). Condition **BIO-14** requires BEP to provide a Biological Resources Mitigation Implementation and Monitoring Plan that will include all mitigation measures identified by federal, state, and local regulatory agencies.

The property has been incorporated into the City of Blythe. A zoning variance was required for stack height and it has been obtained. Condition **LAND-4** requires BEP to submit a Site Development Plan that incorporates the conditions identified by the City.

BEP will provide approximately $2 million per year in property taxes, which will accrue to the City of Blythe and Riverside County and be allocated on a pro rata basis to county government, the Riverside County Fire Department, city government, special districts, and county schools. Applicant will negotiate mitigation fees with the City of Blythe Fire Department. Condition **WORKER SAFETY-3** ensures that BEP will execute a final agreement with the Fire Department prior to the construction of building structures.

B. SITE CERTIFICATION PROCESS

The BEP and its related facilities are subject to Energy Commission licensing jurisdiction. (Pub. Resources Code, ∥ 25500 et seq.). During licensing proceedings, the Commission acts as lead state agency under the California Environmental Quality Act (Pub. Resources Code, ∥ 25519 (c), 21000 et seq.). The Commission s process and associated documents are functionally equivalent to the preparation of the traditional Environmental Impact Report. (Pub. Resources Code, / 21080.5.) The process is designed to complete the review within a specified time period; a license issued by the Commission is in lieu of other state and local permits. Western was required to conduct its own review and this Decision is our joint product.

The Commission's certification process provides a thorough and timely review and analysis of all aspects of this proposed project. During this process, we conduct a comprehensive examination of a project's potential economic, public health and safety, reliability, engineering, and environmental ramifications.

Specifically, the Commission's process allows for and encourages public participation so that members of the public may become involved either informally, or on a more formal level as an Intervenor with the same legal rights and duties as the project developer and Commission Staff. Public participation is encouraged at every stage of the process.

The process begins when an Applicant submits the Application for Certification (AFC). Commission staff reviews the data submitted as part of this AFC, and recommends to the Commission whether the AFC contains adequate information to begin the review. Once the Commission determines that an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the licensing process. This process includes public conferences and evidentiary hearings, as well as providing a recommendation (the Presiding Member s Proposed Decision) to the full Commission concerning a project's conformity with applicable laws, ordinances, regulations, and standards.

The initial portion of the certification process is weighted heavily toward assuring public awareness of the proposed project and obtaining such further technical information as necessary. During this time, the Commission staff sponsors numerous public workshops at which Intervenors, agency representatives, and members of the public meet with Staff and Applicant to discuss, clarify, and negotiate pertinent issues. Staff then publicizes its initial technical evaluation of a project in a document called the "Preliminary Staff Assessment (PSA)," which is made available for public comment. Staff s responses to public comment on the PSA and its complete analyses are published in the Final Staff Assessment (FSA).

Following this, the Committee conducts a Prehearing Conference to assess the adequacy of available information, identify issues, and determine the positions of the various participants. Information presented at this event becomes the basis for a Hearing Order that announces and schedules formal evidentiary hearings.

At these hearings, all entities that have formally intervened as parties are eligible to present sworn testimony, which is subject to cross-examination by other parties and questioning by the Committee. Members of the public may present comments at these hearings. Evidence adduced during these hearings provides the basis for the Committee s analysis and recommendation to the full Commission.

The Committee s analysis and recommendation appear in the Presiding Member's Proposed Decision (PMPD), which is available for a public review period of at least 30 days. Depending upon the extent of revisions necessary after considering comments received during this period, the Committee may then elect to publish a revised version. If so, this Revised PMPD triggers an additional 15-day public comment period. Finally, the full Commission decides whether to accept, reject, or modify the Committee's recommendations at a public hearing.

Throughout the licensing process, members of the Committee, and ultimately the Commission, serve as fact-finders and decision-makers. Other parties, including the Applicant, Commission staff, and formal intervenors, function independently and with equal legal status. An "ex parte" rule prohibits parties from communicating on substantive matters with the decision-makers, their staffs, or the assigned hearing officer unless these communications are made on the public record. The Office of the Public Adviser is available to inform members of the public concerning the certification proceedings, and to assist those interested in participating.

C. PROCEDURAL HISTORY

Public Resources Code, sections 25500 et seq. and Commission regulations (20 Cal. Code of Regs.,／1701, et seq.) mandate a public process and specify the occurrence of certain necessary events. The key procedural elements that occurred in the present case are summarized below.

On December 9, 1999, Applicant filed its Application for Certification (AFC) seeking approval from the Commission to construct and operate the 520-megawatt facility. On March 22, 2000, the full Commission accepted the AFC as data adequate in order to commence the 12-month review process.

The Committee published a notice of "Informational Hearing and Site Visit" on April 20, 2000. The notice was sent to all entities who were known to be interested in the proposed project, including the owners of property adjacent to, or in the near vicinity of BEP. The notice was also published in local general circulation newspapers.

The Committee conducted the Informational Hearing at Blythe City Hall in Blythe on May 4, 2000. At this event, the Committee, Western and other participants discussed the proposed project, described the Energy Commission's and Western s review processes, and identified the opportunities for public participation. The parties also toured the site where the project will be situated.

The only person that intervened and participated as a formal party in this proceeding was Carmela F. Garnica, a resident of Blythe.

Subsequently, Commission staff scheduled several public workshops to discuss project details with the parties, agencies and members of the public. These workshops were held either in Blythe or via teleconference in Sacramento. The Staff-sponsored workshops were scheduled on +June 7, 2000, July 11, 2000, July 26, 2000, and September 27, 2000.

The Committee issued its required Scheduling Order on May 25. Pursuant to this Order, and following additional case development, Commission staff and Western released their Preliminary Staff Assessment/Draft Environmental Assessment (PSA) on September 1. Subsequent to the release of the PSA, the

Committee conducted a Status Conference by teleconference on October 10 to review the 12-month schedule. Thereafter, on November 17 and 20, the Committee conducted a Prehearing Conference to assess the status of the case and determine whether substantive issues required adjudication.

After considering the comments of all parties, the Committee subsequently considered the date for issuance of the Final Staff Assessment/Environmental Assessment, which was filed on November 14, and scheduled the commencement of formal evidentiary hearings, which were conducted in Blythe on November 27 and 28, 2000. The Committee received testimony and evidence at the evidentiary hearings. After reviewing the evidentiary record and briefs of the parties, the Committee published this Presiding Member's Proposed Decision on February 17, 2000.

I. PROJECT PURPOSE AND DESCRIPTION

Blythe Energy, LLC (herein after the Company or the Applicant), a subsidiary of Caithness Blythe, LLC, proposes to construct and operate the Blythe Energy Project (BEP), a nominal 520 megawatt (MW) natural gas-fired electrical facility five miles west of downtown Blythe, in eastern Riverside County, California. (Ex. 1,/2.1.) The Applicant s primary purpose is to develop a maximally efficient merchant power plant that can competitively produce electricity for sale to regional markets in Southern California, Arizona, and the surrounding region . (Ex. 1,/1.1.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The 76-acre proposed site is five miles west of the center of the City of Blythe on privately owned lands one-quarter mile north of Interstate 10 and east of the Blythe Airport. The site is bounded on the south by Hobsonway, on the east by Buck Boulevard and on the north by an easement dedicated for Riverside Drive. (Ex. 1,/2.2.1.) The site is bounded on the west by the Blythe Airport Industrial Park, owned by Riverside County and operated by the City of Blythe. (Ex. 1,/ 2.2.2.) The property is a part of lands annexed to the City of Blythe on November 28, 2000. (Ex. 50.) **PROJECT DESCRIPTION Figure 1**, replicated from the FSA (Ex. 53), shows the regional setting of the project. Applicant will use a temporary construction laydown area on-site. If additional laydown area is needed off-site, it will be leased. Construction access will be from Interstate 10 to Hobson Way via the Mesa Drive interchange. (Ex. 1,//2.2.15, 7.4.1.1.) The key components of the generating plant will be in the northwest 15 acres of the property and the switch yard (also 15 acres) will be located between the generating plant and Buck Boulevard. Access to the site will be via an access road from Buck Boulevard (Ex. 1,/2.2.1.) Buck Boulevard will be paved as a part of the project. (Ex. 1,/7.4.1.5.) The site is currently undeveloped, vacant agricultural land. (Ex. 1,/7.14.1.1.)

The power plant will consist of two F-Class Combustion Turbine Generators (CTG) manufactured by Siemens-Westinghouse, model V84.3A; two heat recovery steam generators (HRSGs) with duct burners; a single condensing steam turbine generator (STG); a deaerating surface condenser; two banks of mechanical draft wet cooling towers; and auxiliary equipment. (Ex. 1,／2.2.3; Ex. 2, p. 2; Ex. 53, p.11.) Each CTG will be capable of producing 170 MW of energy and will be equipped with inlet cooling to increase output during periods of high ambient temperature. Inlet air will be chilled by an anhydrous ammonia refrigeration system to provide the combustion turbines with inlet air at a constant 59¡ Fahrenheit. (Ex. 53, p.11.) The exhaust gas from each CTG is routed to the individual HRSGs where steam is generated, and provided to the STG. Duct firing will be provided to supplement steam generation during conditions when the exhaust energy from the CTGs decline. (Ex. 2, p. 2.) BEP will use 24 cooling tower cells arranged in two tower banks. The cooling towers are expected to be standard, induced draft counter-flow type. The 64-foot towers will incorporate high efficiency drift eliminators. (Ex. 1,／2.2.13.3; Ex 53, p. 163.) The 130-foot high exhaust stacks from the HRSG will use aqueous ammonia in the selective catalytic reduction (SCR) process to reduce harmful emissions. (Ex. 1, Figure 1.0-11; Ex. 1,／7.8.1; 11/27 RT 227-228.) The nominal power rating of the generating facility is based upon preliminary design information and generating equipment manufacturers guarantees. The project s actual maximum generating capacity will differ from, and likely exceed, 520 MW. (Ex. 53, p. 11.)

The plant will be designed to meet stringent regulatory emission control limits and will utilize Best Available Control Technology (BACT). Nitrogen oxides (Nox) emission limits will be controlled during normal operations to 2.5 ppm using dry low NOx combustors and selective catalytic reduction (SCR). Carbon monoxide (CO) will be controlled between 5 and 8.4 ppmvd depending on CTG load as described in the Air Quality testimony. During duct firing CO will be controlled to less than 8.4 ppmvd. Volatile organic compounds (VOC) emissions will be

controlled to 1 ppm. Particulate matter less than ten microns in diameter (PM_{10}) from the cooling towers will be controlled using high efficiency drift eliminators. (Ex. 2, p. 2.)

An aerial view of the plant layout **PROJECT DESCRIPTION Figure 2** shows the site and the existing Western Area Power Administration s (Western) Blythe Electrical Substation. **PROJECT DESCRIPTION Figure 3** provides a view of how the completed plant will look. **PROJECT DESCRIPTION Figure 4** shows elevations of some of the power plant facilities.

The project proposes to interconnect with the regional electric transmission grid at the Western s existing Blythe Substation located within 600 feet of the proposed project site. Western will construct the new Buck Blvd. Substation (located on the project site), which will be interconnected with the existing Blythe Substation. (Ex. 2, p. 2.) The Blythe Substation, in turn, interconnects five existing 161 kV regional transmission lines. Three are owned by Western, one by Imperial Irrigation District (IID) and the other by Southern California Edison (SCE). (Ex. 53, p. 11.)

Two separate natural gas connecting pipelines are proposed as shown on **PROJECT DESCRIPTION Figure 5**. The shorter of the two (0.8 miles long) would connect to a Southern California Gas Company (SoCal Gas) line south of the proposed site. The longer (11.5 miles long) pipeline would connect to the El Paso Gas facility in Ehrenberg, Arizona. The applicant would bore under the Colorado River to make the El Paso gas connection. (Ex. 53, p. 12.)

Water required for the project is approximately 2,200 gallons per minute, approximately 3,000 acre-feet per year at full operation. It will be supplied by 3 new wells to be drilled on site, approximately 550 feet deep. The applicant has proposed a wet cooling system. (Ex. 53, p. 11; Ex. 2, p. 2.)

The project will have zero liquid discharge. The process wastewater system will recover and recycle most of the water. The system will discharge the remaining wastewater to two lined evaporation ponds on site, each eight acres or less in size. (Ex. 53, p. 12; Ex. 2, p. 2; Ex. 1, 7.11.2.2.2.) Waste sanitary water will be sent to an on-site septic system with catch basins and leach fields. (Ex. 53, p. 12; Ex. 2, p. 2.)

The applicant has proposed a water conservation offset program (WCOP) with the cooperation of the Palo Verde Irrigation District (PVID) to address the possible future issue of Colorado River water accounting and cumulative regional water supply impacts. (Ex. 53, p. 12.) This subject is more fully discussed under the topics of **SOILS AND WATER RESOURCES** and **LAND USE**.

The project s estimated capital cost is about $225 million. Up to 385 construction workers will be required at peak workload, plus 140 workers during the peak construction period of the gas pipeline. A permanent professional workforce of approximately 20 people will operate the plant. The applicant projects an 18-20 month construction schedule. This could lead to commercial operation by the second half of 2002. (Ex. 53, p. 12; Ex. 2, p. 3.)

FINDINGS AND CONCLUSIONS

1. Applicant proposes to construct and operate the Blythe Energy Project (BEP), a 520 MW (nominal) power plant consisting of two combined cycle natural gas fired, F-class combustion turbine generators, two heat recovery steam generators with exhaust stacks 130 feet in height, one steam turbine generator, 2 cooling tower banks each 64 feet in height, a high voltage switchyard, other power generation equipment, and auxiliary facilities.

2. The project site will be located in eastern Riverside County on a 76-acre parcel on privately owned property.

3. Linear facilities include either a new 11.5 mile gas pipeline or a new 0.8 mile gas pipeline, or both, a new on-site access road, an on-site water supply pipeline, and 600 feet of overhead transmission line.

We conclude that the Blythe Energy Facility is described in sufficient detail to allow review in compliance with the provisions of both the Warren-Alquist Act and the California Environmental Quality Act (CEQA).

II. NEED CONFORMANCE

Prior to January 1, 2000, the Public Resources Code directed the Commission to perform an integrated assessment of need, taking into account 5 and 12-year forecasts of electricity supply and demand, as well as various competing interests, and to adopt the assessment in a biennial electricity report. In certification decisions, the Commission was required to find that a proposed power plant was in conformance with the Commission s integrated assessment of need for new resource additions. [Pub. Resources Code,∕∕25523 (f) and 25524(a).]

Effective January 1, 2000, Senate Bill 110 (Stats. 1999, ch. 581) repealed Sections 25523(f) and 25524(a) of the Public Resources Code, and amended other provisions relating to assessment of need for new resources. Specifically, it removed the requirement that the Commission make a finding of need conformance in a certification decision. Senate Bill 110 states in pertinent part:

> Before the California electricity industry was restructured, the regulated cost recovery framework for power plants justified requiring the commission to determine the need for new generation, and site only power plants for which need was established. Now that power plant owners are at risk to recover their investments, it is no longer appropriate to make this determination. (Pub. Resources Code,∕25009, added by Stats. 1999, ch. 581,∕1.)

As a result of this legislation, an application for certification (AFC) that reaches final Commission decision after January 1, 2000 is not subject to a determination of need conformance. Since the final decision on the AFC in this case will occur *after* January 1, 2000, the Commission is not required to include a need conformance finding.

III. PROJECT ALTERNATIVES

For projects such as the Blythe Energy Project that have been exempted from the Notice of Intention requirements of Public Resources Code section 25540.6, the Commission is required to examine the "…feasibility of available site and facility alternatives … which substantially lessen the significant adverse impacts of the proposal on the environment." (Cal. Code of Regs., tit. 20, § 1765.) This inquiry must also comply with California Environmental Quality Act (CEQA) Guidelines, which require an evaluation of the comparative merits of "…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…" as well as an evaluation of the 'no project' alternative. [Cal. Code of Regs., tit. 14, § 15126(d).]

The range of alternatives, which we are required to consider, is governed by a "rule of reason." This means that our consideration of alternatives may be limited to those "…that would avoid or substantially lessen any of the significant effects…" while continuing to attain most of the basic objectives of the project, and need not include those alternatives whose effects cannot be reasonably ascertained and whose implementation is remote and speculative. [Cal. Code of Regs., tit. 14, § 15126(d) (5).]

SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence of record describes the methodology used to analyze project alternatives and includes a discussion of alternative technologies and alternative project sites as well as the "no project alternative."

1. Methodology

Staff used the following methodology in preparing the alternatives analysis:

- Identify basic project objectives (Ex. 53, p. 16.);
- Identify project's potential significant adverse impacts (Ex. 53, pp. 17-19.);
- Identify and evaluate feasible alternative generation technologies (Ex. 53, pp. 19-21.);
- Identify and analyze alternative site locations (Ex. 53, pp. 21-26.); and
- Evaluate the "no project" alternative. (Ex. 53, pp. 26-28.)

Staff initially found that the project posed potential significant adverse impacts in the technical areas of Air Quality, Biological Resources, Hazardous Materials, Land Use, Traffic and Transportation, Transmission System Engineering, and Water Resources. (Ex. 53, p. 17-19.) However, the Conditions of Certification adopted herein lead to the conclusion that the project will not cause any significant impact on any ambient air quality standard. The land use and traffic and transportation concerns have been alleviated through the incorporation of the project lands into the City of Blythe, a land use variance from the City regarding height, and the receipt of further information regarding the local airport. (Ex. 53, pp. 18-19.) Applicant agreed to implement measures that will mitigate all other potential impacts to levels of insignificance and there are, therefore, no unmitigated impacts.

2. Project Objectives

Analysis of project alternatives begins with an identification of project objectives, which include the following:

- Construct and operate a merchant power plant in the Blythe area that supplies economical, reliable, and environmentally sound electrical energy in the restructured power market.

- Locate near key infrastructure elements, such as transmission line interconnections, and supplies of process water and natural gas. (Ex. 53, p. 16; Ex. 1, § 6.1.1.)

2. Generation Technology Alternatives

Staff considered options that do not require the construction of a natural gas-fired facility such as the use of non-fossil fuel technologies.[2]

Staff compared various non-fossil fuel technologies with the proposed project, scaled to meet the project's objectives. These included solar, wind, and geothermal.[3] Staff determined that solar and wind technologies would require large land areas resulting in significant land use, biological, and visual impacts and are therefore not feasible alternatives. (Ex, 53, p. 20-21.)

Geothermal technology was also rejected although some such generation exists in the Imperial Valley. Geothermal plants typically produce much smaller amounts of power and would not meet a project objective of generating 520MW. (Ex, 53, p. 21.)

Applicant considered alternatives in the project design, equipment, and cooling and generating technologies to possibly reduce potential adverse impacts. (Ex. 1, §§ 6.5, 6.8.) While some of the alternatives were found to be possible, each alternative was found to lack one or more of the desirable characteristics of the proposed project and, therefore, would not be as competitive in the deregulated electricity market. (Ex. 1, §§ 6.7-6.8.)

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[2] Public Resources Code section 25305(c) excludes consideration of demand side management measures as alternatives in a siting case. In the FSA, however, Staff provided a discussion of the role of demand side management in the review of the state's energy needs. (Ex. 53, pp. 19-20.)

[3] There are no biomass or hydroelectric resources in the target area of eastern Riverside County, and therefore, these technologies do not meet project objectives. (Ex. 1, § 6.2.2.)

4. Alternative Sites

In evaluating alternative sites, consideration was given to the underlying objectives of the project, as well as several criteria identified by Applicant for choosing the preferred site location. Selection of the proposed site by the Applicant was the result of the evaluation of several sites throughout Southern California using the following major criteria:

- Availability of transmission system interconnection;
- Presence of high-volume, high pressure natural gas pipelines;
- Suitable water supplies for cooling systems;
- Availability of vacant and compatible land;
- Proximity to transportation corridors;
- Ability to avoid or minimize environmental constraints;
- Permitting feasibility;
- Political feasibility; and
- Avoidance of competing power plants. (Ex. 1, § 6.2.1.)

Applicant considered two alternative sites in the Blythe area in addition to the proposed site. (Ex. 1, §§ 6.2.2-6.2.3.) Staff identified and analyzed three alternative sites, called Alternative Sites A, B, and C. Alternatives A and B are the two sites considered by Applicant and Site C is an additional site. (Ex. 53, p. 21.) The location of these three sites is shown on **Alternatives Figure 1**, replicated from Exhibit 53. They are:

- A) South of Blythe site;
- B) Airport site; and
- C) South of Interstate 10 site.

Intervenor Carmela F. Garnica suggested that the BEP be located out in the desert near the prisons[4], which are located roughly twelve miles west of the proposed site. She also expressed concern about the natural gas pipelines in Blythe, including the existing pipelines, the pipelines proposed as part of BEP, and other proposed new pipelines. She did not offer any evidence on this alternative site, nor did she have a specific site in mind. Her selection criteria consisted solely of a desire to locate it farther away from the main part of the City of Blythe.

As discussed above, both Applicant and Staff selected alternative sites to analyze based on a number of factors, including the availability of transmission system interconnection, the presence of high-volume, high-pressure natural gas supply pipelines, and the availability of vacant and compatible land. Staff noted that constructing a power plant near the prisons would require industrial development of open desert land not currently zoned for industrial uses. Staff's search for compatible land focused on sites zoned or currently considered for future zoning as industrial. In addition, a site near the prisons would require significant transmission lines to connect to the Blythe substation, and no other substations are present in the area. For these reasons, staff did not consider possible sites near the prisons as appropriate alternative sites for the project. (Ex. 53, p.28.)

Staff also notes that locating the BEP near the prisons would also require increasing the length of natural gas pipeline needed to serve the project. If the applicant connected to the SoCalGas pipeline along I-10, the connection would also likely be longer than the 0.8 miles needed for the proposed site. If the applicant connected to the EPNG interstate, high-pressure pipeline system in Arizona, the length of pipeline would roughly double, from 11.5 miles for the proposed site to more than 20 miles for a site near the prison. The

[4] She was supported in this proposal by several members of the public, both by petition and by public comment. Other members of the public, loosely organized by the City of Blythe Chamber of Commerce, were very much in favor of the project at its proposed location.

environmental impacts associated with power plant linears (transmission lines and pipelines) typically increase with the length of the linears. (*Id*.)

Witness Tom Cameron, the Applicant's Project Director, testified that it is not technically economically feasible to build near the prison. (11/27/00 RT 239-240.) Dr. Jeff Harvey also testified about the criteria for project site selection and how remote sites, such as potential sites near the prison, were rejected because they did not result in reduction of any impacts. (11/27/00 RT 236-238.)

The comparative features of alternative sites A, B, and C and the proposed site were independently analyzed by Staff.

According to Staff, the two primary disadvantages of Site A were identified by the Applicant. First, it is located much closer to the center of Blythe, increasing the significance of construction and operation impacts related to noise, construction traffic, visual intrusion, and possible increased exposure to hazardous materials. (Ex. 53, p. 23.) Second, the site is on the Palo Verde Valley floor, increasing the seismic risk and also presenting substantial problems with connection to the electric transmission grid, which would also take place at the Blythe Substation, nearly five miles from this alternative site. (Ex. 53, p. 24.)

Alternative Site B is located immediately adjacent to the airport and is very similar in analysis to the proposed site. The major difference is that the interconnection lines for both transmission lines and other linears would be longer than those for the proposed site and the proposed site is therefore preferable. (Ex. 53, pp. 24-25.)

Alternative Site C is currently used by Southern California Gas as a natural gas compressor station for its gas pipeline. It is therefore infeasible for the development of a power plant.

Staff and Applicant agreed that the proposed site is the preferred location. (Ex. 2, p. 7 and Ex. 53, p. 28.)

5. Linear Facilities

Both Staff and Applicant found no need to consider alternate transmission line routes because of the shortness of the proposed line. (Ex. 53, p. 26; Ex. 1, § 6.3.) Alternatives to the proposed water supply plan included dry cooling or hybrid cooling but these options were found to be economically infeasible. (See **Soil and Water Resources** section.) Applicant's gas pipeline routes avoid the potential biological and cultural impacts that were likely to occur using alternative routes. The longer route would follow existing right-of-ways, along roads where the ground has been previously disturbed and the shorter route would also lie primarily along previously disturbed lands. Neither route and neither connection to existing pipelines would create any significant impact. (Ex. 53, p. 26.)

6. No Project Alternative

Applicant asserts that the 'no project' alternative would result in no project being built at the proposed site by the project developer. This would not be consistent with Applicant's goals of developing a project to provide a fair return on the project investment nor would it provide 520 MW of new capacity and energy to the state's electricity market. (Ex. 1, § 6.1.1.) Moreover, Staff notes that the 'no project' alternative would eliminate economic benefits to the City of Blythe and the County of Riverside, including increased property taxes, employment, sales taxes, and sales of services, manufactured goods, and equipment. (Ex. 53, pp. 27-28.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The project site, which is located on privately held property, is an undeveloped parcel that has been zoned for industrial uses.

2. The evidentiary record contains a review of alternative technologies, fuels, and the 'no project' alternative.

3. No feasible technology alternatives such as biomass, geothermal, hydroelectric, solar, or wind resources are located near the project or are capable of meeting project objectives.

4. The use of alternative generation technologies or cooling technologies would not prove efficient, cost effective or mitigate any significant environmental impacts to greater levels of insignificance than the proposed project description. The Commission takes special note of the fact that poor-quality groundwater will be used for cooling purposes.

5. The evidentiary record does not establish that significant environmental impacts would be avoided under the 'no project' alternative.

6. The evidentiary record contains an adequate analysis of alternative site locations.

7. If all Conditions of Certification contained in this Decision are implemented, construction and operation of the Blythe Energy Project will not create any significant direct, indirect, or cumulative adverse environmental impacts.

We therefore conclude that the record of evidence contains sufficient analysis of alternatives to comply with the requirements of the Warren-Alquist Act and the California Environmental Quality Act and their implementing regulations.

IV. COMPLIANCE AND CLOSURE

Public Resources Code section 25532 requires the Commission to establish a post-certification monitoring system. The purpose of this requirement is to assure that certified facilities are constructed and operated in compliance with applicable laws, ordinances, regulations, and standards, as well as the specific Conditions of Certification contained in this Decision.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence of record contains a full explanation of the purposes and intent of the Compliance Plan (Plan). The Plan is the administrative mechanism used to ensure that the Blythe Energy Project is constructed and operated according to the Conditions of Certification. It essentially describes the respective duties and expectations of the project owner and the Staff Compliance Project Manager in implementing the design, construction, and operation criteria set forth in this Decision. Compliance with the Conditions of Certification contained in this Decision is verified through mechanisms such as periodic reports and site visits. The Plan also contains requirements governing the planned closure, as well as the unexpected temporary and unexpected permanent closure, of the project. (Ex. 53, pp. 111-112.)

The Compliance Plan is composed of two broad elements. The first element is the "General Conditions". These General Conditions basically:

- set forth the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, delegate agencies, and others;
- set forth the requirements for handling confidential records and maintaining the compliance record;
- state procedures for settling disputes and making post-certification changes;

- state the requirements for periodic compliance reports and other administrative procedures necessary to verify the compliance status of all Commission imposed conditions; and

- establish requirements for facility closure.

The second general element of the Plan is the Specific Conditions of Certification. These are found following the summary and discussion of each individual topic area in this Decision. The individual conditions contain measures required to mitigate potentially adverse project impacts to insignificant levels. Each condition also includes a "verification" provision describing the method of assuring that the condition has been satisfied.

The contents of the Compliance Plan are intended to be read in conjunction with any additional requirements contained in the individual Conditions of Certification. Applicant has acknowledged and is in agreement with the applicability of all conditions imposed in this Decision. (Ex. 2, p. 10.)

FINDINGS AND CONCLUSIONS

The evidence of record establishes:

1. The Compliance Plan and the specific Conditions of Certification contained in this Decision assure that the Blythe Energy Project will be designed, constructed, operated, and closed in conformity with applicable law.

2. Requirements contained in the Compliance Plan and in the specific Conditions of Certification are intended to be read in conjunction with one another.

We therefore conclude that the compliance and monitoring provisions incorporated as a part of this Decision satisfy the requirements of Public Resources Code, section 25532. Furthermore, we adopt the following Compliance Plan as part of this Decision.

COMPLIANCE PLAN

GENERAL CONDITIONS OF CERTIFICATION

COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

A CPM will oversee the compliance monitoring and shall be responsible for:

1. Ensuring that the design, construction, operation, and closure of the project facilities is in compliance with the terms and conditions of the Commission Decision;
2. Resolving complaints;
3. Processing post-certification changes to the conditions of certification, project description, and ownership or operational control;
4. Documenting and tracking compliance filings; and
5. Ensuring that the compliance files are maintained and accessible.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints and amendments.

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval, it should be understood that the approval would involve all appropriate staff and management.

The Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Commission about power plant construction or operation-related questions, complaints or concerns.

PRE-CONSTRUCTION AND PRE-OPERATION COMPLIANCE MEETING

The CPM may schedule pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Energy Commission s and the project owner s technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission s conditions of certification to confirm that they have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings shall ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight or inadvertence and to preclude any last minute,

unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

ENERGY COMMISSION RECORD

The Energy Commission shall maintain as a public record, in either the Compliance file or Docket file, for the life of the project (or other period as required):

1. all documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;

2. all monthly and annual compliance reports filed by the project owner;

3. all complaints of noncompliance filed with the Energy Commission; and,

4. all petitions for project or condition changes and the resulting staff or Energy Commission action taken.

PROJECT OWNER RESPONSIBILITIES

It is the responsibility of the project owner to ensure that the general compliance conditions and the conditions of certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the conditions of certification or the general compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate.

ACCESS

The CPM, responsible Energy Commission staff, and delegate agencies or consultants, shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

COMPLIANCE RECORD

The project owner shall maintain project files on-site or at an alternative site approved by the CPM, for the life of the project. The files shall contain copies of all as-built drawings, all documents submitted as verification for

conditions, and all other project-related documents for the life of the project, unless a lesser period is specified by the conditions of certification.

Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files.

COMPLIANCE VERIFICATION

Each condition of certification is followed by a means of verification . The verification describes the Energy Commission s procedure(s) to ensure post-certification compliance with adopted conditions. The verification procedures, unlike the conditions, may be modified, as necessary by the CPM, and in most cases without full Energy Commission approval.

Verification of compliance with the conditions of certification can be accomplished by:

- reporting on the work done and providing the pertinent documentation in monthly and/or annual compliance reports filed by the project owner or authorized agent as required by the specific conditions of certification;
- appropriate letters from delegate agencies verifying compliance;
- Energy Commission staff audits of project records; and/or
- Energy Commission staff inspections of mitigation and/or other evidence of mitigation.

Verification lead times (e.g., 90, 60 and 30-days) associated with start of construction may require the project owner to file submittals during the certification process, particularly if construction is planned to commence shortly after certification.

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. **The cover letter subject line shall identify the involved condition(s) of certification by condition number and include a brief description of the subject of the submittal**. The project owner shall also identify those submittals **not** required by a condition of certification with a statement such as: This submittal is for information only and is not required by a specific condition of certification. When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal.

The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed by the project owner or an agent of the project owner.

All submittals shall be addressed as follows:

Compliance Project Manager
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

If the project owner desires Energy Commission staff action by a specific date, they shall so state in their submittal and include a detailed explanation of the effects on the project if this date is not met.

COMPLIANCE REPORTING

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the Commission Decision. During construction, the project owner or authorized agent will submit Monthly Compliance Reports. During operation, an Annual Compliance Report must be submitted. These reports, and the requirement for an accompanying compliance matrix, are described below. The majority of the conditions of certification require that compliance submittals be submitted to the CPM in the monthly or annual compliance reports.

COMPLIANCE MATRIX

A compliance matrix shall be submitted by the project owner to the CPM along with each monthly and annual compliance report. The compliance matrix is intended to provide the CPM with the current status of <u>all</u> compliance conditions in a spreadsheet format. The compliance matrix must identify:

1. the technical area,
2. the condition number,
3. a brief description of the verification action or submittal required by the condition,
4. the date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.),
5. the expected or actual submittal date,
6. the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable, and
7. the compliance status for each condition (e.g., not started , in progress or completed date).

Completed or satisfied conditions do not need to be included in the compliance matrix after they have been identified as completed/satisfied in at least one monthly or annual compliance report.

PRE-CONSTRUCTION MATRIX

Prior to commencing construction a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the CPM. This matrix will be included with the project owner s **first** compliance submittal. It will be in the same format as the compliance matrix referenced above.

TASKS PRIOR TO START OF CONSTRUCTION

Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Project owners frequently anticipate starting project construction as soon as the project is certified. In some cases it may be necessary for the project owner to file submittals prior to certification if the required lead-time for a required compliance event extends beyond the date anticipated for start of construction. It is also important that the project owner understand that pre-construction activities that are initiated prior to certification are performed at the owner s own risk. Failure to allow specified lead-time may cause delays in start of construction.

Various lead times for verification submittals to the CPM for conditions of certification are established to allow sufficient staff time to review and comment, and if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

MONTHLY COMPLIANCE REPORT

The first Monthly Compliance Report is due the month following the Energy Commission business meeting date on which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the Key Events List. The Key Events List is found at the end of this section.

During pre-construction and construction of the project, the project owner or authorized agent shall submit an original and five copies of the Monthly Compliance Report within 10 working days after the end of each reporting month. Monthly Compliance Reports shall be clearly identified for the month being reported. The reports shall contain at a minimum:

1. a summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. documents required by specific conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Monthly Compliance Report;
3. an initial, and thereafter updated, compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);
4. a list of conditions which have been satisfied during the reporting period, and a description or reference to the actions which satisfied the condition;
5. a list of any submittal deadlines that were missed accompanied by an explanation and an estimate of when the information will be provided;
6. a cumulative listing of any approved changes to conditions of certification;
7. a listing of any filings with, or permits issued by, other governmental agencies during the month;
8. a projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification;
9. a listing of the month s additions to the on-site compliance file; and
10. any requests to dispose of items that are required to be maintained in the project owner s compliance file.
11. a listing of complaints, notices of violation, official warnings, and citations received during the month; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

ANNUAL COMPLIANCE REPORT

After the air district has issued a Permit to Operate, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following:

1. an updated compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);

2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;

3. documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Annual Compliance Report;

4. a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;

5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;

6. a listing of filings made to, or permits issued by, other governmental agencies during the year;

7. a projection of project compliance activities scheduled during the next year;

8. a listing of the year s additions to the on-site compliance file, and

9. an evaluation of the on-site contingency plan for unexpected facility closure, including any suggestions necessary for bringing the plan up to date [see General Conditions for Facility Closure addressed later in this section].

10. a listing of complaints, notices of violation, official warnings, and citations received during the year; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

CONFIDENTIAL INFORMATION

Any information, which the project owner deems confidential shall be submitted to the Energy Commission s Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information, which is determined to be confidential, shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

DEPARTMENT OF FISH AND GAME FILING FEE

Pursuant to the provisions of Fish and Game Code Section 711.4, the project owner shall pay a filing fee in the amount of eight hundred and fifty dollars ($850). The payment instrument shall be provided to the Commission s Project Manager at the time of project certification and shall be made

payable to the California Department of Fish and Game. The Commission s Project Manager will submit the payment to the Office of Planning and Research at the time of filing of the notice of decision pursuant to Public Resources Code Section 21080.5.

REPORTING OF COMPLAINTS, NOTICES, AND CITATIONS

Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering, with date and time stamp recording. The telephone number shall be posted at the project site and easily visible to passersby during construction and operation.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the **NOISE** conditions of certification. All other complaints shall be recorded on the complaint form on the following page.

COMPLAINT REPORT/RESOLUTION FORM

PROJECT NAME: AFC Number:
COMPLAINT LOG NUMBER _____ Complainant s name and address: Phone number:
Date and time complaint received: Indicate if by telephone or in writing (attach copy if written): Date of first occurrence:
Description of complaint (including dates, frequency, and duration):
Findings of investigation by plant personnel: Indicate if complaint relates to violation of a CEC requirement: Date complainant contacted to discuss findings:
Description of corrective measures taken or other complaint resolution: Indicate if complainant agrees with proposed resolution: If not, explain: Other relevant information:
If corrective action necessary, date 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: _____ Date:

(Attach additional pages and supporting documentation, as required.)

FACILITY CLOSURE

At some point in the future, the project will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. Although the project setting for this project does not appear, at this time, to present any special or unusual closure problems, it is impossible to foresee what the situation will be in 30 years or more when the project ceases operation. Therefore, provisions must be made which provide the flexibility to deal with the specific situation and project setting that exist at the time of closure. LORS pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure will be consistent with LORS in effect at the time of closure.

There are at least three circumstances in which a facility closure can take place: planned closure, unexpected temporary closure and unexpected permanent closure.

PLANNED CLOSURE

A planned closure occurs at the end of a project s life, when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence.

UNEXPECTED TEMPORARY CLOSURE

An unplanned unexpected temporary closure occurs when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster, or an emergency.

UNEXPECTED PERMANENT CLOSURE

An unplanned unexpected permanent closure occurs if the project owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes unexpected closure where the owner remains accountable for implementing the on-site contingency plan. It can also include unexpected closure where the project owner is unable to implement the contingency plan, and the project is essentially abandoned.

GENERAL CONDITIONS FOR FACILITY CLOSURE

PLANNED CLOSURE

In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken.

To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least twelve months prior to commencement of closure activities (or other period of time agreed to by the CPM). The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.

The plan shall:

1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site.

2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;

3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and

4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

Also, in the event that there are significant issues associated with the proposed facility closure plan s approval, or the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Commission may hold public hearings as part of its approval procedure.

In addition, prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Commission CPM for the purpose of discussing the specific contents of the plan.

As necessary, prior to, or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities, until Commission approval of the facility closure plan is obtained.

UNEXPECTED TEMPORARY CLOSURE

In order to ensure that public health and safety and the environment are protected in the event of an unexpected temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to mitigate

impacts to public health and safety and the environmental impacts, are taken in a timely manner.

The project owner shall submit an on-site contingency plan for CPM review and approval. The plan shall be submitted no less that 60 days (or other time agreed to by the CPM) prior to commencement of commercial operation. The approved plan must be in place prior to commercial operation of the facility and shall be kept at the site at all times.

The project owner, in consultation with the CPM, will update the on-site contingency plan as necessary. The CPM may require revisions to the on-site contingency plan over the life of the project. In the annual compliance reports submitted to the Energy Commission, the project owner will review the on-site contingency plan, and recommend changes to bring the plan up to date. Any changes to the plan must be approved by the CPM.

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days (unless other arrangements are agreed to by the CPM), the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment and the safe shutdown of all equipment (also see specific conditions of certification for the technical areas of Hazardous Materials Management and Waste Management).

In addition, consistent with requirements under unexpected permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports.

In the event of an unexpected temporary closure, the project owner shall notify the PM, as well as other responsible agencies, by telephone, fax, e-mail, etc., within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure.

If the CPM determines that a temporary closure is likely to be permanent, or for a duration of more than twelve months, a closure plan consistent with that for a planned closure shall be developed and submitted to the CPM within 90 days of the CPM s determination (or other period of time agreed to by the CPM).

UNEXPECTED PERMANENT CLOSURE

The on-site contingency plan required for unexpected temporary closure shall also cover unexpected permanent facility closure. All of the

requirements specified for unexpected temporary closure shall also apply to unexpected permanent closure.

In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the unlikely event of abandonment.

In the event of an unexpected permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

A closure plan consistent with that for a planned closure shall be developed and submitted to the CPM within 90 days of the permanent closure (or other period of time agreed to by the CPM).

DELEGATE AGENCIES

To the extent permitted by law, the Energy Commission may delegate authority for compliance verification and enforcement to various state and local agencies that have expertise in subject areas where specific requirements have been established as a condition of certification. If a delegate agency does not participate in this program, the Energy Commission staff will establish an alternative method of verification and enforcement. Energy Commission staff reserves the right to independently verify compliance.

In performing construction and operation monitoring of the project, the Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). The Commission staff retains this authority when delegating to a local CBO. Delegation of authority for compliance verification includes the authority for enforcing codes, the responsibility for code interpretation where required, and the authority to use discretion, as necessary, in implementing the various codes and standards.

Whenever an agency s responsibility for a particular area is transferred by law to another entity, all references to the original agency shall be interpreted to apply to the successor entity.

ENFORCEMENT

The Energy Commission s legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to

comply with the terms or conditions of the Commission Decision. The specific action and amount of any fines the Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, inadvertence, unforeseeable events, and other factors the Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable laws, ordinances, regulations, and standards, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1230 *et. seq*., but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by current law or regulations.

INFORMAL DISPUTE RESOLUTION PROCEDURE

The following procedure is designed to informally resolve disputes concerning interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party including the Energy Commission s delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1230 *et. seq*., but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the matter must be referred to the full Energy Commission for consideration via the complaint and investigation process. The procedure for informal dispute resolution is as follows:

REQUEST FOR INFORMAL INVESTIGATION

Any individual, group, or agency may request the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission s terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within seven (7) working days of the CPM s request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report, within forty-eight (48) hours, followed by a written report filed within seven (7) days.

REQUEST FOR INFORMAL MEETING

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner s report, investigation of the event, or corrective measures undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within fourteen (14) days of the project owner s filing of its written report. Upon receipt of such a request, the CPM shall:

1. immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;

2. secure the attendance of appropriate Energy Commission staff and staff of any other agency with expertise in the subject area of concern as necessary;

3. conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and,

4. after the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements

provided under Title 20, California Code of Regulations, section 1230 et. seq.

FORMAL DISPUTE RESOLUTION PROCEDURE-COMPLAINTS AND INVESTIGATIONS

If either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission s General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission s delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 *et. seq*.

The Chairman, upon receipt of a written request stating the basis of the dispute, may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Title 20, California Code of Regulations,// 1232 - 1236).

POST CERTIFICATION CHANGES TO THE COMMISSION DECISION: AMENDMENTS, INSIGNIFICANT PROJECT CHANGES AND VERIFICATION CHANGES

The project owner must petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, to 1) delete or change a condition of certification; 2) modify the project design or operational requirements; and 3) transfer ownership or operational control of the facility.

A petition is required for **amendments** and for **insignificant project changes**. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the Commission s Docket in accordance with Title 20, California Code of Regulations, section 1209.

The criteria that determine which type of change process applies are explained below.

AMENDMENT

A proposed change will be processed as an amendment if it involves a change to the requirement or protocol (and in some cases the verification) portion of a condition of certification, an ownership or operator change, or a potential significant environmental impact.

INSIGNIFICANT PROJECT CHANGE

The proposed change will be processed as an insignificant project change if it does not require changing the language in a condition of certification, have a potential for significant environmental impact, and cause the project to violate laws, ordinances, regulations or standards.

VERIFICATION CHANGE

The proposed change will be processed as a verification change if it involves only the language in the verification portion of the condition of certification. This procedure can only be used to change verification requirements that are of an administrative nature, usually the timing of a required action. In the unlikely event that verification language contains technical requirements, the proposed change must be processed as an amendment.

KEY EVENT LIST

PROJECT _____ DATE ENTERED

DOCKET # _____ PROJECT MANAGER

EVENT DESCRIPTION	***DATE ASSIGNED***
Date of Certification	
Start of Construction	
Completion of Construction	
Start of Operation (1st Turbine Roll)	
Start of Rainy Season	
End of Rainy Season	
Start T/L Construction	
Complete T/L Construction	
Start Fuel Supply Line Construction	
Complete Fuel Supply Line Construction	
Start Rough Grading	
Complete Rough Grading	
Start of Water Supply Line Construction	
Completion of Water Supply Line Construction	
Start Implementation of Erosion Control Measures	
Complete Implementation of Erosion Control Measures	

V. ENGINEERING ASSESSMENT

The broad engineering assessment conducted for the Blythe Energy Project consists of separate analyses that examine facility design, as well as the efficiency and reliability of the proposed power plant. These analyses include the onsite power generating equipment and the project-related linear facilities (transmission line, natural gas supply pipeline, and water supply pipeline).

A. FACILITY DESIGN

The review of facility design covers several technical disciplines, including the civil, electrical, mechanical, and structural engineering elements related to project design, construction, and operation.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Application for Certification (AFC) describes the preliminary facility design for the project.[5] The Commission s analysis is limited, therefore, to assessing whether the power plant and linear facilities are described with sufficient detail to assure that the project can be designed and constructed in accordance with applicable engineering laws, ordinances, regulations, and standards (LORS). The analysis also considers whether special design features will be necessary to deal with unique site conditions that could impact public health and safety, the environment, or the operational reliability of the project.

We adopt herein several Conditions[6] which establish a design review and construction inspection process to verify compliance with applicable design standards and special design requirements. (Ex. 53, p. 157.) The project will be designed and constructed in conformance with the latest edition of the California

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[5] Ex. 1,/8, Appendices 8A, 8B, 8C, 8D, and 8E.

[6] Conditions **GEN-1 — GEN-8**.

Building Code (currently the 1998 CBC) and other applicable codes and standards in effect at the time construction actually begins. (Ex. 53, p. 159; Ex. 2, p. 12-13.) Condition **GEN-1** incorporates this requirement.

Staff reviewed the preliminary project design with respect to site preparation and development; major project structures, systems and equipment; civil and structural features, mechanical systems; electrical systems; and ancillary facilities such as the gas pipeline, water systems, and transmission route. (Ex. 53, pp. 159-165.)

The project will employ site preparation and development criteria consistent with accepted industry standards. This includes design practices and construction methods for grading, flood protection, erosion control, site drainage, and site access. (*Id.,* at p. 159.) Condition **CIVIL-1** ensures that these activities will be conducted in compliance with applicable LORS.

Major structures, systems, and equipment include those structures and associated components necessary for power production or facilities used for storage of hazardous or toxic materials. (Ex. 53, p. 159.) Condition **GEN-2** includes a list of the major structures and equipment for the project.

The power plant site and ancillary facility corridors are located in Seismic Zone 3, the second highest level of potential ground shaking in the country, but the lowest level assigned to the State of California. (Ex. 53, p. 158; Ex. 1,／8.1.1.) The 1998 CBC requires specific lateral force procedures for different types of structures to determine their seismic design. (Ex. 53, p. 160-161.) To ensure that project structures are analyzed using the appropriate lateral force procedure, Condition **STRUC-1** requires the project owner to submit its proposed lateral

force procedures to the Chief Building Official (CBO)[7] for review and approval prior to the start of construction. (*Id*., p. 162.)

There are no adverse site conditions that will impact conventional construction practices for the proposed project. The design of foundations and structures will be conducted in accordance with requirements for design and construction in a Seismic Zone 3 area. Based upon the geotechnical evaluation, the final site design is expected to incorporate standard foundations, excavation, and backfill techniques, which can be accomplished with ordinary earth moving equipment. Piles incorporated into structurally rigid mat foundations will support foundations for the heavy units (e.g., CTG sets, HRSGs and steam turbine and cooling towers). If any portion of the foundation bears on bedrock, the entire foundation should be deepened to bear on bedrock. Large, heavily loaded structures, and those subjected to vibratory loading should be constructed on deepened foundations that bear on bedrock. These foundations shall be designed to meet the seismic requirements of the latest edition of the CBC. (*Id*., pp. 162-163)

The major features of the 520 MW power plant are the two power trains with two natural gas fired, F-class combustion turbine generators (CTG), each 170 MW, operating in combined cycle mode. The CTGs will be installed in a two-on-one configuration with one steam turbine generator (STG) rated at 180 MW. The heat from hot exhaust gas, which flows from each CTG through a heat recovery steam generator (HRSG), will be extracted to produce steam to power the STG. The BEP will use 24 cooling tower cells arranged in two tower banks. The cooling towers are expected to be standard, induced draft counter-flow type. The 64-foot towers will incorporate high efficiency drift eliminators. (Ex. 1,/2.2.13.3; Ex. 53, p. 163.) Air emissions from the combustion of natural gas in the CTGs and duct burners will be controlled using state-of-the-art combustion technology and selective catalytic reduction (SCR). (Ex. 1,/2.2.13.)

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[7] The CBO is the Commission s duly appointed representative, who may be the County Chief Building Official, or other appointed representative.

Other mechanical features include water and wastewater treatment facilities, pressure vessels, inlet air chillers, piping systems and pumps; aqueous ammonia storage, handling and piping system; air compressors; fire protection systems; and heating, ventilation, air conditioning (HVAC), potable water, plumbing and sanitary sewage systems. (Ex. 53, p. 163.)

The mechanical systems for the project are designed to the specifications of applicable LORS. Conditions **MECH**-1 through **MECH**-4 ensure that the project complies with these standards.

Major electrical features other than the transmission system include generators, power control wiring, protective relaying, grounding system, cathodic protection system and site lighting. (Ex. 1, Appendix 8D.) Conditions **ELEC-1** and **ELEC-2** ensure that design and construction of these electrical features will comply with applicable LORS.

Ancillary facilities include Buck Blvd. Substation, a new 161/230 kV substation (to be owned and operated by Western) at the project site, and the new overhead electric transmission line to connect this new substation to the existing Blythe Substation. (Ex. 2, p. 15.) Other facilities are new natural gas pipelines and water supply and delivery systems. (Ex. 53, pp. 164-165.) The project owner will comply will all applicable LORS in the design and construction of these facilities. (Ex. 2, p. 13) The transmission facilities will be designed, constructed, and operated according to Conditions **TSE-1** through **TSE-3** in the **Transmission System Engineering** section of this Decision.

The BEP is seeking certification for two natural gas pipeline interconnections. The first is the El Paso interconnection, which is approximately 11.5-miles long and interconnects at a location east of the site in Ehrenberg, Arizona at an existing El Paso Natural Gas corporation yard. The second is a 0.8-mile interconnection to an existing SoCal Gas line south of the site. (Ex. 53, pp. 164-165; 11/27 RT 199-201.) BEP will construct and operate one or both of these

interconnections. Blythe does not have an ownership interest in any existing natural gas pipeline. Additionally, Blythe does not and will not operate either the existing El Paso Natural Gas pipelines or the existing SoCal Gas natural gas pipelines. Witness Holt described both pipeline routes, which were located to minimize ground disturbance and disruption to persons and property (11/27 RT 199-201.)

Intervenor Garnica has questioned the safety and reliability of the existing natural gas pipelines within the City of Blythe and surrounding areas. No evidence was presented that any of the existing natural gas pipelines are not safe. It is There was no contention that the BEP interconnections would be constructed and operated in an unsafe manner. The evidentiary record supports Staff and the Applicant s opinions that the interconnections proposed by Blythe will be constructed in accordance with all applicable LORS and will incorporate state of the art safety components. Condition of Certification **CIVIL-5** ensures that the natural gas pipeline interconnections will be constructed in accordance with State and Federal standards applicable to such pipelines. (Exhibit 53, p. 178; Ex. 54; Supplemental Testimony of M. Kisabuli and Alvin Greenberg, Ph.D.) In addition, Blythe experts testified that the pipelines will be engineered, constructed and operated under the supervision of a qualified personnel pursuant to U.S. Department of Transportation and California Public Utilities Commission laws, regulations and standards. Existing law, regulations and standards will determine the wall thickness, grade, size, marking and block valve for the pipelines. All welds will be x-rayed and be without flaws. The pipelines will be pressure tested, using water, beyond its operating pressure for the period prescribed by Federal and State laws, regulations and standards. Corrosion protection using cathodic protection and piping coating will be incorporated into the design and construction of the pipelines to maintain the integrity of the pipelines. Maximum safety will be ensured by the development and implementation of an operating procedure and safety manual. Cathodic measurements will be regularly taken after the pipelines are installed to ensure the integrity of the pipelines are maintained. The pipelines will be regularly surveyed to determine new housing or

buildings or heavy equipment operating near the pipeline. The pipelines will be regularly inspected and block valves will be maintained. (Ex. 2, pp. 12-13.)

BEP does not control the existing pipelines. (11/27 RT 206.) The existing SoCal Gas pipelines are regulated and monitored by the U.S. Department of Transportation and that agency has full jurisdiction over the existing pipelines. In the design and operation of its interconnection with the existing pipelines, BEP does not have the ability to upgrade SoCal Gas facilities. (11/27 RT 213-214.) The BEP interconnections will not change the existing SoCal Gas or El Paso pipelines (11/27 RT 207-208.).

The evidence also addresses potential project closure. (Ex. 53, pp. 167-168.) Condition **GEN-9**, in conjunction with the general closure provisions in the Compliance Plan (*ante*), specifies closure procedures to ensure compliance with applicable LORS.

Finally, the Conditions of Certification specify the roles, qualifications, and responsibilities of engineering personnel who will oversee project design and construction. These Conditions require the approval of the CBO after appropriate inspections by qualified engineers. No element of construction may proceed without approval of the CBO. (Ex. 53, p. 166-167.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The Blythe Energy Project is currently in the preliminary design stage.
2. The evidence of record contains sufficient information to establish that the proposed facility can be designed and constructed in conformity with the applicable laws, ordinances, regulations, and standards set forth in the appropriate portion of Appendix A of this Decision.

3. The Conditions of Certification set forth below are necessary to ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety.

4. The Conditions of Certification below and the provisions of the Compliance Plan contained in this Decision set forth requirements to be followed in the event of facility closure.

We therefore conclude that, with the implementation of the Conditions of Certification listed below, the Blythe Energy Project can be designed and constructed in conformance with applicable laws.

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct and inspect the project in accordance with the 1998 California Building Code (CBC)[8] and all other applicable LORS in effect at the time initial design plans are submitted to the CBO for review and approval. The CBC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification TSE-1, TSE-2 and TSE-3 in the **Transmission System Engineering** Section of this document.

Protocol: In the event that the BEP is submitted to the CBO when a successor to the 1998 CBC is in effect, the 1998 CBC provisions identified herein shall be replaced with the applicable successor provisions. *Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern.* Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

Verification: Within 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) after receipt of the Certificate of Occupancy, the project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design. The project owner shall

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[8] The Sections, Chapters, Appendices and Tables, unless otherwise stated, refer to the Sections, Chapters, Appendices and Tables of the 1998 California Building Code (CBC).

provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [1998 CBC, Section 109 — Certificate of Occupancy.]

GEN-2 The project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a description of, and a list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major structures and equipment in **Tables 1 and 2** below). To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

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Table 1: Major Equipment List

Equipment/System	Quantity Plant	Size/ Capacity*	Remarks
Combustion Turbine (CT) Generator	2	170 MW each	Dry Low NO_X combustion control
Steam Turbine (ST)	1	180 MW	Single shaft HPT, IPT and LPT (2x2x1configuration)
Generators	3		Included with CT and ST
CT Inlet Air Filter	2	3,600,000 lb/hr	
Inlet Air Cooling	2		Evaporative/Refrigeration/Fogging
Fuel Gas Filter — Separator	3	150,000 lb/hr	
Heat Recovery Steam Generator (HRSG)	2	550,000 lb/hr	HP, IP, LP with reheat
HRSG Stack	2		18 -0 dia.x 130 high
CO Emission Control	2		Achieve BACT/LAER
NO_X Emission Control	2		Achieve BACT/LAER
Ammonia Injection Skid	2		Two blowers per HRSG-alternate
Aqueous Ammonia Storage Tank	2	20,000 gal	
HP/IP HRSG feedwater pumps	3	1,700 gpm	HP with interstage bleed
Make-up Water Storage Tank	1	600,000 gal	Includes firewater storage
Demineralized Water Pumps	2	170 gpm	
Demineralized Water Treatment Package	1	350 gpm	Will be rental equipment
Demineralized Water Storage Tank	1	600,000 gal	
Condensate Pumps	3	1300 gpm	1 spare per condenser
Circulating Water Pumps	2	60,000 gpm/ 30,000 gpm	2x1 Configuration/1x1 Configuration
Wet Cooling Tower Banks	2	1.100mm BTU/hr / 600 mm BTU/hr	2x1 Configuration/1x1 Configuration
Fire Water Pump Skid	1	2,500 gpm	
Auxiliary Cooling Water Pumps	2	750 gpm	
Plant Air Compressors & Dryers	2	750 cfm	
Step-up Transformers	4	16/161/230 kV	To electrical grid

***All capacities and sizes are approximate and may change during project final design.**

Table 2: Major Structures, Equipment and Associated Foundations

Quantity	Description	Dimensions (ft)*		
		Length	Width	Height
2	Combustion gas turbine generator and starter package (CT).	64	30	30
2	CT air inlet filter with air cooling system.	40	30	57
2	Generator with enclosure.	36	25	30
2	Fuel gas scrubber.	--	2.5 dia.	7
2	Heat Recovery Steam Generator (HRSG).	100	70	100
2	HRSG stack.		18 dia.	130
2	Selective catalytic reduction skid (SCR).	10	6	6
2	Generator breaker.	12	10	8
2	Auxiliary transformer.	14	10	14
3	Step-up transformer.	35	18	30
1	Demineralized water storage tank.	--	12 dia.	24
1	Feedwater storage tank.	--	107.5 dia.	36
2	Ammonia storage tank.	25	6 dia.	--
1	Switchyard, buses and towers.	--	22 (3 phases)	28 (high bus)
1	Electrical/equipment building.	35	20	12
1	Switchyard control building (Sunrise).	40	20	14
1	Switchyard buses and towers.	700	230	35
1	Switchyard control building.	20	20	14

***All capacities and sizes are approximate and may change during project final design.**

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The project owner shall provide schedule updates in the Monthly Compliance Report.

GEN-3 The project owner shall make payments to the CBO for design review, plan check and construction inspection, equivalent to the fees listed in the 1998 CBC, Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees. If the City of Blythe or Riverside County has adjusted the CBC fees for design review, plan check and construction inspection, the project owner shall pay the adjusted fees.

Verification: The project owner shall make the required payments to the CBO at the time of submittal of the plans, design calculations, specifications, or soil reports. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next Monthly Compliance Report indicating that the applicable fees have been paid.

GEN-4 Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer or civil engineer, as a resident engineer (RE), to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24,/4-209, Designation of Responsibilities)]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1**, **TSE-2** and **TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol: The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project respectively. A project may be divided into parts, provided each part is clearly defined as a distinct unit. Separate assignment of general responsible charge may be made for each designated part.

The RE shall:

1. Monitor construction progress to ensure compliance with LORS;
2. Ensure that construction of all the facilities conforms in every material respect to the applicable LORS, these Conditions of Certification, approved plans, and specifications;
3. Prepare documents to initiate changes in the approved drawings and specifications when directed by the project owner or as required by conditions on the project;
4. Be responsible for providing the project inspectors and testing agency(ies) with complete and up-to-date set(s) of stamped drawings, plans, specifications and any other required documents;
5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and
6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests as not conforming to the approved plans and specifications.

The RE shall have the authority to halt construction and to require changes or remedial work, if the work does not conform to applicable requirements.

If the RE or the delegated engineers are 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.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the name, qualifications and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.

If the RE or the delegated engineer(s) are 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.

GEN-5 Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers 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 powerplant structures and equipment supports; D) a mechanical engineer; and E) an electrical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1**, **TSE-2** and **TSE-3** in the **Transmission System Engineering** Section of this document.

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, powerplant 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 project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all engineers assigned to the project. [1998 CBC, Section 104.2, Powers and Duties of Building Official.]

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.

Protocol A: The civil engineer shall:

1. Design, or be responsible to design, stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems; and
2. Provide consultation to the RE during the construction phase of the project, and recommend changes in the design of the civil works facilities and changes in the construction procedures.

Protocol B: The geotechnical engineer or civil engineer, experienced and knowledgeable in the practice of soils engineering, shall:

1. Review all the engineering geology reports, and prepare the final soils grading report;
2. Prepare the soils engineering reports required by the 1998 CBC, Appendix Chapter 33, Section 3309.5 — Soils Engineering Report, and Section 3309.6 — Engineering Geology Report;
3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 1998 CBC, Appendix Chapter 33, section 3317, Grading Inspections;
4. Recommend field changes to the civil engineer and RE;
5. Review the geotechnical report, field exploration report, laboratory tests, and engineering analyses detailing the nature and extent of the site soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load; and
6. Prepare reports on foundation investigation to comply with the 1998 CBC, Chapter 18 section 1804, Foundation Investigations.

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. [1998 CBC, section 104.2.4, Stop orders.]

Protocol C: The design engineer shall:

1. Be directly responsible for the design of the proposed structures and equipment supports;
2. Provide consultation to the RE during design and construction of the project;
3. Monitor construction progress to ensure compliance with LORS;
4. Evaluate and recommend necessary changes in design; and
5. Prepare and sign all major building plans, specifications and calculations.

Protocol D: The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform with all of the mechanical engineering design requirements set forth in the Energy Commission s Decision.

Protocol E: The electrical engineer shall:

1. Be responsible for the electrical design of the project; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of 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.

GEN-6 Prior to the start of an activity requiring special inspection, the project owner shall assign to the project, a qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section, 1701.5 Type of Work (requiring special inspection), and Section 106.3.5, Inspection and Observation program. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1**, **TSE-2** and **TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol: The special inspector shall:

1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection;
2. Observe the work assigned for conformance with the approved design drawings and specifications;
3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action; and
4. Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable provisions of the applicable edition of the CBC.

A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels).

Verification: At least 15 days prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next Monthly Compliance Report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.

GEN-7 The project owner shall keep the CBO informed regarding the status of engineering and construction. If any discrepancy in design and/or construction is discovered, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification and, if appropriate, the applicable sections of the CBC and/or other LORS.

Verification: The project owner shall submit monthly construction progress reports to the CBO and CPM. The project owner shall transmit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a

discrepancy to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

GEN-8 The project owner shall obtain the CBO's final approval of all completed work. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. When the work and the "as-built" and "as graded" plans conform to the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up "as-built" drawings for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the "as-built" drawings [1998 CBC, Section 108, Inspections.]

Verification: Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans.

GEN-9 The project owner shall file a closure/decommissioning plan with City of Blythe or Riverside County and the CPM for review and approval at least 12 months (or other mutually agreed to time) prior to commencing the closure activities. If the project is abandoned before construction is completed, the project owner shall return the site to its original condition.

Protocol: The closure plan shall include a discussion of the following:

1. The proposed closure/decommissioning activities for the project and all appurtenant facilities constructed as part of the project;
2. All applicable LORS, all local/regional plans, and a discussion of the conformance of the proposed decommissioning activities to the applicable LORS and local/regional plans;
3. Activities necessary to restore the site if the BEP decommissioning plan requires removal of all equipment and appurtenant facilities; and
4. Closure/decommissioning alternatives, other than complete restoration of the site.

Verification: At least 12 months prior to closure or decommissioning activities, the project owner shall file a copy of the closure/decommissioning plan with City of Blythe or Riverside County and the CPM for review and approval. Prior to the submittal of the closure plan, a meeting shall be held between the project owner and the CPM for discussing the specific contents of the plan.

CIVIL-1 Prior to the start of site grading, the project owner shall submit to the CBO for review and approval the following:

1. Design of the proposed drainage structures and the grading plan;
2. An erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and
4. Soils report as required by the 1998 CBC, Appendix Chapter 33, Section 3309.5, Soils Engineering Report and Section 3309.6, Engineering Geology Report.

Verification: At least 15 days prior to the start of site grading, the project owner shall submit the documents described above to the CBO for review and approval. In the next Monthly Compliance Report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

CIVIL-2 The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible geotechnical engineer or civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area. [1998 CBC, Section 104.2.4, Stop orders.]

Verification: The project owner shall notify the CPM, within five days, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within five days of the CBO's approval, the project owner shall provide to the CPM a copy of the CBO's approval to resume earthwork and construction in the affected areas.

CIVIL-3 The project owner shall perform inspections in accordance with the 1998 CBC, Chapter 1, Section 108, Inspections; Chapter 17, Section 1701.6, Continuous and Periodic Special Inspection; and Appendix Chapter 33, Section 3317, Grading Inspection. All plant site-grading operations shall be subject to inspection by the CBO and the CPM.

Protocol: If, in the course of inspection, it is discovered that the work is not being done in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM. The project owner shall prepare a written report detailing all discrepancies and non-compliance items, and the proposed corrective action, and send copies to the CBO and the CPM.

Verification: Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR), and the proposed corrective action. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to

the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following Monthly Compliance Report.

CIVIL-4 After completion of finished grading and erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO's approval of the final "as-graded" grading plans, and final "as-built" plans for the erosion and sedimentation control facilities [1998 CBC, Section 109, Certificate of Occupancy.]

Verification: Within 30 days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

CIVIL-5 The project owner shall design and install the natural gas pipeline in accordance with the appropriate U.S. Department of Transportation (DOT), Title 49, Code of Federal Regulations (CFR) Chapter 1, Part 192 "Transportation of Natural and other Gas by Pipeline: Minimum Federal Safety Standards", and the California Public Utilities Commission, General Order 112-E (CPUC GO 112-E). Prior to the start of any increment of pipeline construction, the project owner shall obtain CBO approval of the proposed final design drawings, specifications, calculations, and applicable quality control procedures.

Protocol: The project owner shall ensure that:

1. The responsible engineer, registered to practice civil engineering in the State of California, shall submit a signed and stamped statement to the CBO that the proposed final designs, plans, specifications, and calculations conform with all of the piping requirements set forth in the Commission decision.
2. The depth of cover for the pipeline shall meet the requirements of the applicable DOT-192 and CPUC G.O.-112E, as necessary.
3. Upon completion of construction, the project owner shall request the CBO's inspection approval of said construction.

Verification: Thirty (30) days prior to the start of pipeline construction, the project owner shall submit to the CBO for review and approval, the final design plans, specifications, calculations and quality control procedures for the natural gas pipeline construction. The project owner shall include a copy of the signed and stamped engineer's certification of conformance with the applicable requirements. The project owner shall submit to the CEC CPM a copy of the signed and stamped engineer's certification of compliance with applicable LORS and standards in the Monthly Compliance Report following submittal of same to the CBO. The project owner shall submit to the CPM a copy of the CBO's

inspection approvals in the Monthly Compliance Report following completion of construction inspection.

STRUC-1 Prior to the start of any increment of construction, the project owner shall submit to the CBO for review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for:

1. Major project structures;
2. Major foundations, equipment supports and anchorage;
3. Large field fabricated tanks;
4. Turbine/generator pedestal; and
5. Switchyard structures.

In addition, the project owner shall, prior to the start of any increment of construction, get approval from the CBO of the lateral force procedures proposed for project structures to comply with the lateral force provisions of the CBC.

Protocol: The project owner shall:

1. Obtain approval from the CBO of lateral force procedures proposed for project structures;
2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (i.e., highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications [1998 CBC, Section 108.4, Approval Required];
3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures at least 90 days (or a lesser number of days mutually agreed to by the project owner and the CBO), prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [1998 CBC, Section 106.4.2, Retention of plans and Section 106.3.2, Submittal documents.]; and
4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations and specifications shall be signed and stamped by the responsible design engineer [1998 CBC, Section 106.3.4, Architect or Engineer of Record.]

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of construction, the project owner shall submit to the CBO, with a copy to the CPM, the responsible design engineer's signed statement that the final design plans, specifications and calculations conform with all of the requirements set forth in the Energy Commission's Decision.

If the CBO discovers non-conformance with the stated requirements, the project owner shall resubmit the corrected plans to the CBO within 20 days of receipt of the nonconforming submittal with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the applicable LORS.

STRUC-2 The project owner shall submit to the CBO the required number of sets of the following:

1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters);
2. Concrete pour sign-off sheets;
3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and
5. Reports covering other structure activities requiring special inspections shall be in accordance with the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section 1701.5, Type of Work (requiring special inspection), Section 1702, Structural Observation and Section 1703, Nondestructive Testing.

Verification: If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies to the CBO, with a copy of the transmittal letter to the CPM. The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project

owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain the CBO's approval.

STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 1998 CBC, Chapter 1, Section 106.3.2, Submittal documents, and Section 106.3.3, Information on plans and specifications, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give the CBO prior notice of the intended filing.

Verification: On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the Monthly Compliance Report, when the CBO has approved the revised plans.

STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in Chapter 3, Table 3-E of the 1998 CBC shall, at a minimum, be designed to comply with Occupancy Category 2 of the 1998 CBC. Chapter 16, Table 16—K of the 1998 CBC requires use of the following seismic design criteria: I˚=˚1.25, I_p = 1.5 and I_w = 1.15.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of installation of the tanks or vessels containing the above specified quantities of highly toxic or explosive substances that would be hazardous to the safety of the general public if released, the project owner shall submit to the CBO for review and approval, final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-1 Prior to the start of any increment of piping construction, the project owner shall submit, for CBO review and approval, the proposed final design drawings, specifications and calculations for each plant piping system (excluding domestic water, refrigeration systems, and small bore piping, i.e., piping and tubing with a diameter less than two and one-half inches). The submittal shall also include the applicable QA/QC procedures. The project owner shall design and install all piping, other than domestic water, refrigeration, and small bore piping in accordance with the applicable edition of the CBC. Upon completion of construction of any piping system, the project owner shall request the CBO's inspection approval of said construction [1998 CBC, Section 106.3.2, Submittal documents, Section 108.3, Inspection Requests.]

Protocol: The responsible mechanical engineer shall submit a signed and stamped statement to the CBO when:

1. The proposed final design plans, specifications and calculations conform with all of the piping requirements set forth in the Energy Commission s Decision; and
2. All of the other piping systems, except domestic water, refrigeration systems and small bore piping have been designed, fabricated and installed in accordance with all applicable ordinances, regulations, laws and industry standards, including, as applicable:
   - American National Standards Institute (ANSI) B31.1 (Power Piping Code);
   - ANSI B31.2 (Fuel Gas Piping Code);
   - ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
   - ANSI B31.8 (Gas Transmission and Distribution Piping Code); and
   - Specific City/County code.

The CBO may require the project owner to employ special inspectors to report directly to the CBO to monitor shop fabrication or equipment installation [1998 CBC, Section 104.2.2, Deputies.]

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of piping construction, the project owner shall submit to the CBO for approval, with a copy of the transmittal letter to the CPM, the above listed documents for that increment of construction of piping systems, including a copy of the signed and stamped engineer's certification of conformance with the Energy Commission s Decision. The project owner shall transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-2 For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by the applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of said installation [1998˚CBC, Section 108.3 — Inspection Requests.]

The project owner shall:

1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated and installed in accordance with the

appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and

2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for review and approval, final design plans, specifications and calculations, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall send copies of the CBO plan check approvals to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's and/or Cal-OSHA inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-3 Prior to the start of construction of any heating, ventilating, air conditioning (HVAC) or refrigeration system, the project owner shall submit to the CBO for review and approval the design plans, specifications, calculations and quality control procedures for that system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

Protocol: The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the applicable edition of the CBC. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of said construction. The final plans, specifications and calculations shall include approved criteria, assumptions and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS [1998 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record.]

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable edition of the CBC, with a copy of the transmittal letter to the CPM.

The project owner shall send copies of CBO comments and approvals to the CPM in the next Monthly Compliance Report. The project owner shall transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-4 Prior to the start of each increment of plumbing construction, the project owner shall submit for the CBO's approval the final design plans, specifications, calculations, and QA/QC procedures for all plumbing systems, potable water systems, drainage systems (including sanitary drain and waste), toilet rooms, building energy conservation systems, and temperature control and ventilation systems, including water and sewer connection permits issued by the local agency. Upon completion of any increment of construction, the project owner shall request the CBO's inspection approval of said construction [1998 CBC, Section 108.3, Inspection Requests, Section 108.4, Approval Required.]

Protocol: The project owner shall design, fabricate and install:

1. Plumbing, potable water, all drainage systems, and toilet rooms in accordance with Title 24, California Code of Regulations, Division 5, Part 5 and the California Plumbing Code (or other relevant section(s) of the currently adopted California Plumbing Code and Title 24, California Code of Regulations); and
2. Building energy conservation systems and temperature control and ventilation systems in accordance with Title 24, California Code of Regulations, Division 5, Chapter 2-53, Part 2.

The final plans, specifications and calculations shall clearly reflect the inclusion of approved criteria, assumptions and methods used to develop the design. In addition, the responsible mechanical engineer shall stamp and sign all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with all of the requirements set forth in the Energy Commission s Decision.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any of the above systems, the project owner shall submit to the CBO the final design plans, specifications and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable edition of the CBC, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

The project owner shall transmit a copy of the CBO's inspection approval to the CPM in the next Monthly Compliance Report following completion of that increment of construction.

ELEC-1 For the 480 volts and higher systems, the project owner shall not begin any increment of electrical 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 [1998 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests.] All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1**, **TSE-2** and **TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol: The following activities shall be reported in the Monthly Compliance Report:

1. receipt or delay of major electrical equipment;
2. testing or energization of major electrical equipment; and
3. the number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: At least thirty (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 electrical construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for electrical equipment and systems 480 volts and greater, 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.

ELEC-2 The project owner shall submit to the CBO the required number of copies of items A and B for review and approval and one copy of item C [CBC 1998, Section 106.3.2, Submittal documents.] All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1**, **TSE-2** and **TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol A: Final plant design plans to include:

1. one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems;
2. system grounding drawings;
3. general arrangement or conduit drawings; and
4. other plans as required by the CBO.

Protocol B: Final plant calculations to establish:

1. short-circuit ratings of plant equipment;
2. ampacity of feeder cables;
3. voltage drop in feeder cables;

4. system grounding requirements;
5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems;
6. system grounding requirements;
7. lighting energy calculations; and
8. other reasonable calculations as customarily required by the CBO.

Protocol C: A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision.

Verification: At least thirty (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 electrical equipment installation, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations, for electrical equipment and systems 480 volts and greater enumerated above, including a copy of the signed and stamped statement from the responsible electrical engineer certifying compliance with the applicable LORS. The project owner shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

B. POWER PLANT EFFICIENCY

The California Environmental Quality Act (CEQA) requires the Commission to examine whether a project s consumption of energy will result in significant adverse environmental impacts on non-renewable energy sources and if so, whether feasible mitigation measures are available to minimize impacts through increased efficiency of design and operation. (Pub. Resources Code,/21002.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The inefficient and unnecessary consumption of energy, in the form of non-renewable fuels such as natural gas and oil, constitutes an adverse environmental impact. Staff, therefore, reviewed whether BEP s use of natural gas would result in 1) an adverse effect on local and regional energy supplies and resources; 2) a requirement for additional energy supply capacity; 3) noncompliance with existing energy standards; or 4) the wasteful, inefficient, and unnecessary consumption of fuel or energy.[9] (Ex. 53, p. 150.)

1. Potential Effects on Energy Supplies and Resources

The project will burn natural gas at a maximum rate up to 84 billion Btu per day lower heating value (LHV). (Ex. 53, p. 150.) Although this is a substantial rate of energy consumption, BEP will burn natural gas from an existing El Paso natural gas pipeline or an existing SoCal Gas natural gas pipeline. The gas supply infrastructure is extensive, offering access to vast reserves of gas from the Southwest. This source represents far more gas than would be required for a project this size. It is therefore highly unlikely that the BEP could pose a substantial increase in demand for natural gas in California. Since these gas reserves greatly exceed project demand, BEP s use of natural gas will not cause

[9] See, CEQA Guidelines, 14 California Code of Regulations, Section 15000 et seq., Appendix F.

significant impacts to energy supplies and resources. (*Id*., pp. 150-151.) The Commission notes the need to expand the natural gas pipeline infrastructure both within California and outside of the State to make natural gas resources more readily available and at lower cost.

2. Depletion of Energy Supply

Natural gas fuel will be supplied to the project by either, or both, of two alternative means. The first will be an 11.5-mile long pipeline connecting with the El Paso Natural Gas interstate pipeline east of the Colorado River near Ehrenberg, Arizona. The second will be an 0.8-mile long line connecting with the Southern California Gas Company transmission line south of Interstate 10. (Ex. 1, // 1.1.1, 2.2.2, 2.2.8, 6.4, 8.3.1.) Either line should provide adequate access to natural gas fuel; if both lines are constructed, this will further enhance certainty of supply. There is no real likelihood that the BEP will require the development of additional energy supply capacity. (Ex. 53, p. 151.)

3. Compliance with Energy Standards

No standards apply to the efficiency of BEP or other non-cogeneration projects. (Ex. 53, p. 151.) See, Public Resources Code, section 25134.

4. Alternatives to Wasteful or Inefficient Energy Consumption

The BEP could be deemed to create significant adverse impacts on energy resources if alternatives existed that would reduce the project s use of fuel. (Ex. 53, p.151.) Applicant considered alternative generating technologies such as oil-burning, coal-burning, solar, wind, hydroelectric, biomass, and geothermal technologies. (Ex. 1, / 6.7.2.) Given the project objectives, location, and air pollution control requirements, Staff agreed with Applicant s conclusion that only natural gas-burning technologies are feasible. (Ex. 53, p. 153.)

Project fuel efficiency, and therefore its rate of energy consumption, is determined by the configuration of the power producing system and by selection of equipment to generate power. (Ex. 53, p. 151.) BEP is configured as a compound-train combined cycle power plant. Electricity will be generated by two gas turbines and one steam turbine that operates on heat energy recuperated from gas turbine exhaust. By recovering this heat, which would otherwise be lost up the exhaust stacks, the efficiency of any combined cycle power plant is increased considerably from that of either gas turbines or steam turbines operating alone. Staff concluded that this configuration is well suited to the large, steady loads met by a baseload plant. (Ex. 53, p. 151.)

The multiple power train configuration will also provide the option of shutting down one of the individual generating components while the remaining turbine will continue to run at full load. Thus, the plant can generate at part load while maintaining optimal efficiency. (Ex. 53, p. 151.)

Applicant will employ F-class combustion turbine generators from Siemens-Westinghouse, Model V84.3A. (Ex. 2, p. 12.) The F-class turbines proposed by Applicant are one of the most modern and efficient such machines now available. (Ex. 53, p. 152.) The evidence indicates that Applicant and Staff also considered the alternative G-class and H-class turbines, which represent newly developed technologies. Although both the G-class and H-class turbines are slightly more efficient than the F-class turbine, their new technologies could potentially restrict BEP s operating flexibility. Given the likelihood that BEP would frequently be dispatched at less than full load, and the lack of a proven track record for the G-class and H-class turbines, Applicant s choice of the F-class machine is considered reasonable. (Ex. 53, p. 153-154.)

A further choice of alternatives involves the selection of gas turbine inlet air cooling methods. The two commonly used techniques are the evaporative cooler

and the chiller; both devices increase power output by cooling the gas turbine inlet air. A mechanical chiller can offer greater power output than the evaporative cooler on hot, humid days, but consumes electric power to operate its refrigeration process, thus slightly reducing overall net power output and, thus, overall efficiency. An absorption chiller uses less electric power, but necessitates the use of a substantial inventory of ammonia. An evaporative cooler boosts power output best on dry days; it uses less electric power than a mechanical chiller, possibly yielding slightly higher operating efficiency. (Ex. 53, p. 154.)

The Applicant proposes to use either evaporative cooling or a chiller. (Ex. 1, ¶ 2.2.4, 2.2.5.1.1.) The difference in efficiency between these techniques is relatively insignificant. Given the climate at the project site and the relative lack of clear superiority of one system over the other, staff agrees that the Applicant s approach will yield no significant adverse energy impacts. (Ex. 53, p. 154.)

According to the evidentiary record, if BEP is constructed and operated as proposed, the project would generate 520 MW (nominal) of electricity at a peak load efficiency approaching 57.7 percent LHV, compared with the average fuel efficiency of a typical utility company baseload power plant at 35 percent LHV. (Ex. 53, pp. 150, 155.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The Blythe Energy Project (BEP) will not create a substantial increase in demand for natural gas.
2. Available gas supplies exceed the fuel requirements of the proposed project.
3. BEP will not consume natural gas in a wasteful, inefficient, or unnecessary manner.

4. The project s design, incorporating multiple power trains, will allow the power plant to generate electricity at less than full load while maintaining optimal efficiency.

5. BEP will employ F-class turbines, which are highly efficient and provide the option of operating the project at less than full load.

6. The anticipated operational efficiency of the proposed project is consistent with that of comparable power plants using similar technology and significantly more efficient than the older utility power plants.

7. BEP will not require the development of any new fuel resources.

The Commission therefore concludes that BEP will not cause any significant direct or indirect adverse impacts upon energy resources. The project will conform with all applicable laws, ordinances, regulations, and standards relating to fuel efficiency as identified in the pertinent portions of APPENDIX A of this Decision. No Conditions of Certification are required for this topic.

C. POWER PLANT RELIABILITY

The Warren-Alquist Act requires the Commission to examine the safety and reliability of the proposed power plant, including provisions for emergency operations and shutdowns. [Pub. Resources Code, ⁄ 25520(b)]. There are presently no laws, ordinances, regulations, or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the Commission must determine whether the project will be designed, sited, and operated to ensure safe and reliable operation. [Cal. Code of Regs., tit. 20, ⁄ 1752(c)(2).] In this regard, the Commission considers whether the proposed project will degrade the reliability of the utility system to which it is connected. If the project exhibits reliability at least equal to that of other power plants in the system, it is presumed not likely to degrade the system.

In California s competitive electric power industry, the California Independent System Operator, (Cal-ISO) has the primary responsibility for maintaining system reliability. To provide an adequate supply of reliable power, Cal-ISO has imposed certain requirements on power plants selling ancillary services and those holding reliability must-run contracts, such as: 1) filing periodic reports on reliability; 2) reporting all outages and their causes; and 3) scheduling all planned maintenance outages with the Cal-ISO. The Commission believes that merchant power plant owners should continue to maintain the same levels of reliability that the power industry has achieved in recent years.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Staff examined the project s design criteria to determine whether it will be built in accordance with typical power industry norms for reliable electricity generation. (Ex. 53, p. 283.) According to Staff, project safety and reliability are achieved by ensuring equipment availability, plant maintainability, fuel and water availability, and adequate resistance to natural hazards. *(Id.*, p. 285.)

1. Equipment Availability

BEP will ensure equipment availability by use of quality assurance/quality control programs (QA/QC) typical of the power industry, which include inventory review, and equipment inspection and testing on a regular basis during design, procurement, construction, and operation. (Ex. 1, / 8.1.5; Ex. 53, p.285.) Implementation of these programs will be monitored by appropriate Conditions of Certification, which are included in the **Facility Design** section of this Decision.

2. Plant Maintainability

The evidentiary record indicates that project design includes sufficient redundancy of equipment and systems for the combined cycle facility to ensure continued operation in the event of equipment failure. (Ex. 53, p. 285; Ex. 1,/ 8.3.4, Figure 2.0-7.) The two parallel trains of gas turbine generators/HRSGs provide inherent reliability. (*Ibid*.) Failure of a non-redundant component of one power train will not cause the other train to fail; rather, the plant will continue to generate at reduced output. This ability to continue operation even with equipment failure demonstrates adequate equipment redundancy to meet typical industry reliability standards. (Ex. 53, p. 286.) BEP proposes to establish a plant maintenance program typical of the industry (Ex.1,/8.3.2), but offers no details. Equipment manufacturers provide maintenance recommendations with their products, and all major power plant engineering companies offer standard off-the-shelf maintenance programs. In light of this easily available advice, and of the financial incentives to properly maintain the facility for reliable operation, Staff expects, and we agree, that this will ensure the project will be adequately maintained to ensure acceptable reliability. (Ex. 53, p. 286.)

3. Fuel and Water Availability

Evidence demonstrates that there is adequate natural gas supply and pipeline capacity to deliver natural gas for project operations. (Ex. 53, p. 286; See, **Power Plant Efficiency** in this Decision.) BEP will obtain water for cooling and other plant uses from new on-site groundwater wells. (Ex. 1 // 1.1.1, 1.1.5, 2.2.9, 6.5; Ex. 53, p. 286.). Staff believes this source yields sufficient likelihood of a reliable supply of water for the project. (Ex. 53, p. 286; See also **Soil & Water Resources** in this Decision.)

4. Natural Hazards

Given the geological location of the project site, there is a potential for seismic shaking to threaten reliable operation. (Ex. 53, pp. 286-287; see also those portions of this document entitled **Facility Design** and **Geology and Paleontology**). The project site does not lie within either a 100-year or a 500-year flood zone (Ex. 1, // 2.3.1, 8.1.1, 8.3.3) and, therefore, a credible threat of flooding is not present. (Ex. 53, p. 287.) For further discussion, see that portion of this document entitled **Geology and Paleontology**.

The site lies within Seismic Zone 3. (Ex. 1, // 2.3.1, 8.1.1, 8.1.2, 8.3.3.) No known active earthquake faults lie nearby. (See that portion of this document entitled **Geology and Paleontology**.) The project will be designed and constructed to the latest appropriate LORS. Compliance with current LORS applicable to seismic design represents an upgrading of performance during seismic shaking, compared to older facilities, due to the fact that these LORS have been periodically and continually upgraded. By virtue of being built to the latest seismic design LORS, this project will likely perform at least as well as, and perhaps better than, existing plants in the electric power system. Staff has proposed, and we adopt, conditions of certification to ensure this. Those conditions are in that portion of this document entitled **Facility Design**. In light of

the historical performance of California power plants and the electrical system in seismic events, staff believes there is no special concern with power plant functional reliability affecting the electric system s reliability due to seismic events. (Ex. 53, p. 287.)

The evidence therefore establishes that none of the potential natural hazards identified herein will present significant obstacles to the project s safe and reliable operation. (*Ibid*.)

5. Availability Factors

Applicant predicts the project will have an annual availability factor of 92-98 percent. (Ex. 1, // 2.2.3, 2.4.1, 8.3.2.) Industry statistics for power plant availability are compiled by the North American Electric Reliability Council (NERC). (Ex. 53, p. 287.) NERC s statistics show an availability factor of 91.49 percent for combined cycle units of all sizes. *(Ibid*.) Although the NERC figure is lower than Applicant s proposed availability factor, Staff expects that a modern, baseload facility such as BEP will likely outperform the NERC average, especially since maintenance can occur when full plant output is not required to meet market demand. *(Ibid*.) The evidentiary record thus supports a finding that the proposed 92-98 percent availability factor is consistent with industry norms for power plant reliability. (Ex. 53, pp. 287-288.)

Since the project is designed to conform to industry norms, Staff concluded that BEP would perform reliably in baseload duty and cause no significant impacts to electric system reliability. *(*Ex. 53, p. 288.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The Blythe Energy Project (BEP) will ensure equipment availability by implementing quality assurance/quality control programs and by providing adequate redundancy of auxiliary equipment to prevent unplanned off-line events.

2. BEP s two parallel trains of gas turbine generators/HRSGs and one steam turbine generator provide inherent reliability.

3. Planned outages for each of the turbine generators can be scheduled in sequence during times of low regional electricity demand.

4. There is adequate fuel and water availability for project operations.

5. The project is designed to withstand earthquakes to prevent significant hazards to the project s safety or reliability.

6. The project s estimated 92-98 percent availability factor is consistent with industry norms for power plant reliability.

7. BEP will perform reliably in baseload duty and cause no significant impacts to electric system reliability.

The Commission, therefore, concludes that the project will not have an adverse effect on system reliability. No Conditions of Certification are required for this topic. To ensure implementation of the QA/QC programs described above, appropriate Conditions of Certification are included in the **Facility Design** portion of this Decision.

D. TRANSMISSION SYSTEM ENGINEERING

The Commission s jurisdiction includes any electric power line carrying electric power from a thermal power plant to a point of junction with an interconnected transmission system. (Pub. Resources Code, ⁄ 25107.) The Commission reviewed the engineering and planning design of BEP s proposed transmission facilities to ensure that they will be designed, constructed, and operated in compliance with applicable law. These transmission facilities include the power plant switchyard, the transmission outlet lines, and the point of interconnection to the power grid system.

The Blythe Energy Project proposes to connect their project to the Western Area Power Administration s (Western) Desert Southwest (DSW) transmission system. Western is responsible for ensuring electric system reliability for Western s transmission system and determines both the standards necessary to achieve reliability and whether a proposed project conforms with those standards. The California Integrated System Operator (Cal-ISO) is responsible for insuring reliability for the portion of the adjoining California transmission system owned by Cal-ISO participating transmission owners. The Cal-ISO is not the interconnection authority for Western s system, but may provide technical consultation to staff on Western s determinations and findings related to applicable reliability standards and the need for additional transmission facilities. Western prepared a Detailed Facilities Study (DFS) to assess the potential reliability and congestion impacts associated with the project.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Transmission Facilities

BEP will generate a nominal electrical output of 520 MW. The project will connect to two existing 161 kV Western owned transmission lines via three new tie lines. There will be one 650 foot tie line intercepting the Parker-Headgate-Blythe 161

kV line creating a Project -Headgate Rock-Parker 161 kV line. A second 450 foot tie line will intercept the Blythe-Parker 161 kV line creating a Project -Parker 161 kV line. And the third 600 foot tie line will also intercept the Blythe-Parker 161 kV line creating a Project -Blythe 161 kV line (Ex. 1,/8.2.2, Ex. 53, p.527.) Figure 8.0-5, replicated from Exhibit 1, shows the transmission interconnection. There will be a new 161/230 kV substation built adjacent to the new generation plant facility which will be built for operation at 161 kV and 230 kV. In addition to the three tie lines which will originate from the new project substation, the new substation will be built to allow for potential future termination of three additional lines. This expanded capability is being built to coordinate with Western and other regional transmission owner plans to upgrade the area s transmission service from 161 kV to 230 kV. The routes for the three potential future additional tie lines between the existing Blythe 161 kV substation and the project s 161/230 kV substation are part of the scope of this project. (Ex. 53, pp. 527-528.) The physical routes of the three initial tie lines plus the three potential future lines are illustrated in Figure 8.0-8, replicated from Exhibit 1.

Three 230 kV generator tie lines will interconnect the generator step up transformers to the new project substation switchyard using overhead construction. Each of these generator tie lines will serve one of the new plant unit generators with each generator tie line terminating at a 230 kV position. A 161/230 kV auto-transformer will connect the aggregated plant output to the 161 kV side of the new switchyard bus which will connect to the existing 161 kV transmission system. (Ex. 53, pp. 530.)

The proposed conductor will be 1272 MCM ACSR. The project tie line structures will be wooden H-frame type construction except for angle structures which will be 3-pole type construction. (Ex. 53, pp. 530.)

Western design standards will be used. The final designed project tie lines will be sized to accommodate continuous full plant output, and line construction will

meet or exceed Western s, GO-95 and National Electric Safety Code (NESC) specifications, in accordance with conditions of certification **TSE-1a** and **TSE-1d**. (*Id.*)

The Applicant and Western analyzed one route alternative: an interconnection plan in which the project substation was dedicated to the project along with two transmission tie lines built from the new project substation to the existing Blythe 161 kV substation. This option was rejected because the existing Blythe 161 kV substation does not have the space to add two new positions and would require expansion including new land. In addition, the ability to build two tie lines at 230 kV construction standards is hampered due to Blythe substation s equipment clearance space limitations. Additionally, if the area were to upgrade to 230 kV in the future, the existing substation would require major reconstruction to enable 230 kV service to any upgraded existing 161 kV lines. (Ex. 1, / 8.2.7; Ex. 53, p.535.)

2. System Reliability

Western is the transmission owning agency that will provide transmission service to the project as well as being the agency responsible for maintaining reliability of Western s interconnected grid. As such, Western will perform the analysis identifying impacts, recommend the interconnection facilities and any mitigation of downstream facilities required to maintain system reliability, and Western will ultimately approve the final interconnection requirements for the project. (Ex. 53, p. 530.)

Completion of pending WSCC peer review, completion of a final Facilities Study by Western, and any future issuance of an interconnection agreement from Western, will assure conformance with NERC, WSCC and Western reliability criteria. (Ex. 53, p. 531.) Condition of Certification **TSE-1e** is adopted to provide for Commission review of the WSCC Peer Review report, Western s final Facility Study, and the Western/BEP interconnection agreement.

A system reliability study determines whether the new project would cause thermal overload violations, voltage deviation violations (voltages too high or low), and/or electric system instability (excessive oscillations). In addition to the above analysis, studies are performed to verify that sufficient reactive power is available. The reliability evaluation must be conducted for all credible emergency conditions. Emergency conditions could include the loss of a single or double circuit line, the loss of a transformer or generator, or a combined loss of these facilities. The criteria used in this evaluation include the WSCC Planning Criteria, NERC Planning Standards, and Western s Reliability Criteria for System Planning. Subsequent to the Applicant s request to Western for interconnection service, Western completed a Preliminary Interconnection Study in February of 1999. The Preliminary Interconnection Study defined options at 161 kV and 230 kV for interconnecting the BEP. In the May 26, 2000 supplemental filings to the AFC, the Applicant submitted Western s follow-up reports to its Preliminary Interconnection Study, Integration of the Proposed Blythe Generation to Western Area Power Administration Desert South West Region (DSW) Transmission System, Progress Report . This report included an evaluation of the impact to the Western transmission system with the addition of BEP. Western s report with appendices was the primary reference used by Staff in its analysis of BEP s impact to transmission reliability. (Ex. 53, p. 531.)

Given the effect of the project on the DSW system, Western will review the results of this study with neighboring utilities. Western s analysis indicates potential impacts beyond their system.[10] Edison s transmission assets at Eagle Mountain substation are part of the Cal-ISO controlled transmission system. The existence of potential criteria violating impacts to non-Western transmission assets may expand the review and approval authority to include broader regional reliability and planning forums, specifically WSCC and the Southwestern Regional Transmission Association (SWRTA). (Ex. 53, p. 531.)

[10] For example, overload of an SCE transformer at Eagle Mountain substation.

Western s May 2000 Transmission Study Report determined that the project can be successfully integrated with the DSW South of Parker transmission system and that, under all circumstances, including N-1 criteria, the project will be required to operate in a manner that maintains system reliability criteria. (Ex. 53, p. 533.) This may include a Remedial Action Scheme (RAS) as prescribed by Western. For the BEP to be able to dispatch its maximum generation into the DSW system, previously planned upgrades to the operation of the Blythe-Niland transmission line at 230 kV and an upgrade of the SCE transformer (at the Eagle Mountain substation) from 72 MVA to 200 MVA are required. (Ex. 53, p. 533.)

Subsequent to Western s May 2000 transmission study report, the Applicant provided information identifying the Western, SCE and IID facilities with contingency related overloads which the impacted transmission owners have attributed to the BEP, and the type of mitigation acceptable to the impacted transmission owners (*Id*.) The following table, replicated from Exhibit 53, page 534, summarizes this information.

Overloaded Facility	Mitigation Option	Comments
Havasu — N.Havasu 161 kV line	Line reconductoring	Western is currently reconductoring this line as part of the South Point project. Completion of work is expected prior to summer of 2001.
Knob — Pilot Knob 161 kV line	Operating procedure	Operating procedure will require reduced output from BEP.
Eagle Mountain 230/161kV transformer	Replacement	Capacity to be increased from 70MVA to 200MVA. SCE owned equipment.
Niland 161/92 kV transformer	Operating procedure	Operating procedure will require reduced output from BEP. IID owned equipment.
El Centro 230/161 kV transformer	Remedial action scheme (RAS) automatic operating procedure	Remedial action scheme will require tripping of BEP units. IID owned equipment. IID may install a series capacitor to the existing El Centro-Imperial Valley 230 kV line related to future planned 230 kV enhancements to the Desert Southwest transmission system. If implemented, this will relieve the need for the RAS.

Western s identification of acceptable mitigation solutions to be provided in their future final Detailed Facilities Study report and subsequent Interconnection Agreement, are included here as part of condition of certification **TSE-1**. These documents must be provided to the Commission prior to construction of any transmission facilities. The identification of mitigation for non-Western assets impacted by BEP (including but not limited to SCE and IID transformers noted above) via the WSCC Peer Review Process will also be required. Results of the WSCC Peer Review are also required as a part of condition of certification **TSE-1**.

A stability study was performed to ensure that the transmission system remains in operating equilibrium during normal and abnormal operating conditions with BEP connected to the system. Western concluded that stability was maintained for all faults studied without generator dropping or other remedial action schemes. Results also showed that the integration of Blythe Energy Project has no significant impact on the stability of the East of River (EOR) transfer path.

Western used the system model from Case 3, 161-to-230 kV upgrades and upgrade of Eagle Mountain transformer, as the system condition for testing BEP s contribution to short circuit fault duty at several area busses. The pre-project comparison case was system scenario Case 1. Western found no fault duty problems. Impacts to non-Western assets, especially SCE s equipment at the Blythe Substation, are not addressed yet. The results of WSCC Peer Review will be required to finalize findings in this area. Although there is some uncertainty as to potential equipment replacement, it is very likely that any work identified will be within the fence line of existing transmission related facilities, and any future identified facility upgrades related to fault duty will have no significant environmental impacts. (Ex. 53, pp. 534-535.)

3. Cumulative Impacts

There are no projects in California with preceding AFCs or licenses electrically proximate to BEP. Therefore, no cumulative impact analysis was needed or made by staff. (Ex. 53, p. 535.)

4. Closure

Procedures for planned, unexpected temporary, or permanent closure will be developed to facilitate effective coordination between the project owner and Western to ensure safety and system reliability. The California Public Utilities Commission (CPUC) has promulgated rules under General Order 95 (GO-95) that should apply to project closure procedures. (Ex. 53, pp. 536-537.) Condition **GEN-9** in the **Facility Design** section requires BEP to provide a Closure Plan at least 12 months prior to commencing closure activities. The Compliance Plan section of this Decision contains additional provisions to ensure that project closure would be consistent with applicable law.

COMMISSION DISCUSSION

The uncontroverted evidence of record establishes that BEP s transmission facilities will be designed, constructed, and operated in conformance with applicable law. The Commission relies on Western s determinations regarding the project s potential reliability and/or congestion impacts and has adopted Western s finding that BEP can reliably connect to the grid.

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following findings and conclusions:

1. Blythe Energy Project will interconnect with the Western controlled grid at Blythe Substation.
2. The project s double circuit overhead line will provide 520 MW of transfer capability.
3. The overhead lines will be constructed in conformance with Western design standards.
4. Western will perform a final Detailed Facilities Study to analyze the potential reliability and congestion impacts likely to occur when BEP interconnects to the grid.
5. The issuance of Western s final interconnection approval and the WSCC Peer Review Process will assure conformance with NERC, WSCC and Western reliability criteria. Condition of Certification **TSE-1(e)** provides for Energy Commission review of the Western final interconnection agreement.

The Commission therefore concludes that implementation of the measures specified in the Conditions of Certification listed below will ensure that BEP s transmission facilities are designed, constructed, and operated in compliance with all applicable laws, ordinances, regulations, and standards relating to transmission system engineering as identified in APPENDIX A of this Decision.

CONDITIONS OF CERTIFICATION

TSE-1 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to the requirements listed below. The substitution of Compliance Project Manager (CPM) approved equivalent equipment and equivalent substation configurations is acceptable.

a) The power plant switchyard and outlet line shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC), Title 8, CCR, Articles 35, 36 and 37 of the, High Voltage Electric Safety Orders , and related industry standards.

b) Termination facilities shall comply with Western s applicable interconnection standards

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) The project conductors shall be sized to accommodate the full output from the 520 MW plant.

e) The project owner shall provide:

   i) Western s final Detailed Facility Study (DFS) including a description of facility upgrades, operational mitigation measures, and/or Remedial Action Scheme (RAS) sequencing and timing if applicable,

   ii) Results of WSCC Peer Review including a determination whether impacts to, and any mitigation for, non-Western transmission facilities are attributable to the project,

   iii) Executed Facility Interconnection Agreement for the project transmission interconnection with Western.

Verification: At least 60 days prior to the start of construction of transmission facilities, the project owner shall submit to the CPM for approval:

a) Design drawings, specifications and calculations conforming 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 , and related industry standards, where applicable, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.

b) For each element of the transmission facilities identified above, the submittal package to the CPM shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on worst case conditions [11] 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 , 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-1** a) through e) above. The Detailed Facilities Study and executed interconnection agreement shall be provided concurrently. Substitution of equipment and substation configurations shall be identified and justified by the project owner for CPM approval.

TSE-2 The project owner shall inform the CPM of any impending changes, which may not conform to the requirements **TSE-1** a) through e), and have not received CPM 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 CPM.

Verification: At least 60 days prior to the construction of transmission facilities, the project owner shall inform the CPM of any impending changes which may not conform to requirements of **TSE-1** and request approval to implement such changes.

TSE-3 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM 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 , Western s interconnection standards, and related industry standards. In case of non-conformance, the project owner shall inform the CPM in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

Verification: Within 60 days after first synchronization of the project, the project owner shall transmit to the CPM:

[11] Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

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 , Western s interconnection standards, 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 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 responsible charge.

E. TRANSMISSION LINE SAFETY AND NUISANCE

The project transmission line must be constructed and operated in a manner that protects environmental quality, assures public health and safety, and complies with applicable law. This analysis reviews the potential impacts of the project transmission line on aviation safety, radio-frequency interference, audible noise, fire hazards, nuisance shocks, hazardous shocks, and electric and magnetic field exposure.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Description of Transmission Line

Energy from the proposed Blythe Energy Project (BEP) will be transmitted to the Western Area Power Administration (Western) transmission system through three existing 161 kV overhead lines. The first two are the Parker to Blythe Nos. 1 and 2 lines. The third is the Blythe to Knob line. According to the applicant (Ex. 1,∥7.17.1, 8.2.2-8.2.3.) Western plans to upgrade this 161 kV system to 230 kV. Therefore, the proposed tie-in lines will be built to accommodate operation at 161 kV or 230 kV. Connection to these Western lines will be made at locations immediately east of the BEP s switchyard and north of Western s existing Blythe Substation. The BEP site was chosen, in part, because of its proximity to this Blythe Substation, which primarily is a switch station for the area s 161 kV lines. (Ex.53, p. 511; Ex. 1,/7.17.1.)

Since the lines are to be connected to Western s transmission system, they will be designed (BEP 1999a, page 8.0-14), according to existing Western guidelines and construction practices reflecting compliance with applicable laws, ordinances, regulations and standards (LORS). (Ex. 1,/8.2.6; Ex. 53, p. 511.)

2. Potential Impacts

a. Electric and Magnetic Field Exposure

The possibility of health effects from exposure to electric and magnetic fields (EMF) has increased public fears about living near high-voltage lines. (Ex. 53, p. 515.) The available data evaluated by the California Public Utilities Commission (CPUC) and other regulatory agencies do not definitively establish that EMF poses a significant health risk nor prove the absence of health hazards.[12] (*Ibid*.) In light of the present uncertainty regarding EMF exposure, Staff testified that most of the regulatory agencies, including the CPUC, have implemented policies to ensure that transmission lines are designed to minimize EMF without impacting transmission efficiency. (Ex. 53, p. 515-516.) Under CPUC policy, the regulated utilities have established EMF-reducing design criteria for new and upgraded electrical facilities. New transmission lines are not permitted to create EMF levels greater than that of existing transmission lines. (*Ibid*.)

Applicant s testimony confirmed that EMF from its proposed transmission line is not significantly different from the existing lines in the immediate vicinity. (Ex. 1,/ 7.17.2.2.) Since each new line in California is currently required to be designed according to the EMF-reducing guidelines of the utility in the service area involved, their fields are required under existing CPUC policies to be similar to fields from similar lines in that service area. (Ex. 53, p. 516.) Condition of Certification **TLSN-1** is adopted to ensure implementation of the reduction measures necessary. This is consistent with existing CPUC policy.[13] (*Ibid*.) Condition **TLSN-3** requires Applicant to measure the strengths of the electric and magnetic fields along the transmission line route before and after energization. Since the proposed line designs are in keeping with Western s field-reducing guidelines, any exposures within the right-of way would be similar to those

[12] Although several states regulate EMF levels for new transmission lines, California has not specified a maximum EMF limit. (Ex. 1,/7.17.2.2; Ex. 53, p. 516.)

[13] The CPUC has determined that only no-cost or low-cost EMF-reducing measures for new or upgraded transmission facilities are presently justified in any effort to reduce EMF fields beyond existing levels. (CPUC Decision No. 93-11-013.) (See Ex. 53, p. 515-516.)

expected from typical Western designs. For the proposed and other high-voltage lines, the edge of the right-of-way would mark the beginning of the long-term residential exposures at the root of the present health concern. Since there are no residences or occupied buildings in the vicinity of the proposed lines, no such long-term exposures would be expected. (Ex. 53, p. 519.) Condition of Certification **TLSN-3** is adopted to verify that the fields are reduced within, and outside the edges of the rights-of-way to the extent expected from the use of Western s EMF-reducing designs as proposed.

b. Aviation Safety

The Blythe Airport is located approximately one mile from the project site. Because of this proximity, the Applicant consulted with the FAA on any related aviation hazards, although Staff determined an FAA permit would not be required judging by present FAA criteria. (Ex. 53, p.518.) In their formal response to the applicant on November 11, 1999, the FAA indicated that BEP and its related lines would not pose a significant hazard to area aviation. The FAA further stated that safety markings would be unnecessary. Given this FAA determination, BEP and its related transmission lines do not pose any aviation hazards in this area of existing lines for which the collisions of concern have not been recorded. (Ex. 53, p. 516.)

c. Interference With Radio-Frequency Communication

Corona-related communications interference is most commonly caused by irregularities (such as nicks and scrapes on the conductor surface), sharp edges on suspension hardware and other irregularities around the conductor surface. The line will be constructed according to Western s standards, which minimize the potential for such surface irregularities. The potential for such corona-related interference is usually of concern only for lines of 345 kV and above and not this 230 kV line. However, if such corona noise were to be generated, no

interference-related complaints would be expected given the absence of residences in the project area. (Ex. 53, p. 518.) Condition **TLSN-1** will ensure compliance with GO-52, which also deals with the radio interference problem. Federal Communication Commission (FCC) regulations require transmission line operators to resolve incidents of radio or television interference on a case-by-case basis. (*Ibid*.) Condition **TLSN-2** ensures that BEP will mitigate any interference-related complaints on a case-specific basis.

d. Audible Noise

As with radio noise, the line s low-corona design will minimize the potential for corona-related audible noise. This means, as noted by the Applicant (Ex. 1,／7.17.2.3.), that the line will not add significantly to existing background noise levels in the area. (Ex. 53, p. 518-519.) For an assessment of the noise from all phases of the proposed power plant and related facilities, see the **Noise** section in this Decision.

e. Fire Hazards

Operation of the transmission line represents a low fire risk. Fires could occur by sparks from overhead conductors coming into contact with combustible material. As is current Western policy, adequate fire prevention and suppression measures will be implemented in the area around the proposed line as required by related regulations and industry practices. Compliance with GO-95 requirements will ensure the clearance necessary to prevent fires from direct contact between the proposed line, trees and other objects (Ex. 1,／7.17.2.7; Ex. 53, p. 519.) Condition **TLSN-4** ensures that the transmission line right-of-way will be kept free of combustible material.

f. Nuisance and Hazardous Shocks

Nuisance or hazardous shocks can result from direct or indirect contact with an energized line or metal objects located near the line. The proposed line will be constructed (as is present Western practice) according to the requirements of GO-95 which prevent hazardous shocks from direct or indirect human contact with an overhead, energized line. Therefore, staff does not expect these lines to pose any such hazards to humans. (Ex. 53, p.519.) Condition **TLSN-1** ensures compliance with applicable LORS that require implementation of the mitigation measures proposed by Applicant. As with current Western practice, the potential for nuisance shocks will be minimized in the line areas through standard grounding procedures. Ensuring GO-95-required ground clearance as intended will minimize the potential for the electrical charging for which such grounding would be necessary. (*Id*.) Condition **TLSN-5** will ensure the necessary grounding.

COMMISSION DISCUSSION

The evidentiary record establishes that BEP s transmission line design will conform with all established requirements to ensure aviation safety, prevent radio and television interference, limit audible noise, eliminate fire hazards, and prevent hazardous and nuisance shocks. Since adverse health effects from electric and magnetic fields (EMF) have not been established or ruled out, the public health significance of project-related field exposure cannot be characterized with certainty. The estimated exposures from the project transmission line are significantly below field levels associated with lines of the same voltage, current-carrying capacity, and field levels established by states with regulatory limits for such fields. There is no evidence that the line will pose a danger from EMF exposure.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The project transmission line, which will connect to Western s transmission system, consists of three overhead 230kV lines (450 feet, 650 feet and 600 feet in length) connecting the project switchyard to existing Western transmission lines.

2. The possibility of health effects from exposure to electric and magnetic fields (EMF) has increased public fears about living near high-voltage lines.

3. Neither the California Public Utilities Commission nor any other regulatory agency in California has established limits on public exposure to electric and magnetic fields from power lines.

4. BEP s transmission line will be designed in accordance with the electric and magnetic field reducing guidelines applicable to Western s transmission service area.

5. The estimated EMF exposures from the transmission line are below field levels associated with similar lines in the Western area, and significantly below field levels established by states with regulatory limits for such fields.

6. The Conditions of Certification reasonably ensure that the transmission line will not have significant adverse environmental impacts on public health and safety nor cause impacts in the areas of aviation safety, radio/TV communication interference, audible noise, fire hazards, nuisance or hazardous shocks, or electric and magnetic field exposure.

The Commission, therefore, concludes that with implementation of the Conditions of Certification, the project will conform with all applicable laws, ordinances, regulations, and standards relating to transmission line safety and nuisance as identified in the pertinent portions of **APPENDIX A** of this Decision.

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, Title 8, Group 2., High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Western s EMF-reduction guidelines.

Verification: Thirty days before starting construction of the transmission line or related structures and facilities, the project owner shall submit to the Commission s 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-2 The project owner shall ensure that every reasonable effort will be made to identify and correct, on a case-specific basis, any complaints of interference with radio or television signals from operation of the project-related lines and associated switchyards.

The project owner shall maintain written records for a period of five years, of all complaints of radio or television interference attributable to plant operation together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action, or for which there was no resolution should be noted and explained. The record shall be signed by the project owner and also the complainant, if possible, to indicate concurrence with the corrective action or agreement with the justification for a lack of action.

Verification: All reports of line-related complaints shall be summarized for the project-related lines and included during the first five years of plant operation in the Annual Compliance Report.

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 (1) along the edge of the right-of-way, (2) inside the right-of-way of the proposed lines and (3) along and inside the right-of-way of a Western line of the same voltage and current-carrying capacity. These measurements should be completed not later than 6 months after the start of operations.

Verification: The project owner shall file copies of the pre-and post-energization measurements and measurement of a representative Western line, with the CPM within 60 days after completion of the measurements.

TLSN-4 The project owner shall ensure that the right-of-way of the proposed lines are kept free of combustible material, as required under the provisions of Section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.

Verification: During the first five years of plant operation, the project owner shall provide a summary of inspection results and any fire prevention activities carried out along the right-of-way and provide such summaries in the Annual Compliance Report.

TLSN-5 The project owner shall ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards regardless of ownership.

In the event of a refusal by any property owner to permit such grounding, the project owner shall so notify the CPM. Such notification shall include, when possible, the owner s written objection. Upon receipt of such notice, the CPM may waive the requirement for grounding the object involved.

Verification: At least 30 days before the lines are energized, the project owner shall transmit to the CPM a letter confirming compliance with this Condition.

VI. PUBLIC HEALTH AND SAFETY ASSESSMENT

Operation of the Blythe Energy Project will create combustion products and utilize certain hazardous materials that could expose the general public and workers at the facility to potential health effects. The following sections describe the regulatory programs, standards, protocols, and analyses that address these issues.

A. AIR QUALITY

This section examines the potential adverse impacts of criteria air pollutant emissions resulting from project construction and operation. The Commission must find that the project complies with all applicable laws, ordinances, regulations, and standards related to air quality. National ambient air quality standards (NAAQS) have been established for six air contaminants identified as criteria air pollutants. These include sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), lead (Pb), and particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$) and their precursors: nitrogen oxides (NO_x), volatile organic compounds (VOC), and sulfates (SO_x). California s ambient air quality standards (CAAQS) for these pollutants are generally more stringent than the national standards. (Ex. 53, p. 36.)

The federal Clean Air Act[14] requires new major stationary sources of air pollution to comply with federal New Source Review (NSR) requirements in order to obtain permits to operate. The U.S. Environmental Protection Agency (USEPA), which administers the Clean Air Act, has designated all areas of the United States as attainment (air quality better than the NAAQS) or non-attainment (worse than the NAAQS) for criteria air pollutants. In general, an area is designated as attainment for a specific pollutant if the concentrations of that air contaminant do not exceed

[14] Title 42, United States Code section 7401 et seq.

the standard. Likewise, an area is designated as non-attainment for an air contaminant if that standard is violated. Where not enough ambient data are available to support designation as either attainment or non-attainment, the area can be designated as unclassified. Unclassified areas are normally treated the same as attainment areas for regulatory purposes. An area can be attainment for one air contaminant while non-attainment for another, or attainment for the federal standard and non-attainment for the state standard for the same contaminant. The entire area within the boundaries of a district is usually evaluated to determine the district s attainment status. (Ex. 53, p. 37.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

Air Quality Table 1, below, replicated from Exhibit 53, p. 37, compares state and federal ambient air quality standards.

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AIR QUALITY Table 1

Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone (O3)	1 Hour	0.12 ppm (235 $\mu g/m^3$)	0.09 ppm (180 $\mu g/m^3$)
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
	1 Hour	35 ppm (40 mg/m^3)	20 ppm (23 mg/m^3)
Nitrogen Dioxide (NO2)	Annual Average	0.053 ppm (100 $\mu g/m^3$)	
	1 Hour		0.25 ppm (470 $\mu g/m^3$)
Sulfur Dioxide (SO2)	Annual Average	0.03 ppm (80 $\mu g/m^3$)	
	24 Hour	0.14 ppm (365 $\mu g/m^3$)	0.04 ppm (105 $\mu g/m^3$)
	3 Hour	0.5 ppm (1300 $\mu g/m^3$)	
	1 Hour		0.25 ppm (655 $\mu g/m^3$)
Respirable Particulate Matter (PM10)	Annual Geometric Mean		30 $\mu g/m^3$
	24 Hour	150 $\mu g/m^3$	50 $\mu g/m^3$
	Annual Arithmetic Mean	50 $\mu g/m^3$	
Sulfates (SO_4)	24 Hour		25 $\mu g/m^3$
Lead	30 Day Average		1.5 $\mu g/m^3$
	Calendar Quarter	1.5 $\mu g/m^3$	
Hydrogen Sulfide (H_2S)	1 Hour		0.03 ppm (42$\mu g/m^3$)
Vinyl Chloride (chloroethene)	24 Hour		0.010 ppm (26 $\mu g/m^3$)
Visibility Reducing Particulates	1 Observation		In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

The Blythe Energy Project is located in the Riverside County portion of the Mojave Desert Air Basin and is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). (Ex. 53, p. 37.) BEP is located in an area that is designated unclassified/attainment for all criteria pollutants for federal standards. With regard to California standards, the area is designated as nonattainment for ozone and PM_{10} and attainment or unclassified for all other criteria pollutants. (Ex. 1,／7.7.1; Ex. 53, p. 37.) Since NO_x is considered a precursor for both ozone and $PM_{10,}$ and VOC is considered a precursor for ozone, they are essentially treated as non-attainment pollutants under state and local regulations. At the same time, both are officially attainment pollutants and subject to PSD requirements under federal regulations. (Ex. 1,／7.7.1.)

Ozone Violations. Ozone is not directly emitted from stationary or mobile sources; rather it is formed as the result of chemical reactions in the atmosphere between directly emitted air pollutants. Nitrogen oxides (NOx) and hydrocarbons (Volatile Organic Compounds [VOCs]) react with oxygen in the presence of sunlight to form ozone. Collected air quality data indicates that ambient ozone tends to be a regional issue and that violations occur primarily during the period of May through October. (Ex. 53, p. 38.)

The California Air Resources Board (CARB) has previously reported on the contributions of various districts to ozone violations in other districts.[15] Initially, Staff was unable to determine if the ambient collected ozone data represented the ozone levels at Blythe because the data was collected at a site approximately 90 miles to the west-northwest The ambient ozone levels in Blythe could be either higher or lower due to the distance and possible influence from other urban regions. Thereafter, however, Applicant provided an analysis from numerous monitoring stations divided into three upwind transport path groups, the Southern Mojave Desert Air Basin Path, the I-10 Corridor Path, and the Salton Sea Air Basin Path. This analysis demonstrated that over the past decade both the Southern Mojave Desert Air Basin Path and the I-10 Corridor Path show decreasing average maximum 1 hour ozone levels and decreasing numbers of days per year in which a state 1 hour violation was registered. Staff found the data presented from the Salton Sea Air Basin Path was inconclusive, but the applicant contends that influence from this path on the Blythe area is unlikely due to the intervening Chocolate Mountains. (Ex. 53, p. 39.) Upon further review, Staff agreed with the applicant s analysis for all three pathways. (*Id.*)

The two pathways most likely influencing the Blythe area are the Southern Mojave Desert Air Basin Path and the I-10 Corridor Path. In 1992 both pathways

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[15] The California Air Resources Board (CARB) has found that sources within both the San Joaquin Valley Air Basin and the South Coast Air Basin contribute to the Mojave Desert Air Basin. However, the couples (the geographic areas that were analyzed for pollutant transport) are between locations more then 150 miles from the project site. (Ex. 53, p. 39.)

had higher maximum ambient ozone levels than Blythe and over the past decade both show a clear pattern of improvement. Staff found that these facts support an assumption that the ambient ozone levels in Blythe are now equal to or lower than they were in 1992. In addition, the 1992 data from Blythe shows no violations of the State ozone standard. (Ex. 53, p. 39.) Both Staff and the Applicant assert that the Blythe area currently does not experience any violations of the State standard for ozone formation (Ex. 2, p. 23; Ex. 53, p. 39.) and there was no evidence presented to the contrary.

Ambient PM_{10}. PM_{10} can be emitted directly or it can be formed many miles downwind from emission sources when various precursor pollutants interact in the atmosphere. Gaseous emissions of pollutants like NO_x, SO_x and VOC from turbines, and ammonia (NH_3) from NOx control equipment can, given the right meteorological conditions, form particulate matter known as nitrates, sulfates, and organics. These pollutants are known as secondary particulates, because they are not directly emitted but are formed through complex chemical reactions in the atmosphere

1. Potential Impacts

The evidence as a whole indicates that the USEPA, the Air District, and CARB worked together with the Applicant and Staff to determine whether project emissions of criteria pollutants would cause significant air quality impacts and to identify appropriate mitigation measures that would reduce potential impacts to levels of insignificance. (Ex. 1,/7.7; Ex. 2, pp. 22-26; Ex. 8; Ex. 10; Ex. 53, pp. 31-55.) The Air District s Final Determination of Compliance (FDOC) concludes that the project will comply with all applicable air quality requirements and imposes certain conditions necessary to ensure compliance. (Ex. 57.) Pursuant to Commission regulations, the Conditions contained in the FDOC are

incorporated into this Decision. (Cal. Code of Regs., tit. 20, // 1744.5, 1752.3.) See, Conditions of Certification **AQ-1** through **AQ-34**.

The Commission not only reviews compliance with Air District rules but also evaluates potential air quality impacts according to CEQA requirements. The CEQA Guidelines provide a set of significance criteria to determine whether a project will violate or contribute to an existing air quality violation. (Cal. Code of Regs., tit. 14, / 15000 et seq. Appendix G.) Staff found that BEP would not violate any local, state, or federal air quality standards nor contribute to significant cumulative impacts. (Ex. 53, pp. 48-49, 53, 55.) The following discussion provides an overview of the analyses that support the conclusions reached by the Air District and Staff.

Methodology. Applicant used USEPA-approved air dispersion modeling to evaluate the project s potential impacts on the existing ambient air pollutant levels, during both construction and operation. An air dispersion modeling analysis usually starts with a conservative screening level analysis. Screening models use very conservative assumptions and meteorological conditions, which may or may not actually occur in the area. The impacts calculated by screening models, therefore, can be significantly higher than the actual or expected impacts. If the screening level impacts are significant, refined modeling analysis is performed. A major difference in the refined modeling is that hour-by-hour meteorological data collected in the vicinity of the project site is used. Blythe Energy used the Industrial Source Complex Short Term model, Version 3, known as the ISCST3 model, for the refined modeling analysis of the Blythe Energy Project.. (Ex. 1, /7.7.8 and Appendix 7.7-F; Ex. 53, p. 45.) These calculations describe project emissions prior to installation of control technology.

Construction. Applicant performed air dispersion modeling analyses of the potential construction impacts at the project site using the Fugitive Dust Model (FDM) and meteorological data from 1990 through 1993. The analyses included

fugitive dust generated from the construction activity (modeled as an area source) and combustion emissions from the equipment (modeled as four stationary point sources). The 1 hour NO_2 impact was calculated using the Ozone Limiting Method (OLM). The 24 hour impacts were assessed using the emission rates for the month of maximum activity and annual impacts were assessed using the average emissions for the entire construction period. Most of the highest emissions are estimated to occur about halfway through the 16 to 20 month construction period. (Ex. 53, pp. 45-46.) Project construction may result in short-term ambient air quality impacts (mostly for PM_{10}), to the general public but they can be mitigated. (Ex. 53, p. 46.) There are a series of Air District rules that limit fugitive dust during the construction phase of a project and BEP will employ appropriate fugitive dust mitigation measures to limit their construction related PM_{10} emissions. Specifically, the applicant proposes water and/or chemical application during construction activities to suppress fugitive dust. The applicant asserts, and Staff does not dispute, that such efforts will reduce fugitive dust generation by 50 percent. (Ex. 53, p. 49.), In addition, Staff proposed, and we adopt, additional mitigation measures. These measures provide for a Fugitive Dust Mitigation Plan (FDMP) that specifically spells out the mitigation measures that BEP will employ to limit fugitive dust during construction and comply with the applicable Air District Rules and will require BEP s contractors and subcontractors to maintain records of proper engine maintenance and tune-ups for all major construction equipment, including but not be limited to equipment such as bulldozers, backhoes, compactors, loaders, motor graders, trenchers, cranes, dump trucks and other heavy duty construction related trucks. These measures are included in Conditions **AQ-C1** and **AQ-C2**.

<u>Commissioning</u>. New power generation facilities must go through an initial firing and commissioning phase before going fully on line. This period can last upwards of 4 months. During this period, emissions may exceed permitted levels due to startups, shutdowns, extended periods of low load operation and periods of time when the low-NO_x burners and SCR systems are fine tuned for optimum

performance. The applicant has prepared impact modeling of the probable ground level impact during initial commissioning activities. This modeling indicates that, given certain restrictions, the initial commissioning activities will not cause ground level violations of state or federal standards. Commissioning ends with the start of commercial operation, which requires a Permit to Operate from the Air District. To ensure that no significant air quality impacts occur during the initial commissioning phase of the Project, we adopt a set of Conditions specifically for this period. These measures are included in **AQ-C3** through **AQ-C10**.) (Ex. 53, pp. 44-45.)

Commercial Operation. Applicant s modeling results showed that pollutant concentrations during start-up and operation would not violate state or federal ambient air quality standards. BEP provided a refined modeling analysis, using the ISCST3 model to quantify the potential impacts of the project during both steady state operation and startup conditions. Because no ambient air quality data is available from the Blythe area, the Background numbers presented here are from the city of Twentynine Palms (1997 figures). The **worst case (maximum)** results of this modeling analysis is shown in the following table, which is replicated from Staff s Air Quality Table 11. (Ex. 53, p. 47.) This table shows that during normal operation of the combustion turbines, the project s emissions would not cause a surface level violation of any ambient air quality standards.

AIR QUALITY Table 11
Combustion Turbine Refined Modeling Maximum Impacts ($\mu g/m^3$)

Pollutant	Averaging Time	Background	Project Impact	Total Impact	Limiting Standard	Percent of Standard
NO_2	1 hour	68	368	431	470	92%
	Annual	16.2	0.5	17	100	17%
CO	1 hour	2280	1295	3575	23,000	16%
	8 hour	1140	345	1485	10,000	15%
SO_2	1 hour	7.8	2.4	10.2	655	2%
	3 hour	10.4	1.4	12	1300	1%
	24 hour	5.2	0.2	5	130	4%
	Annual	2.9	0.03	3	80	4%
PM_{10}	24 hour	30	3.1	33	50	66%
	Annual	15.9	0.4	16	30	53%

2. Mitigation

Pursuant to USEPA regulations, Best Available Control Technology (BACT) emission limits are required for facilities that emit, or have the potential to emit, specified limits of any state nonattainment pollutants. Based on the project s maximum calculated emissions, each permitted unit must be equipped with BACT/Lowest Achievable Emission Rate (LAER) for NO_x, VOC, PM_{10} and SO_x and BACT for CO. (Ex. 1,／7.7.5.3.) The Air District defines BACT as the most stringent emission limit or control technology that has been achieved in practice.[16] The Air District filed their Final Determination of Compliance (FDOC) for the Project on October 25, 2000, (Ex. 57) including a determination for Best Available Control Technology (BACT). In addition, CARB adopted guidance for

[16] For facilities that emit non-attainment pollutants, USEPA requires the Lowest Achievable Emission Rate (LAER), which is even more stringent than federal BACT. In California, however, state BACT is equivalent to federal LAER limits.

district permitting decisions that contains recommendations for BACT. The following table, which is replicated from Staff s Air Quality Table 13. (Ex. 53, p. 52.) presents the District s proposed BACT levels and the CARB recommendations from their guidance document.

AIR QUALITY Table 13
Comparison of Proposed Mitigation Levels (@ 15% O_2)

Emissions Source	Pollutant	District Proposed	CARB Recommended BACT
CT/HRSG	NOx	2.5 ppmvd, 1 hour average	2.5 ppmvd, 1 hour average
CT/HRSG	CO	5 ppmvd @ CTG loads >80%, 8.4 ppmvd w/ duct firing @ CTG loads of 70-80%, 3 hour average	6 ppmvd, 3 hour average
CT/HRSG	PM_{10}	Fuel sulfur ≤0.5 gr/100 scf	Fuel sulfur ≤1 gr/100 scf
CT/HRSG	SO_2	Fuel sulfur ≤ 0.5 gr/100 scf	Fuel sulfur ≤ 1 gr/100 scf
CT/HRSG	VOC	1.0 ppmvd, 1 hour average	2.0 ppmvd, 3 hour average
Cooling Towers	PM_{10}	0.0006% Drift Rate	N/A

The sole use of natural gas fuel with a certified sulfur content not greater 0.5 gr/100 scf is considered BACT for both PM_{10} and SO_2. Therefore, Applicant s proposed control levels for these pollutants are acceptable. (Ex. 53, p. 52.) The NOx control level of 2.5 ppmvd averaged over one hour is consistent with state wide BACT for similar size turbines. The level will be reached by using a Selective Catalytic Reduction technique with injected aqueous ammonia. The District agrees with CARB guidelines on this issue. Use of drift eliminators with an efficiency of 0.0006 percent on the two proposed cooling towers represents the state-of-the-art of drift eliminator design. The District has determined that BACT for the cooling tower is 0.0006 percent efficiency and, therefore, adequate.

To reduce the turbine CO emissions, an oxidizing catalyst, similar in concept to catalytic converters used in automobiles, can be installed in the HRSG. The catalyst is usually coated with a noble metal, such as platinum, which will catalyze the oxidation of unburned hydrocarbons and CO to water vapor and CO_2, respectively. The applicant proposed to meet the CO and VOC emission levels without the use of an oxidizing catalyst. Most of the recent power plant projects of similar design are installing an oxidizing catalyst to meet these low emission levels. (Ex. 53, p. 53.)

Staff expressed concern that the project will be unable to meet the District proposed CO and VOC control levels with combustion controls alone. (Ex. 53, p. 54.) In previous projects, emission levels set at similar low levels have required the use of an oxidizing catalyst. This project is the first before the Commission to commit to reaching such low CO and VOC levels without the use of an oxidation catalyst, but the applicant has accepted that risk, and has committed to providing sufficient space in their HRSG design such that a CO catalyst could be retrofitted if the facility is unable to meet the permitted CO level. (Ex. 8 [Response to Data Request #6, May 26th, 2000]; Ex. 53, p.54.) The Air District has included a permit condition in the FDOC, which we adopt, that requires the installation of an oxidizing catalyst should the project fail to meet either the CO or VOC limits after commencement of operation. (Ex. 53, p. 53.) This requirement is contained in Condition **AQ-18**.

Newer technologies such as SCONOX™ and XONON™ can reduce NO_x and CO emissions without the use of ammonia or an oxidation catalyst. (Ex. 1,／7.7.5.3.2.1.) The USEPA currently requires consideration of these alternatives in the BACT analysis. Applicant investigated SCONOX™ and XONON™ technology, but both have not yet been demonstrated on large turbines. (Ex. 1,／7.7.5.3.2.1.) In the analysis, Applicant found the applicability to a project of this size to be questionable. (*Ibid*.)

The primary NOx control method will be the use of turbines equipped with dry-low NOx combustors. This term refers to various CTG combustor design innovations that control NOx generation within the turbine combustor, without the addition of water or steam. The CTG exhaust will also be treated with selective catalytic reduction (SCR) before release to the atmosphere. Selective catalytic reduction refers to a process that chemically reduces NOx to elemental nitrogen and water vapor by injecting ammonia into the flue gas stream in the presence of a catalyst and excess oxygen. The process is termed selective because the ammonia preferentially reacts with NOx rather than oxygen. The performance and effectiveness of SCR systems is directly related to operating temperature, which may vary with catalyst designs. Flue gas temperatures from a combustion turbine are typically between 950 to 1100°F. Catalysts generally operate between 600 to 750°F and are normally placed inside the HRSG where the flue gas temperature has cooled. Below 600°F the ammonia reaction rate may start to decline, resulting in increased ammonia emissions called ammonia slip. At temperatures above approximately 800°F the catalyst may be damaged. The catalyst material most commonly used is titanium dioxide, but materials such as vanadium pentoxide, zeolite, or noble metals are also used. Newer catalysts (versus the older alumina-based catalysts) are more resistant to fuel sulfur fouling at temperatures below 770°F. Regardless of the type of catalyst used, efficient conversion of NO_x to nitrogen and water vapor requires uniform mixing of ammonia into the exhaust gas stream. Also, the catalyst surface has to be large enough to ensure sufficient time for the reaction to take place. BEP proposes to use an SCR system in conjunction with the dry-low NOx technology of the Siemens/Westinghouse V84.3A combustion turbines chosen for the project. This will limit the NOx emissions from the two CTGs to 2.5 ppm @ 15% O_2. Applicant has proposed an averaging time of one hour and a maximum ammonia slip rate of 10 ppm. (Ex. 53, p. 50.)

Emission reduction credits (ERCs or offsets) are created when existing permitted emission sources cease or reduce their operations below permitted levels. The ERCs are approved and banked by the Air District. District regulations require that BEP provide emission offsets, in the form of banked ERCs, for the project s emissions increases of NO_x and PM_{10}. The projected emissions of VOC and SO_2 are below the thresholds requiring offsets. BEP has secured a number of offsets in the South Coast Air Quality Management District (SCAQMD) to offset their emissions liability. In addition, the applicant proposes to use VOC emissions credits to offset their NO_x liability. The District has determined an interpollutant and interbasin trading ratio of 1.6:1 (i.e. for every one ton of NO_x emissions from BEP, 1.6 tons of VOC emission reduction credits from SCAQMD would be provided). To offset the project s PM_{10} emissions liability, the applicant proposes paving approximately 1.57 miles of local dirt road. By doing so, the dust generated by vehicular traffic would be reduced, thus providing offsets for the project s emissions. A summary of the secured and pending credits, replicated from Exhibit 53, page 51, is shown below in **AIR QUALITY Table 12.** (Ex. 53, p. 51.) Applicant will use NO_x ERCs to offset most of its PM_{10} liability.

AIR QUALITY Table 12
Emissions Offsets Balance (tons/year)

Source	**Location — ERC certificate #**	**VOC**	**PM10**
International Light Metals Corporation	SCAQMD — AQ002663	15.3	-
National Offsets, Inc.	SCAQMD — AQ002750	55.8	-
National Offsets, Inc.	SCAQMD — AQ003056	18.1	-
National Offsets, Inc.	SCAQMD — AQ003036	31.4	-
National Offsets, Inc.	SCAQMD — AQ003007	37.0	-
Mobil Oil Corporation (Torrance, CA)	SCAQMD — AQ002698	63.9	-
Ocean Air Environmental (Ventura, CA)	SCAQMD — AQ003052	30.7	-
Pacific Texas Pipeline	SCAQMD — AQ000168	6.4	-
National Offsets, Inc.	SCAQMD — AQ003052	64.6	-
Buck Boulevard	MDAQMD (pending)	-	77.2
South Solano Street	MDAQMD (pending)	-	26.5
Total Emissions Offsets		**323.2**	**103.7**
Total Emissions Liability		**323.2**	**103**

The District will issue the pending ERC certificate numbers for the two PM_{10} offsets as soon as the road paving is completed and the appropriate application is approved. (Ex. 53, p.51.) On November 17, 2000, The SCAQMD approved the transfer of the above listed Emission Reduction Credits from the SCAQMD to the MDAQMD. (Ex. 54, Supplemental Testimony of Mr. Behymer.)

There is no evidence of potential cumulative impacts because there are no foreseeable projects within a 6-mile radius of the site that are eligible for modeling under Staff s modeling protocol. (Ex. 53, p. 49.)

Staff and Applicant disagreed regarding inspection rights to be given to CARB. This involves Conditions **AQ-4, AQ-9, AQ-11, AQ-19, AQ-23, and AQ-30**. (Ex. 2, p. 26.) Applicant contends CARB has no enforcement authority over BEP and

consequently needs no inspection rights. Staff correctly points out that our regulations (Cal. Code of Regs., tit. 20,／1770) allow us to delegate authority for compliance verification to CARB since it has expertise in the subject area. Applicant, in its Reply Brief, has withdrawn its objection to this inclusion and agrees to comply with Staff s request. Therefore, Conditions **AQ-4, AQ-9, AQ-11, AQ-19, AQ-23, and AQ-30** as proposed by Staff have been adopted as proposed.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. National ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) have been established for six air contaminants identified as criteria air pollutants, including sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), lead (Pb), and particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$) and their precursors: nitrogen oxides (NO_x), volatile organic compounds (VOC), and sulfates (SO_x).

2. The Mojave Desert Air Quality Management District (Air District) has jurisdiction over the area where the project site is located.

3. The Air District is a non-attainment area for both the state ozone and PM_{10} standards and attainment or unclassified for all other criteria pollutants and for all federal requirements.

4. Construction and operation of the project will result in emissions of criteria pollutants and their precursors.

5. Applicant will employ the best available control technology (BACT) to limit pollutant emissions by installing SCR technology.

6. Project NO_x emissions are limited to 2.5 parts per million (ppm) corrected at 15 percent oxygen average over one hour.

7. Project ammonia slip emissions resulting from use of SCR are limited to a rate of 10 ppm.

8. No adverse public health effects will result from the 10 ppm ammonia slip maximum limit.

9. Applicant has secured all the required offsets to fully mitigate the project.

10. Project emissions will not result in cumulative impacts to air quality in the project vicinity.

11. Project emissions are well below levels of concern for California plants and soils in the project area.

12. Implementation of the Conditions of Certification, below, ensures that BEP will not result in any significant adverse impacts to air quality.

The Commission, therefore, concludes that with implementation of the Conditions of Certification, below, and the mitigation measures described in the evidentiary record, the Blythe Energy Project will conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth in the pertinent portions of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

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-C3 During an initial commissioning period of no more than 120 days, commencing with the first firing of fuel in this equipment, NOx, CO, VOC and ammonia concentration limits shall not apply. The project owner shall minimize emissions of NOx, CO, VOC and ammonia to the maximum extent possible during the initial commissioning period.

Verification: During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report.

AQ-C4 The project owner shall submit a commissioning plan to the District and the CEC at least four weeks prior to the first firing of fuel in this equipment. The commissioning plan shall describe the procedures to be followed during the commissioning of the CTGs, HRSGs and steam turbine. The commissioning plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the timing of the dry low NOx combustors, the installation and testing of the CEMS, and any activities requiring the firing of the CTGs and HRSGs without abatement by an SCR system.

Verification: At least four (4) weeks prior to the first firing of natural gas in either turbine, the project owner shall submit a detailed Initial Commissioning Plan to the District and the CPM. This plan should provide detailed technical information regarding initial commissioning in a format that facilitates technical verification.

AQ-C5 The project owner shall tune each CTG and HRSG to minimize emissions of criteria pollutants at the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor.

Verification: During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report.

AQ-C6 The project owner shall install, adjust and operate each SCR system to minimize emissions of NOx from the CTG and HRSG at the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor. The NOx and ammonia concentration limits shall apply coincident with the steady state operation of the SCR systems.

Verification: During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report.

AQ-C7 The total number of firing hours of each CTG and HRSG without abatement of NOx by the SCR shall not exceed 350 hours during the initial commissioning period. Such operation without NOx abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system in place and operating. Upon completion of these activities, the project owner shall provide written notice to the District and CEC and the unused balance of the unabated firing hours shall expire.

Verification: During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report.

AQ-C8 During a period that includes a portion of the initial commissioning period, emissions from this facility shall not exceed the following emission limits (verified by CEMS):

a. CO — 421 tons/year (rolling 12 month summary), 44,000 pounds/calendar day and 2000 pounds/hour

Verification: During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report. In addition, after the end of the initial commissioning period the project owner shall continue to report the above data in the Quarter Operations Report for as long as the monitoring period includes a portion of the initial commissioning period.

AQ-C9 During a period that includes a portion of the initial commissioning period, prior to the steady state operation of the SCR system, emissions from this facility shall not exceed the following emission limits (verified by CEMS):

b. NO_x — 273 tons/year (rolling 12 month summary), 22,000 pounds/calendar day and 1000 pounds/hour

Verification: During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report. In addition, after the end of the initial commissioning period the project owner shall continue to report the above data in the Quarter Operations Report for as long as the monitoring period includes a portion of the initial commissioning period.

AQ-C10 Within sixty (60) days after achieving the maximum firing rate at which each turbine will be operated, but not later than 180 days after the first firing of fuel in each turbine, the operator shall perform an initial compliance test. This test shall demonstrate that each turbine is capable of operation at 100% load in compliance with the emission limits in AQ-5. The results of the initial compliance test shall be used to prepare a supplemental health risk analysis. The initial compliance test shall include tests for the following.

a. Formaldehyde;

b. Certification of CEMS and CERMS (or stack gas flow calculation method) at 100% load, startup modes and shutdown mode;

c. Characterization of cold startup VOC emissions;

d. Characterization of warm startup VOC emissions;

e. Characterization of hot startup VOC emissions; and

f. Characterization of shutdown VOC emissions.

Verification: Within sixty (60) days of achieving the maximum firing rate at which the facility will be operated, but not later than 180 days after the first firing of fuel in each turbine, the project owner shall perform an Initial Compliance Test. The results of this test and a supplemental health risk analysis shall be submitted to the District and the CPM within thirty (30) days.

CONDITIONS OF CERTIFICATION

AQ-1 The project owner shall submit to the Mojave Desert Air Pollution Control District (District) Air Pollution Control Officer (APCO), the United States Environmental Protection Agency (EPA) Region IX and the California Energy Commission (CEC) a Quarterly Operations Report for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year this permit is in effect. Each January 30 submittal shall include a summary of the reported information for the previous year. This information shall be maintained on site for

a minimum of five (5) years and shall be provided to District or CEC personnel on request.

Verification: The project owner shall submit a Quarterly Operations Report for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year. The January 30 report shall include an annual summary of the Quarterly Operations Reports for the preceding year. The reports shall be submitted to the Mojave Desert Air Pollution Control District (District), the United States Environmental Protection Agency (EPA) and the California Energy Commission Compliance Project Manager (CPM).

The following Conditions of Certification apply to the two individual gas turbine generators (District Permit Numbers: B007953, B007954).

AQ-2 The turbines shall be exclusively fueled with pipeline quality natural gas with a sulfur content not exceeding 0.5 grains per 100 dscf on a rolling twelve month average basis. The turbines shall be operated and maintained in strict accord with the recommendations of its manufacturer and/or sound engineering principles.

Verification: The project owner shall incorporate into the Quarterly Operations Report either a monthly laboratory analysis showing the fuel sulfur content, a monthly fuel sulfur content report from the fuel supplier(s), or the results from a custom fuel monitoring schedule approved by USEPA for compliance with the fuel monitoring provisions of 40 CFR 60 Subpart GG.

AQ-3 The turbines are subject to the federal NSPS codified at 40 CFR Part 60, Subparts A (General Provisions) and GG (Standards of Performance for Stationary Gas Turbines). This equipment is also subject to the Prevention of Significant Deterioration (40 CFR 51.166) and Federal Acid Rain (Title IV) programs. Compliance with all applicable provisions of these regulations is required.

Verification: At least ninety (90) days prior to the first firing of fuel in either turbine, the project owner shall provide the District, the ARB and the CPM copies of the federal PSD and Acid Rain permits.

AQ-4 Emissions of NOx, CO, oxygen and ammonia slip shall be monitored using a Continuous Emissions Monitoring System (CEMS). Turbine fuel consumption shall be monitored using a continuous monitoring system. Stack gas flow rate shall be monitored using either a Continuous Emission Rate Monitoring System (CERMS) meeting the requirements of 40 CFR Part 75 Appendix A or a stack flow rate calculation method. The operator shall install, calibrate, maintain, and operate these monitoring systems according to a District-

approved monitoring plan and MDAQMD Rule 218, and they shall be installed prior to initial equipment startup.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, EPA and CEC.

AQ-5 Emissions from the turbines (including its associated duct burner) shall not exceed the following emission limits at any firing rate, except for CO, NO_x and VOC during periods of startup, shutdown and malfunction:

a. Hourly rates, computed every 15 minutes, verified by CEMS and annual compliance tests:

   i. NO_x as NO_2 — 19.80 lb/hr (based on 2.5 ppmvd corrected to 15% O_2 and averaged over one hour).

   ii. CO — 35.20 lb/hr (based on 5.0 ppmvd (8.4 ppmvd with duct firing or when between 70 and 80 percent of full load) corrected to 15% O2 and averaged over 3 hours).

   iii. Ammonia Slip — 10 ppmvd (corrected to 15% O2 and averaged over three hours).

b. Hourly rates, verified by annual compliance tests or other compliance methods in the case of SOx:

   i. VOC as CH4 — 2.9 lb/hr (based on 1 ppmvd corrected to 15% O2).

   ii. SOx as SO2 — 2.7 lb/hr (based on 0.5 grains/100 dscf fuel sulfur).

   iii. PM10 — 11.5 lb/hr.

Verification: The project owner shall submit the following in each Quarterly Operations Report: All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol; a list of maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM_{10}, VOC and SO_x (including calculation protocol); a log of all excess emissions, including the information regarding malfunctions/breakdowns required by District Rule 430; operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate and ammonia slip; any maintenance to any air pollutant control system (recorded on an as-performed basis); and any permanent changes made in the plant process

or production that could affect air pollutant emissions, and when the changes were made.

AQ-6 Emissions from the turbines, including the duct burner, shall not exceed the following emission limits, based on a calendar day summary:

a. NOx — 5762 lb/day, verified by CEMS.

b. CO — 3808 lb/day, verified by CEMS.

c. VOC as CH4 — 239 lb/day, verified by compliance tests and hours of operation in mode.

d. SOx as SO2 — 130 lb/day, verified by fuel sulfur content and fuel use data.

e. PM10 — 565 lb/day, verified by compliance tests and hours of operation.

Verification: The project owner shall submit the following in each Quarterly Operations Report: All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol; a list of maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM_{10}, VOC and SO_x (including calculation protocol); a log of all excess emissions, including the information regarding malfunctions/breakdowns required by District Rule 430; operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate and ammonia slip; any maintenance to any air pollutant control system (recorded on an as-performed basis); and any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-7 Emissions from this facility, including the cooling towers, shall not exceed the following emission limits, based on a rolling 12 month summary:

a. NOx — 202 tons/year, verified by CEMS.

b. CO — 306 tons/year, verified by CEMS.

c. VOC as CH4 — 24 tons/year, verified by compliance tests and hours of operation in mode.

d. SOx as SO2 — 24 tons/year, verified by fuel sulfur content and fuel use data.

e. PM10 — 103 tons/year, verified by compliance tests and hours of operation.

Verification: The project owner shall submit the following in each Quarterly Operations Report: All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol; a list of maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM_{10}, VOC and SO_x (including calculation protocol); a log of all excess emissions, including the information regarding malfunctions/breakdowns required by District Rule 430; operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate and ammonia slip; any maintenance to any air pollutant control system (recorded on an as-performed basis); and any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-8 Emissions of CO and NO_x from the turbines shall only exceed the limits contained in AQ-5 during startup and shutdown periods as follows:

a. Startup is defined as the period beginning with ignition and lasting until the equipment has reached operating permit limits. Cold startup is defined as a startup when the CTG has not been in operation during the preceding 48 hours. Hot startup is defined as a startup when the CTG has been in operation during the preceding 8 hours. Warm startup is defined as a startup that is not a hot or cold startup. Shutdown is defined as the period beginning with the lowering of equipment from base load and lasting until fuel flow is completely off and combustion has ceased.

b. Transient conditions shall not exceed the following durations:

    i. Cold startup — 3.7 hours

    ii. Warm startup — 2.0 hours

    iii. Hot startup — 1.2 hours

    iv. Shutdown — 0.5 hour

c. During a cold startup emissions shall not exceed the following, verified by CEMS:

    i. NOx — 376 lb.

    ii. CO — 403 lb.

d. During a warm startup emissions shall not exceed the following, verified by CEMS:

i. NOx — 278 lb.

ii. CO — 253 lb.

e. During a hot startup emissions shall not exceed the following, verified by CEMS:

i. NOx — 260 lb.

ii. CO — 172 lb.

f. During a shutdown emissions shall not exceed the following, verified by CEMS:

i. NOx — 170 lb.

ii. CO — 48 lb.

Verification: The project owner shall include a detailed record of each startup and shutdown event in the Quarterly Operations Report. Each record shall include, but not be limited to, duration, fuel consumption, total emissions of NOx and CO, and the date and time of the beginning and end of each startup and shutdown event. Additionally, the project owner shall report the total plant operation time (hours), number of startups, hours in cold startup, hours in warm startup, hours in hot startup, hours in shutdown, and average plant operation schedule (hours per day, days per week, weeks per year).

AQ-9 Particulate emissions from this equipment shall not exceed an opacity equal to or greater than twenty percent (20%) for a period aggregating more than three (3) minutes in any one (1) hour, excluding uncombined water vapor.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, EPA and CEC.

AQ-10 The turbines shall exhaust through a stack at a minimum height of 130 feet.

Verification: Prior to the first firing of natural gas in either turbine the owner/operator shall provide as built drawings of the stack or other suitable proof of the minimum stack height to the District and the CEC CPM.

AQ-11 The project owner shall not operate the turbines after the initial commissioning period without the selective catalytic NOx reduction system with valid District permit, installed and fully functional.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, EPA and the CEC.

AQ-12 The project owner shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

Verification: Prior to the first firing of natural gas in either turbine the owner/operator shall provide to the District and the CEC CPM as built drawings of the stack or other suitable documentation of the correct and complete installation of all necessary sampling ports and access platforms.

AQ-13 The project owner shall conduct all required compliance/certification tests in accordance with a District-approved test plan.

Verification: Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing.

AQ-14 The project owner shall perform the following annual compliance tests in accordance with the MDAQMD Compliance Test Procedural Manual:

a. NOx as NO2 in ppmvd at 15% O2 and lb/hr (measured per USEPA Reference Methods 19 and 20).

b. VOC as CH4 in ppmvd at 15% O2 and lb/hr (measured per USEPA Reference Methods 25A and 18).

c. SOx as SO2 in ppmvd at 15% O2 and lb/hr.

d. CO in ppmvd at 15% O2 and lb/hr (measured per USEPA Reference Method 10).

e. PM10 in mg/m3 at 15% O2 and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5).

f. Flue gas flow rate in scfmd.

g. Opacity (measured per USEPA reference Method 9).

h. Ammonia slip in ppmvd at 15% O2.

Verification: The annual source test report shall be submitted to the District and CPM no later than six (6) weeks prior to the expiration date of the District permit.

AQ-15 The project owner shall, at least as often as once every five years (commencing with the initial compliance test), include the following supplemental source tests in the annual compliance testing:

a. Characterization of cold startup VOC emissions;

b. Characterization of warm startup VOC emissions;

c. Characterization of hot startup VOC emissions; and

c. Characterization of shutdown VOC emissions.

Verification: Each annual source test report shall either include the results of these tests for the current year or document the date and results of the last such tests.

AQ-16 Continuous monitoring systems shall meet the following acceptability testing requirements from 40 CFR 60 Appendix B:

a. For NOx, Performance Specification 2.

b. For O2, Performance Specification 3.

c. For CO, Performance Specification 4.

d. For stack gas flow rate, Performance Specification 6 (if CERMS is installed.)

e. For ammonia, a District approved procedure that is to be submitted by the project owner.

Verification: The project owner shall discuss compliance with these specifications in each Quarterly Operations Report.

AQ-17 The project owner must surrender to the District sufficient valid Emission Reduction Credits for the turbines before the start of construction of any part of the project for which this equipment is intended to be used. In accordance with Regulation XIII the operator shall obtain 202 tons of NOx and 103 tons of PM10

offsets (VOC ERCs from SCAQMD may be substituted for NOx ERCs at a rate of 1.6:1).

Verification: The project owner must submit all ERC documentation to the District and the CPM prior to the start of construction.

AQ-18 The project owner shall provide sufficient space and appurtenances within the Heat Recovery Steam Generator to allow the subsequent installation of a high temperature oxidation catalyst. A high temperature oxidation catalyst shall be installed if any VOC or CO limit specified by the above conditions is violated.

Verification: If any VOC or CO limit specified by the above conditions is violated, within six (6) weeks the project owner shall submit a plan to install an oxidation catalyst. The catalyst shall be installed and operational within six (6) months of the violation.

The following Conditions of Certification apply to the two (2) individual natural gas duct burners (District Permit Numbers: B007954, B007955).

AQ-19 The duct burners shall be exclusively fueled with natural gas and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, EPA and the CEC.

AQ-20 The duct burners shall not be operated unless the combustion turbine generator with valid District permit B007953 (or B007954), selective catalytic NOx reduction system with valid District permit C007959 (or C007960), and oxidation catalyst (if installed) are in operation.

Verification: A summary of fuel use and equipment operation for each duct burner shall be included in each Quarterly Operations Report.

AQ-21 Fuel use by this equipment shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.

Verification: The above information shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District or CEC personnel on request.

The following Conditions of Certification apply to the two individual selective catalytic NO_x reduction systems (District Permit Numbers: C007959, C007960.)

AQ-22 This equipment shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: A summary of significant operation and maintenance events for each selective catalytic reduction system shall be included in the Quarterly Operations Reports.

AQ-23 This equipment shall be operated concurrently with the combustion turbine generator with valid MDAQMD permit B007953 (or B007954).

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, EPA and CEC.

AQ-24 Ammonia shall be injected whenever the selective catalytic reduction system has reached or exceeded 550¡ Fahrenheit. Except during periods of startup and shutdown, ammonia slip shall not exceed 10 ppmvd (corrected to 15% O2), averaged over three hours.

Verification: The project owner shall maintain a log of the SCR temperatures and the commencement of ammonia injection times. This information shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District and CEC personnel on request.

AQ-25 Ammonia injection by this equipment in pounds per hour shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.

Verification: The above information shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District and CEC personnel on request.

The following Conditions of Certification apply to the two individual *cooling towers* (District Permit Numbers: B007957, B007958.)

AQ-26 The cooling towers shall be operated and maintained in strict accord with the recommendations of their manufacturer or supplier and/or sound engineering principles.

Verification: A summary of significant operation and maintenance events for each cooling tower shall be included in the Quarterly Operations Reports.

AQ-27 The operator shall conduct all required cooling tower water quality tests in accordance with a District-approved test and emissions calculation protocol. Thirty (30) days prior to the first such test the operator shall provide a written test and emissions calculation protocol for District review and approval.

Verification: Thirty (30) days prior to the first such test the operator shall provide a written test and emissions calculation protocol for District and CPM review.

AQ-28 The drift rate shall not exceed 0.0006 percent with a maximum circulation rate of 146,000 gallons per minute (gpm) for the Main Cooling Tower and 22,000 gpm for the Chiller Cooling Tower. The maximum hourly PM_{10} emission rate shall not exceed 0.546 pounds per hour from both cooling towers, as calculated per the written District approved protocol.

Verification: Compliance documentation in accordance with the written District approved protocol shall be submitted to the District and the CPM.

AQ-29 The operator shall perform weekly tests of the blow-down water quality. The operator shall maintain a log that contains the date and result of each blow-down water quality test, and the resulting mass emission rate. This log shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.

Verification: A summary of the results of the weekly blow-down water quality tests and the results of the mass emission rate calculations shall be submitted in the Quarterly Operations Report.

AQ-30 A maintenance procedure shall be established that states how often and what procedures will be used to ensure the integrity of the drift eliminators. This procedure shall be submitted to the District for approval at least thirty (30) days prior to construction and shall be kept on-site and available to District personnel on request.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, EPA and CEC.

The following Conditions of Certification apply to the emergency diesel IC engine (District Permit Number: E007961)

AQ-31 This equipment shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants.

Verification: A summary of significant operation and maintenance events for the emergency diesel IC engine shall be included in the Quarterly Operations Reports.

AQ-32 The project owner shall maintain a log for this unit, which, at a minimum, contains the information specified below. This log shall be kept current and on-site for a minimum of five (5) years and shall be provided to District personnel on request. At a minimum, the log shall include:

a. Date of each use or test;

b. Duration of each test, in minutes;

c. Fuel consumed during each calendar year, in gallons; and

d. Fuel sulfur concentration (the project owner may use the supplier s certification of sulfur content if it is maintained as part of this log).

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or CEC personnel on request.

AQ-33 This unit shall be limited to use for emergency fire fighting, and as part of a testing program that does not exceed 60 minutes of testing operation per week.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or CEC personnel on request.

AQ-34 The project owner shall use only diesel fuel whose sulfur concentration is less than or equal to 0.05% on a weight per weight basis in this unit.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or CEC personnel on request.

B. PUBLIC HEALTH

The Public Health analysis supplements the previous discussion on air quality and looks at potential public health effects from project emissions of toxic air contaminants. In this analysis, the Commission considers whether such emissions will result in significant adverse public health impacts that violate standards for public health protection.[17]

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project construction and operation will result in routine emissions of toxic air contaminants (TACs). These substances are categorized as noncriteria pollutants because there are no ambient air quality standards established to regulate their emissions.[18] In the absence of standards, state and federal regulatory programs have developed a health risk assessment procedure to evaluate potential health effects from TAC emissions.[19] The Air Toxics Hot Spots Information and Assessment Act requires the quantification of TACs from specified facilities that are categorized according to their emissions levels and proximity to sensitive receptors. (Health and Safety Code,/44360 et. seq.)

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[17] This Decision addresses other potential public health concerns in the following sections. The accidental release of hazardous materials is discussed in Hazardous Materials Management and Worker Safety and Fire Protection sections. Electromagnetic fields are discussed in the section on Transmission Line Safety and Nuisance. Potential impacts to soils and surface water sources are discussed in the Soils and Water Resources section. Hazardous and non-hazardous wastes are described in the Waste Management section.

[18] Criteria pollutants are discussed in the Air Quality section. They are pollutants for which ambient air quality standards have been established by local, state, and federal regulatory agencies. The emission control technologies that the project owner will employ to mitigate criteria pollutant emissions are considered effective for controlling noncriteria pollutant emissions from the same source. (Ex. 1,/7.8.2.1.)

[19] The health risk assessment protocol is set forth in the Air Toxics Hot Spot Program Risk Assessment Guidelines developed by the California Air Pollution Control Officers Association (CAPCOA) pursuant to the Air Toxics Hot Spots Information and Assessment Act (Health and Safety Code,/44360 et seq.). (Ex. 1,/7.8.2.2; Ex. 53, p. 277.)

1. Health Risk Assessment

Applicant performed a health risk assessment that was reviewed by Staff and the Mojave Desert Air Quality Management District (MDAQMD or Air District). Applicant s risk assessment employed scientifically accepted methodology that is consistent with the CAPCOA Guidelines and with methods developed by the California Office of Environmental Health Hazard Assessment (OEHHA). (Ex. 1, ⁄7.8.2.2 et seq. and Appendix 7.7; Ex. 15, Response to Data Request #60; Ex. 53, pp. 277-278.) Staff also performed an independent analysis. (Ex. 53, p. 268, et seq.) This approach emphasizes a worst-case screening analysis to evaluate the highest level of potential impact. The following steps were included in this analysis:

1. Identify the types and amounts of hazardous substances that BEP could emit to the environment;
2. Estimate worst-case concentrations of project emissions in the environment using dispersion modeling;
3. Estimate amounts of pollutants to which people could be exposed through inhalation, ingestion, and dermal contact; and
4. Characterize potential health risks by comparing worst-case exposure to safe standards based on known health effects.

Initially, a screening level risk assessment is performed using generic assumptions that are intentionally biased toward protection of public health. That is, a study is done that is designed to overestimate public health impacts from exposure to project emissions. In reality, it is likely that the actual risks from the power plant will be much lower than the risks which are estimated by the assessment. This is accomplished by examining conditions that would lead to the highest, or worst-case, risks and then using those in the study. Such conditions include:

- Using the highest levels of pollutants that could be emitted from the plant;
- Assuming weather conditions that would lead to the highest ambient concentration of pollutants;

- Using the type of air quality computer model which results in the highest impacts;
- Calculating health risks at the location where the pollutant concentrations are calculated to be the highest;
- Using health-based standards designed to protect the most sensitive members of the population (i.e., the young, elderly, and those with respiratory illnesses); and
- Assuming that an individual s exposure to cancer-causing agents occurs for 70 years. (Ex. 53, pp. 268-269.)

Regulatory agencies use the hazard index method to assess the likelihood of acute or chronic non-cancer effects. In this approach, a hazard index is a numerical representation of the likelihood of significant health impacts at the reference exposure levels (RELs) expected for the source in question. After calculating the hazard indices for the individual pollutants,[20] these indices are added together to obtain a total hazard index. A total hazard index of 1.0 or less is considered an insignificant effect. (Ex. 53, p. 271.)

Potential cancer risk is calculated by multiplying the exposure estimate by the potency factors for the individual carcinogens involved.[21] The exposure estimate is based on a worst-case scenario, which assumes a maximally exposed individual (MEI) at the point of highest toxicity 24 hours a day, 365 days a year over a 70-year period. The greatest true exposure is likely to be far lower than that calculated using the MEI assumption since no real person would be in the same spot for 70 years. (Ex. 1, / 7.8.2.2; Ex, 53, pp. 269-270.) Given the

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[20] The project s noncriteria pollutants that were considered in analyzing non-cancer effects include: acetaldehyde, ammonia, benzene, 1,3 butadiene, formaldehyde, naphthalene, polycyclic aromatic hydrocarbons (PAHs), propylene oxide, toluene, xylenes, and several metals. (Ex. 53, p. 276; Ex. 1,/7.8.2.1, Table 7.8-1.)

[21] The following noncriteria pollutants were considered with regard to possible cancer risk: acetaldehyde, benzene, 1,3 butadiene, formaldehyde, PAHs and propylene oxide and several metals. (Ex. 53, p. 276; Ex. 1,/7.8.2.1, Table 7.8-1.)

conservatism in the various phases of this calculation process, the numerical estimates are designed to represent the upper bounds of cancer risk and the real risk is actually too small to be measured. (Ex. 53, p. 270.) Energy Commission staff considers a potential cancer risk of one in a million as the level of significance.[22] (Ex. 53, p. 271.)

1. Potential Impacts

There is no evidence that sensitive receptors (schools, day care facilities, convalescent centers, or hospitals) are located within a three-mile radius of the site. (Ex. 53, p. 273.) The proposed project would occupy parcels of unimproved land. In the vicinity of the project, land use is primarily agricultural. Directly east and south of the project site, almost 500 acres of lemons are cultivated, and citrus orchards dominate the area. The Blythe airport is about one mile to the west, and the Interstate 10 corridor is about one-quarter mile to the south. The nearest residence is about three-quarters of a mile to the southwest, north of Interstate 10 and south of Hobsonway. There are a few farm residences primarily to the east and south, more than one mile from the site. One of the nearest residential areas is an unincorporated area, called Nicholls Warm Springs, located about 2.5 miles to the southwest. (Ex. 53, p. 273.) The other is Mesa Verde, about 2 miles to the west. Applicant performed USEPA-approved air dispersion modeling as discussed in the **Air Quality** section and determined that the point of maximum impact for project emissions would be at the northeast and northwest corners of the project s boundary and about 0.5 miles from of the project site. (Ex. 15, Response to Data Request #64 and Attachment 64.)

[22] Various state and federal agencies specify different cancer risk significance levels. Under the Air Toxics Hot Spots and the Proposition 65 programs, for example, a risk of 10 in a million is considered significant and used as a threshold for public notification. The MDAQMD considers the same risk of 10 in a million as acceptable for a source such as BEP where the best available control technology for air toxics (T-BACT) is used. (Ex. 53, pp. 271-272.)

Construction. Potential construction impacts may result from windblown dust created by site grading activities and diesel emissions from heavy equipment and other vehicles, but no public health impact is expected. (Ex. 53, p. 275.)

As described above and in the **Waste Management** section, the Phase I ESA reported no evidence of significant site contamination. Therefore, no significant toxics-related public health impacts are anticipated from earth moving due to project construction. The procedures for minimizing dust exposure are addressed in the **Air Quality** section. See Conditions **AQ-C1** and **AQ-C2**.

No significant public health effects are expected during construction since construction-related emissions are temporary and localized. All predicted maximum concentrations of pollutants from construction vehicles and equipment will occur at locations along the immediate property boundary, resulting in no long-term impacts to the public. (Ex. 53, p. 275.) Construction worker safety measures are incorporated in the **Worker Safety** Conditions.

Operation. TACs emitted in combustion byproducts from the project s exhaust stacks have the potential to cause adverse health effects. Staff calculated a *chronic* hazard non-cancer index of 0.02 for the maximum impact location. (Ex. 53, p. 278.) Staff calculated an *acute* non-cancer hazard index of 0.04 for the the maximum impact location. (*Ibid.*)

The evidence establishes that these indices are below the levels of potential health significance, indicating that no significant adverse health effects would likely be associated with the project s noncriteria pollutants. (Ex. 53, p.278.) Moreover, there are no sensitive receptors at the point of maximum impact.

The highest combined cancer risk was estimated at 0.35 in a million for the MEI at the maximum impact location. This risk value is below Staff s *de minimis*

significance level. It is also significantly below the level considered acceptable by the Air District for sources such as BEP. (Ex. 53, pp. 278.)

BEP will use high efficiency drift eliminators which limit the amount of drift loss to approximately 0.0006 percent of the circulating water rate, resulting in a drift rate of about 0.9 gallon per minute. This amount of water lost as liquid from the cooling towers is in contrast to the amount of water evaporated as steam, estimated to be from 1500 to 1800 gallons per minute, depending on ambient temperatures. Steam emitted from the cooling towers is distilled water, and will not contain contaminants. The drift eliminators must be properly installed and maintained in order to achieve efficient operation over the life of the facility. Following installation, proper maintenance includes periodic inspection and repair or replacement of any components found to be broken or missing. Condition **Public Health —1** provides for the inspection and maintenance of drift eliminators.

2. Cumulative Impacts

When toxic pollutants are emitted from multiple sources within a given area, the cumulative or additive impacts of such emissions could lead to significant health impacts, even when such pollutants are emitted at insignificant levels from the individual sources involved. Analyses of such emissions have shown, however, that the peak impacts of such toxic pollutants are normally localized within relatively short distances from the source. Elevated concentrations of toxic air contaminants from stationary sources tend to be quite localized, and cumulative risks are likely to occur only when multiple facilities with substantial low-level emissions are immediately adjacent to, or very close to, one another. There are very few sources of industrial pollutants in the Blythe area. The only nearby stationary source is a Southern California Gas compressor station, located about 1.5 miles east-southeast of the proposed site. This facility is powered by gas engines having relatively short exhaust stacks. The low height of the exhaust

stacks limits the dispersion of emissions, resulting in an area of impact located close to the source. Because of the distance to the proposed BEP site from the compressor station, there will be no significant cumulative effects from the two facilities. (Ex. 53, pp. 278-279.)

3. Intervenors

Intervenor Carmela Garnica expressed concern about the potential for BEP to create air pollution problems for farm workers in the project area. Staff and Applicant found that no aspects of the facility s operation would likely impact these farm workers. (Ex. 2, p. 29; Ex. 53, p. 280; .11/27 RT 224, 226-227.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. Normal operation of the Blythe Energy Project (BEP) will result in the routine release of criteria and noncriteria pollutants that have the potential to adversely impact public health.

2. Emissions of criteria pollutants, which are discussed in the Air Quality section of this Decision, will be mitigated to levels consistent with applicable standards.

3. Applicant performed a health risk assessment, using well-established scientific protocol, to analyze potential adverse health effects of noncriteria pollutants emitted by BEP.

4. There are no sensitive receptors within a three-mile radius of the project site.

5. The points of maximum impact for toxic contaminant dispersion are located at the northeast and northwest corners of the project s boundary and about 0.5 miles from the project.

6. Acute and chronic non-cancer health risks from project emissions during construction and operational activities are insignificant.

7. The potential risk of cancer from project emissions is insignificant.

8. There is no evidence of cumulative public health impacts from project emissions.

The Commission therefore concludes that with implementation of the Condition of Certification, below, project emissions of noncriteria pollutants do not pose a significant direct, indirect, or cumulative adverse public health risk and the Blythe Energy Project will conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth in the pertinent portions of Appendix A of this Decision. All other Conditions of Certification that control project emissions are specified in the Air Quality section of this Decision.

CONDITION OF CERTIFICATION

PUBLIC HEALTH-1 The project owner shall perform a visual inspection of the cooling tower drift eliminators once per calendar year, and repair or replace any drift eliminator components which are broken or missing. Prior to initial operation of the project, the project owner shall have the cooling tower vendor s field representative inspect the cooling tower drift eliminator and certify that the installation was performed in a satisfactory manner. The CPM may, in years 5 and 15 of project operation, require the project owner to perform a source test of the PM_{10} emissions rate from the cooling tower to verify continued compliance with the vendor guaranteed drift rate.

Verification: The project owner shall include the results of the annual inspection of the cooling tower drift eliminators and a description of any repairs performed in the next required quarterly compliance report. The initial compliance report will include a copy of the cooling tower vendor s field representative s inspection report of the drift eliminator installation. If the CPM requires a source test as specified in Public Health-1, the project owner shall submit to the CPM for approval a detailed source test procedure 60 days prior to the test. The project owner shall incorporate the CPM s comments, conduct testing, and submit test results to the CPM within 60 days following the tests.

C. WORKER SAFETY AND FIRE PROTECTION

Industrial workers are exposed to potential health and safety hazards on a daily basis. This analysis reviews whether Applicant s proposed health and safety plans are designed to protect industrial workers and provide adequate fire protection and emergency service response in accordance with all applicable laws, ordinances, regulations, and standards (LORS).

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Potential Impacts to Worker Safety

Industrial environments are potentially hazardous, both during the construction and operation of facilities. Workers at the proposed BEP project may be exposed to loud noises, electrocution, chemical spills, hazardous waste, fires, explosions, moving equipment, falling equipment or structures, trenches, confined space entry and egress hazard problems; and may experience falls, trips, burns, lacerations and numerous other injuries. (Ex. 53, p. 479.) BEP presents no unusual features that would require special mitigation measures in addition to those established in the applicable LORS.[23] (Ex. 53, p. 473.)

2. Mitigation Measures

Applicant will develop and implement a Safety and Health Program which must be reviewed by the appropriate agencies prior to project construction and operation. (Ex. 53, p. 480.) BEP provided the proposed outlines for both a Construction Safety and Health Program and an Operation Safety and Health Program. The measures in these plans are derived from applicable sections of

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[23] California Occupational Health and Safety Administration (Cal/OSHA) regulations (Cal. Code of Regs., tit. 8,／1500 et seq.) and other applicable federal, state, and local laws affecting industrial workers are identified in Appendix A of this Decision. See also, Ex. 53, pp. 473-476, 480-483.

state and federal law. (Ex. 53, p. 483.) Separate Injury and Illness Prevention Programs, Fire Protection and Prevention Plans, and Personal Protective Equipment Programs will also be prepared for both the construction and operation phases of the project. These comprehensive programs will contain more specific plans dealing with the site and linear facilities, such as the Emergency Action Plan, as well as additional programs under the General Industry Safety Orders, Electrical Safety Orders, and Unfired Pressure Vessel Safety Orders. (Ex. 53, pp. 480-483.) Conditions **Worker Safety-1** and **Worker Safety-2** require BEP to consult with Cal/OSHA and the City of Blythe to ensure that these programs will comply with applicable LORS.

3. Fire Protection

BEP will rely on both onsite fire protection systems and the Fire Department s fire protection and emergency response services. The proposed fire protection system at the site will be adequate for fighting incipient fires; fighting major structural fires will require the services of the Fire Department. The proposed fire protection system at the site includes fire alarms, detection systems, fire hydrants, and hose stations throughout the facility. Fixed fire suppression systems will be installed at determined fire risk areas, such as the transformers, turbine lubrication oil equipment, and cooling tower. The fire water system will be served directly from the raw water tank. The raw water tank is sized at approximately 600,000 gallons with approximately 150,000 gallons of reserved fire suppression capacity. The facility fire mains will also supply a vapor suppression system at the aqueous ammonia storage tank area. The system will be designed and operated in accordance with National Fire Protection Association (NFPA) standards and recommendations. Dedicated fire water supply will be designed in accordance with NFPA 850. Sprinkler systems will be installed in the Control/Administration Building and Fire Pump Building, as required by NFPA requirements. Hand-held fire extinguishers will be located throughout the facility in accordance with NFPA 10. (Ex. 53, pp. 478-479.)

Two fire stations, operated by the Riverside County Fire Department, are located near the site. Fire Station No. 45 is the closest station to the Blythe Energy Project site. The address is 17280 Hobsonway, about one mile west of the property. The second fire station, Station No. 43, is located in the City of Blythe at 140 West Barnard Street about five miles east of the project property.

Station No. 45 is composed of two fire engines with one used by full-time staff at the station and one used as backup for volunteer firefighters based around the City of Blythe. This fire station is staffed by two full-time trained firefighters. Additionally, they have 15 to 20 volunteer firefighters that can be called in for emergency situations. Response time to the site would be within 3 to 5 minutes. This fire station also provides fire-fighting support to the Blythe Airport.

Riverside County Fire Department Station No. 43 has two full-time trained firefighters. Additionally, they have 15 to 20 volunteer firefighters that can be called in for emergency situations. The fire fighting equipment located at this station consists of two fire engines, one water tender, and a squad vehicle. Estimated response time to the Blythe Energy Project site is 5 to 7 minutes.

The Blythe Fire Department will provide fire protection to the area in coordination with Riverside County Fire Department through an automatic aid agreement. An automatic aid agreement is when both fire departments are dispatched automatically when a call is received. The automatic aid agreement was recently modified as a condition of approval to the State Filing of Annexation No. 50 to include the proposed site for the BEP. The Blythe Fire Department is located at 201 North Commercial Street, approximately 5 miles east of the site. This fire department is based on 33 trained volunteer firefighters and one full-time fire marshal. Fire fighting equipment consists of four fire engines, one 50-foot ladder truck, one squad truck, and one quick response vehicle. Response time of the Blythe Fire Department to the project site is estimated to range from about 10 to 15 minutes.

All full-time Riverside County Fire Department personnel are HAZ MAT First Responder Operational qualified. First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property or the environment from the effects of the release (29 CFR／1910.120). In the event of a sustained hazardous materials release, the Hazardous Materials Response Team (HIT Unit) of Riverside County Fire Department would provide response support. The HIT Unit is located in Beaumont, California (Riverside County Fire Department No. 20). Response time is approximately two hours to the site. (Ex. 53, pp476-477.) See, **Worker Safety And Fire Protection Table 1**, below, replicated from Exhibit 53, page 477, which provides an outline of the response time, equipment and personnel at each station.

WORKER SAFETY AND FIRE PROTECTION Table 1
Fire Station/Fire Protection Capabilities

Station	Response time	Equipment	Number of Firefighters
Station No. 45 17280 Hobsonway Blythe, CA (Riverside County Fire Department)	Approximately 3 to 5 minutes	2 — Type 1 Engine 1 — Type 4, Squad Vehicle	2 trained firefighters 15 to 20 volunteer firefighters
Station No. 43 140 West Barnard St. Blythe, CA (Riverside County Fire Department)	Approximately 5 to 7 minutes	2 — Type 1 Engine 1 — Water Tender 1 — Type 4, Squad Vehicle	2 trained firefighters 15 to 20 volunteer firefighters
Blythe Fire Department 201 North Commercial St. Blythe, CA (City of Blythe Fire Department)	Approximately 10-15 minutes	1 — 50-foot ladder truck 4 — Fire Truck 1 — Squad Vehicle 1 — Quick Response Vehicle	33 - Trained volunteer firefighters 1- Fire Marshal

Equipment types are defined as follows:

- The Fire Engine (Type 1) is a primary response unit. It has a 500 gallon water tank, a minimum of 1,000 gallon per minute (gpm) pump, and 2,400 feet of hose. This apparatus also has Basic Life Support (BLS) medical treatment capabilities.

- Fire Trucks are also primary response units, and have a 500-gallon water tank, a 1,250-gpm pump, 1,000 feet of hose and an aerial ladder with stream capability of 1000 gpm.

- Water Tender has a 1,250-gallon water supply, a 500-gpm pump.

- Type 4 squad is a four-wheel drive vehicle used for brush fire or watershed patrol. (Ex. 53, p.478.)

The City of Blythe is reviewing the AFC and will perform a needs assessment to evaluate and address fire service capabilities to the project. Condition **WORKER SAFETY-4** will ensure that BEP s contribution to project-specific impacts to the City of Blythe s fire protection and emergency service capabilities are adequately mitigated. (Ex. 53, p. 479.)

Condition **WORKER SAFETY-5** will ensure that hazardous materials incident response including response time, available equipment and training, is adequately mitigated. (Ex. 53, p. 479.)

The applicant will be required to provide final diagrams and plans to staff and to the City of Blythe, prior to construction and operation of the project, to confirm the adequacy of the proposed fire protection measures. All Fire Department access roads, water mains, and fire hydrants shall be installed and operational during construction in accordance with Article 87 of the Fire Code. A final inspection by the City of Blythe will be required to confirm that the facility meets all the Fire and Building Code requirements. (Ex. 53, p. 479.)

COMMISSION DISCUSSION

Implementation of the proposed Construction Safety and Health Plan and the proposed Operation Safety and Health Plan will ensure compliance with applicable LORS relating to industrial workers and will reduce potential impacts to insignificant levels. The Conditions require the project owner to submit its plans to Cal/OSHA, the City of Blythe, and the Commission for review. Cal/OSHA will monitor implementation of the plans, as necessary.

The evidentiary record documents continued negotiations between Applicant and the Fire Department to ascertain fees and other mitigation measures necessary to provide adequate fire protection and emergency response service. Applicant is required to provide a final agreement on these matters prior to the start of any excavation activities. We believe this requirement ensures that appropriate measures will be implemented to provide emergency services to the project.

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following findings and conclusions:

1. Industrial workers are exposed to potential health and safety hazards on a daily basis.

2. To protect workers from job-related injuries and illnesses, the project owner will implement comprehensive Safety and Health Programs for both the construction and operation phases of the project, including an accident/injury prevention program, a personal protective equipment program, an emergency action plan, a fire protection and prevention plan, and other general safety procedures.

3. The project will rely on local fire protection services and onsite fire protection systems that will be approved by the City of Blythe.

4. The Riverside County Fire Department has 2 fire stations within 7 minutes response time to the project site and the City of Blythe has 1 fire station within 15 minutes response time to the project site.

5. HAZMAT first response can be provided by all Riverside County Fire Department Personnel and in the event of a sustained HAZMAT release, response will be made by Riverside County Fire Department No. 20 in Beaumont, California, which has a response time of approximately two hours.

6. Existing fire and emergency service resources will be adequate to meet project needs with the completion of negotiations between BEP and the City of Blythe to ascertain the fees and measures necessary to ensure adequate fire protection and emergency services.

7. With the agreement between BEP and the City of Blythe regarding appropriate mitigation, impacts to fire protection and emergency services will be insignificant.

8. Implementation of the Conditions of Certification, below, will ensure that the project conforms with all applicable laws, ordinances, regulations, and standards on industrial worker health and safety as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that implementation of Applicant s Safety and Health Programs and Fire Protection measures will reduce potential adverse impacts on the health and safety of industrial workers to levels of insignificance.

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-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-3 The project owner shall submit automatic fire extinguishing system plans, fire alarm system plans, and detailed architectural plan(s) to the City of Blythe for review and approval before beginning construction.

Verification: At least Thirty (30) days prior to the erection of building structures, or a date agreed to by the CPM, the project owner shall submit to the CPM a letter from the City of Blythe stating that they have received, reviewed and approved the automatic fire extinguishing system plans, fire system alarm plans, and construction plans.

WORKER SAFETY-4 Prior to erection of structures that pose a fire hazard at the project site, the project owner shall reach an agreement with the City of Blythe on the amount of fees and timing of payment (or other agreed to method) the project owner will provide to cover project-specific impacts associated with fire protection services to the project.

Verification: Not later than Thirty (30) days prior to erection of structures, the project owner shall provide the CPM with a copy of an agreement between the City of Blythe and the project owner for funding for project-specific impacts associated with fire protection.

WORKER SAFETY-5 Prior to the delivery of ammonia and natural gas to the site, the project owner shall enter into an agreement with the City of Blythe to provide adequate fire protection services and hazardous materials incident response for incidents involving ammonia and natural gas.

Verification: Thirty (30) days prior to the delivery of ammonia or natural gas to the site, the project owner shall provide the CPM with a copy of an agreement with the City of Blythe and the project owner for funding (or other agreed to method) to address project-specific impacts associated with hazardous materials response.

D. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the Blythe Energy Project will create significant impacts to public health and safety resulting from the use, handling, or storage of hazardous materials at the facility. Related issues are addressed in the **Waste Management**, **Worker Safety**, and **Traffic and Transportation** portions of this Decision.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Several locational factors affect the potential for project-related hazardous materials to cause adverse impacts, including local meteorological conditions, terrain characteristics, any special site factors, and the proximity of population centers and sensitive receptors. The evidence of record incorporates these factors in the analysis of potential impacts.

1. Potential Impacts

The only Acutely Hazardous Materials proposed for use at the BEP facility in quantities exceeding the reportable amounts defined in the California Health and Safety Code, section 25532 (j), are aqueous and anhydrous ammonia (refrigerant R717). The use of anhydrous ammonia poses the principal risk of off-site impacts in the event of a major accidental release associated with the project. Anhydrous ammonia is used in the inlet air refrigeration system where it exists as a liquefied gas at elevated pressure. In this state ammonia has high internal energy. The internal energy associated with the anhydrous form of ammonia can act as a driving force in an accidental release which can rapidly introduce large quantities of the material to the ambient air, where it can be transported in the atmosphere and result in high down-wind concentrations.

The use of aqueous ammonia and hydrochloric acid can also result in hazardous emissions in an accidental release. Emissions from accidental release of these materials are the result of mass transfer from the surface of the spilled liquid and are

thus, much slower than those associated with anhydrous ammonia. While these materials can result in significant off-site concentrations, accidental release of these materials at the proposed facility would not cause significant concentrations at the public receptors considered in staff s evaluation of accidental anhydrous ammonia release. (Ex. 53, p.187.)

Other hazardous materials stored in smaller quantities, such as mineral and lubricating oils, corrosion inhibitors, water conditioners and hydrogen, will be present at the proposed facility. However, these materials pose no significant potential for off-site impacts as a result of the quantities on site, their relative toxicity, and/or their environmental mobility. None of these materials will be used or stored in excess of regulated threshold quantities under the California Accidental Release Prevention (CalARP) Program.[24] (Ex. 53, pp.187, 188.)

Although no natural gas is stored, the project will also involve the construction and operation of natural gas pipelines and handling of large amounts of natural gas. Natural gas poses risk of both fire and explosion. The natural gas pipeline is addressed in the **Facility Design** portion of this Decision. (Ex. 53, pp.187-188.)

The BEP will also require the transportation of anhydrous ammonia to the facility. Transportation hazards associated with truck routes used for delivery of hazardous materials in the project vicinity are addressed in the **Traffic and Transportation** portion of this Decision.

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[24] The CalARP Program includes both federal and state programs established to prevent accidental release of regulated toxic and flammable substances. (CA Health & Safety Code, ⁄ 25531 et seq.; Cal. Code of Regs., tit. 19, ⁄ 2720 et seq.) Regulated substances are those stored or used in amounts exceeding threshold quantities that would require the filing of a Risk Management Plan under the CalARP program. (Ex. 53, pp. 187-188.)

a. Anhydrous Ammonia

Anhydrous ammonia will be used in refrigeration of inlet air to the gas turbine. The accidental release of anhydrous ammonia can result in hazardous down-wind concentrations of ammonia gas.

To assess the potential impacts associated with an accidental release of ammonia, Staff evaluated four benchmark exposure levels of ammonia gas occur off-site. They are, in parts per million (ppm):

1) the lowest concentration posing a risk of lethality, 2,000 ppm;
2) the Immediately Dangerous to Life and Health level (IDLH) of 300 ppm;
3) the Emergency Response Planning Guideline (ERPG) level 2 of 200 ppm, which is also the RMP level 1 criterion used by EPA and California; and
4) the level considered by the Energy Commission staff to be without serious adverse effects on the public for a one-time exposure of 75 ppm. (Ex. 53, pp. 190-191.)

If the exposure associated with a potential release would exceed 75 ppm at any public receptor, a presumption exists that the potential release poses a risk of significant impact. (*Id.* at p. 191.)

Applicant provided the results of modeling for a worst case accidental release of anhydrous ammonia from the refrigeration plant. The worst-case release scenario is associated with a postulated spontaneous catastrophic equipment failure and release of 20,000 pounds of ammonia. This modeling also reflects pessimistic meteorological conditions with wind speed of one meter per second and F stability. The analysis further reflected Staff s request that the analysis be conducted utilizing a model that reflects dense gas behavior typical of ammonia dispersion from a liquefied gas release. The results indicate down wind concentrations of ammonia in parts per million (ppm) of 75 ppm @ 6.0 miles, 300 ppm @ 3.4 miles, 1000 ppm @ 1.5 miles and 2000 ppm

@1.1miles. The Applicant also provided modeling reflecting the same accidental release scenario with less pessimistic meteorological conditions with 3 meters per second wind speeds and D stability. These results indicate down wind concentrations of ammonia of 75ppm @ 3 miles, 300 ppm @ 1.5 miles, 1000 ppm @ .8 miles and 2000 ppm @ .5 miles. (Ex. 53, p. 191.)

Another potential mode of accidental release from the ammonia refrigeration system is associated with an aircraft crash at the site. This is a concern because the facility is in close proximity to the Blythe Airport. The proximity of the Blythe Project to the airport increases the probability of such an event. Staff evaluated that the probability of occurrence in this case was less than 1 in 10,000,000. (Ex. 53, p. 191.) This risk does not significantly increase the overall risk associated with the Blythe project.

In addition to an analysis of atmospheric dispersion modeling in the event of a release, Applicant also provided an analysis of the potential for such a release. Results indicated a probability of accidental release ranging between 7.2 in 10,000 and 3.6 in 100,000 per plant-year of operation. Further evaluation by Staff indicates that serious releases involving refrigeration plants occur at a frequency of about 1 in 100,000 per plant-year of operation. It should also be mentioned that most large refrigeration plants are in food processing plants or other facilities where many external hazards have caused accidental releases. Many of the factors leading to releases at these facilities are not applicable at the proposed facility. (Ex. 53, pp. 191-192.)

Staff evaluated the potential for impacts on three specific receptor locations including Nicholls Warm Springs, the Blythe Airport and on Interstate 10. Results indicate that significant impacts would occur at Nicholls Warm Springs, about 2.5 miles from the project, with winds from the east and north east direction with E or F stability. Staff s analysis indicates that winds in the direction of Nicholls Warm Springs with E or F stability occur with a frequency of about two percent of the time. Thus, significant impacts on Nicholls Warm Springs would have a probability of occurrence of about 2 in 10,000,000 per year. Staff s analysis of the Blythe Airport, about 1.5 miles from the

project, indicates the probability of impact with winds from the southeast and with D, E and F stability. These meteorological conditions occur with a frequency of about one percent of the time. Thus the risk of significant impact at the Blythe Airport is about 1 in 10,000,000. Results also indicate that impacts on Interstate 10, about one-quarter mile from the project, could be associated with winds from the north, north by northeast, northeast, east by northeast, west by northwest, northwest and north by northwest with D, E or F stability. These meteorological conditions occur with a frequency of about 20 percent of the time. Therefore, the risk of significant impact on Interstate 10 is about 2 in 1,000,000. Staff deemed a risk above 1 in 1,000,000 per year significant, with the potential of more than 100 serious injuries and or fatalities. Staff could not quantify the potential number of injuries or fatalities that could result from a release affecting Interstate 10, but concluded that such an event has the potential to cause more than 100 injuries and or fatalities on Interstate 10. (Ex. 53, p. 192.) While this level of risk cannot be considered insignificant, it is close to an insignificant level of risk. We will impose mitigation to reduce risk to the lowest level that is reasonably practical.

The potential for impacts on Interstate 10 exceeds Staff s trigger level for significance. Methods to mitigate the potential impacts include:

1) substitution of the material posing the risk with a non-hazardous or less hazardous alternative material;
2) use of engineered control measures; and
3) implementation of administrative controls.

Three alternative refrigeration systems using a non-hazardous or less-hazardous material were considered but found not to be feasible by Staff in its independent analysis. (Ex. 53, pp. 192-193.)

In considering engineered controls, staff identified two potential mitigation approaches:

1) use of double containment; and
2) use of an automatic fire suppression system. (Ex. 53, p. 193.)

Staff found that double containment is not technically or economically feasible. Requiring the use of an automatic fire suppression system is supported by the record of past releases from refrigeration plants that suggests a significant causal relationship between fires and accidental releases from such plants. (*Id*.) Condition **HAZ-3** requires installation of an automatic fire suppression system on the refrigeration plant.

The proposed refrigeration plant will be subject to regulations requiring participation in the State Risk Management Program (RMP) and Process Safety Management (PSM) program post certification. Participation in these programs will result in development and implementation of extensive administrative controls designed to improve the safety of the plant. It should be noted that participation in such programs is not reflected in the database used to establish risk of accidental release as RMP and PSM were not in existence in 1980 when the data was compiled. It should also be noted that the risks associated with this refrigeration plant are no greater than those that already exist as a result of hazardous materials transportation on Interstate 10. (Ex. 53, p. 193.)

To ensure implementation of the foregoing, Condition **HAZ-2** requires the project owner to provide a Safety Management Plan for ammonia deliveries.

b. Natural Gas

The project requires large amounts of natural gas, which creates a risk of both fire and explosion. (Ex. 53, p. 193.) This risk will be reduced to insignificant levels through adherence to applicable codes and the implementation of effective safety management practices. (*Ibid*.) The National Fire Protection Association (NFPA) Code 85A requires: 1) the use of double block and bleed valves for fast shut-off; 2) automated combustion controls; and 3) burner management systems. These measures significantly reduce the likelihood of an explosion. Additionally, start-up procedures will require air purging of

gas turbines and combustion equipment to prevent build-up of an explosive mixture. (*Ibid.*)

Natural gas will not be stored onsite; rather, it will be continuously delivered via the pipeline described in the **Facility Design** section of this Decision. Condition **MECH-1** ensures that construction and operation of the pipeline will comply with applicable safety requirements.

2. Mitigation

With the exception of potential impacts associated with using anhydrous ammonia, the proposed project poses no significant risk of public impact from accidental release of hazardous materials at the proposed facility. While the use of anhydrous ammonia may pose a risk slightly above Staff s significance criteria, we determine that the actual risk is insignificant with the proposed mitigation measures

3. Closure

The requirements for handling of hazardous materials remain in effect until such materials are removed from the site regardless of facility closure. Therefore, the facility owners are responsible for continuing to handle such materials in a safe manner, as required by applicable laws. In the event the facility owner abandons the facility in a manner which poses a risk to surrounding populations, Staff will coordinate with the California Office of Emergency Services, Riverside County Environmental Health Department, and the California Department of Toxic Substances Control (DTSC) to ensure that any unacceptable risk to the public is eliminated. (Ex. 53, p. 194.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The Blythe Energy Project will use hazardous materials during construction and operation, including anhydrous ammonia and natural gas.

2. The major public health and safety hazards associated with these hazardous materials are the accidental release of anhydrous ammonia and fire and explosion from natural gas.

3. The project owner will submit an approved Safety Management Plan for ammonia delivery, an approved Hazardous Materials Business Plan, and an approved Risk Management Plan prior to delivery of any hazardous materials to the site.

4. Implementation of the mitigation measures described in the evidentiary record and contained in the Conditions of Certification, below, ensures that the project will not cause significant impacts to public health and safety as the result of handling hazardous materials.

5. With implementation of the Conditions of Certification, below, the Blythe Energy Project will comply with all applicable laws, ordinances, regulations, and standards identified in the pertinent portion of Appendix A of this Decision.

The Commission concludes, therefore, that the use of hazardous materials by the Blythe Energy Project will not result in any significant adverse public health and safety impacts.

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 in Appendix B unless approved in advance by the CPM.

Verification: 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.

HAZ-2 The project owner shall provide a Risk Management Plan and a Process Safety Management Plan to the Riverside County Environmental Health Department and the CPM for review at the time the plans are first submitted to the U.S. Environmental Protection Agency (EPA) and the California Occupational Safety and Health Administration (Cal-OSHA). The project owner shall ensure that the final plan reflects all recommendations of the Riverside County Environmental Health Department and the CPM. A copy of the final plans, reflecting all comments, shall be provided to the

Riverside County Environmental Health Department and the CPM once accepted by EPA and Cal-OSHA.

Verification: At least sixty (60) days prior to the delivery of anhydrous ammonia to the facility, the project owner shall provide the final plans listed above to the CPM for approval.

HAZ-3 The project owner shall install an approved automatic fire suppression system.

Verification: At least sixty (60) days prior to delivery of anhydrous ammonia to the facility, the project owner shall provide final design drawings and specifications for the fire protection system approved by a registered Safety Engineer to the CPM for review and approval.

E. WASTE MANAGEMENT

The project will generate hazardous and nonhazardous wastes during construction and operation. This section reviews the Applicant s waste management plans for reducing the risks and environmental impacts associated with the handling, storage, and disposal of project-related wastes. Project wastewaters, such as those discharged to evaporation ponds and wastewater management is discussed in the **Soil and Water Resources** section of this decision.

Federal and state laws regulate the management of hazardous waste. Hazardous waste generators must obtain EPA identification numbers, and use only permitted treatment, storage, and disposal facilities. Registered hazardous waste transporters must handle the transfer of hazardous waste to disposal facilities.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Site Excavation

Applicant commissioned a Phase I Environmental Site Assessment (ESA) to determine the presence or likely presence of hazardous substances or petroleum products at the site and the surrounding area (Ex. 1, Appendix 7.2.) The Phase I ESA reported:

- No registered underground storage tanks are located on the property. One such facility is located south southwest of the site, but is located hydrologically crossgradient from the site and does not appear to be of concern.
- The site does not contain leaking underground storage tanks. Five leaking tanks were found at one location about one mile southeast of the site, but appear to be downgradient from the site.

- No aboveground storage tanks are located at the site. One tank was located about one-half mile south and downgradient from the site.
- The only toxic pit identified is located greater than one mile to the west of the site.
- There have been no reported hazardous material incidents at the site. One report listed an incident at a location one mile southeast and downgradient from the site.
- There are no Superfund sites within one mile of the property.
- There are no RCRA facilities (waste treatment, storage, or disposal) on site, however one is listed between one and two miles southwest of the site.
- Although no landfills are located on site, the Blythe airport has an inactive landfill less than one mile upgradient from the site. City, county, and state records provide little information regarding this landfill. Due to former military activities in the area, the potential exists for this landfill to contain hazardous wastes. If present, hazardous materials could leach into soil and groundwater on site.
- The ESA also recommended that groundwater samples be obtained during the geotechnical test boring program to determine the potential for subsurface impact from potentially hazardous materials.

Intervenor Carmela F. Garnica made a motion to reopen the evidentiary record to receive evidence about an alleged unregistered underground storage tank located west of the site on or near the airport property. That motion was not supported by any credible offer of evidence and, in light of the record as a whole, it is not necessary to reopen the record. The effect of any such tank is further discussed in the **Soils and Water Resources** section of this decision.

2. Construction

a. Nonhazardous

Nonhazardous waste streams from construction may include paper, cardboard, wood, glass, and plastics. These will be generated from packing materials, waste construction lumber, insulation materials, and empty containers. (Ex. 53, p. 467.) BEP estimates that about 100 tons of these wastes will be generated

during construction (Ex. 1／7.11.2.1.1.). These wastes will be recycled where practical, with the rest disposed to the Blythe Sanitary Landfill (Ex. 53, p. 466.) Hazardous material containers may be classified as nonhazardous if they are emptied and managed according to specified methods (Cal. Code Regs., tit. 22, ⁄66261.7).

About 70 tons of waste asphalt or concrete will be generated during construction of foundations, parking lots, and roads. Uncontaminated soil and concrete may be used for fill material either on or offsite, with the remainder being disposed to the Blythe Sanitary Landfill. (Ex. 1／7.11.2.1.1.). Up to 25 tons of metal wastes from welding and cutting operations, packing materials, trim, and empty containers and drums will be generated. This also includes aluminum and copper electrical wiring waste from the power plant, substation, and transmission lines. These wastes will be recycled through scrap metal brokers with the remainder disposed to the Blythe landfill. (Ex. 53, p. 466.)

Construction of the natural gas and auxiliary pipelines will require drilling under roads, canals, railroad lines, and possibly the Colorado River. Such activities will generate drilling muds, which are used to lubricate and cool the drilling bit and to transport cuttings from the boreholes. Bentonite clays mixed with water are the primary constituents of drilling mud. Uncontaminated bentonite is nontoxic, and generally buried within the drill pad site. Depending on the natural gas interconnections chosen, 220 to 250 cubic yards of drilling muds may be generated. The drilling muds will be transported to appropriate landfills, depending on whether contamination is encountered during boring operations or whether chemicals are added to improve boring operations. (Ex. 1,／7.11.2.1.1; Ex. 53, p. 467.)

b. Hazardous Wastes

Hazardous wastes that may be generated during construction include waste oil and grease, paint, spent solvent, welding materials, and cleanup materials from

spills of hazardous substances. These are typically generated in minor amounts. The construction contractor is considered the actual waste generator and will be responsible for proper hazardous waste handling. Such wastes will be collected in hazardous waste accumulation containers near the point of generation. The containers will be taken to the construction contractor s hazardous waste storage area and within 90 days will be delivered to an authorized hazardous waste management facility (Ex. 53, p. 467.)

In the event that contaminated soil is encountered during excavation or construction at the site and linear facilities, Condition **WASTE-5** requires a soil sampling and contaminated soil disposal plan for the project site and linear facilities.

3. Operation

a. Nonhazardous

Nonhazardous wastes generated during plant operation include trash, office wastes, empty containers, broken or used parts, used packing material, and used filters. The applicant estimates that about 70 cubic yards annually of such wastes will be generated (Ex. 1,／7.11.2.2.1.). Metal parts and other materials such as paper, aluminum, and plastic will be recycled through brokers, when possible. Nonrecyclable solid wastes will be transported to the Blythe Sanitary landfill. Ex. 53, p. 467.)

b. Hazardous Waste

Routine project operation will generate a variety of hazardous wastes. Exhibit 1, Table 7.11-1, summarizes the hazardous wastes that are expected to be generated, along with estimated amounts and planned management methods. Much of the hazardous waste generated is suitable for recycling. Used turbine

lubricating oil will be collected for recycling by a licensed waste oil recycler. Every three to four years, air pollution control catalysts must be replaced in order to maintain their control efficiency. Spent catalyst will be returned to the manufacturer for metals reclamation or disposal. Liquid hazardous wastes consisting of solvents containing hazardous levels of heavy metals will be generated during pre-operational and periodic flushing and cleaning of pipes and the heat recovery steam generators (HRSG). A contractor will be used for such cleaning operations and will transport liquid wastes to an offsite facility licensed to manage such wastes. (Ex. 53, p. 467.)

4. Potential Impacts on Waste Disposal Facilities

The Blythe Sanitary Landfill is a permitted class III (nonhazardous) facility about seven miles north of Blythe. It is projected to remain operational until 2033 and accepted an average of about 74 tons per day of solid waste in 1999, with a maximum daily intake of 195 tons. The volume of nonhazardous waste expected from constructing and operating BEP is expected to be a fraction of one percent of the Blythe landfill s annual capacity. Even discounting the effects of recycling on the total amount of non-hazardous wastes destined for landfilling, the amounts of waste generated during project construction and operation are insignificant relative to existing disposal capacity. (Ex. 53, pp. 467-468.)

Three Class I landfills in California, at Kettleman Hills in Kings County, Buttonwillow in Kern County, and Westmoreland in Imperial County, are permitted to accept hazardous waste. In total, there is in excess of twenty million cubic yards of remaining hazardous waste disposal capacity at these landfills, with remaining operating lifetimes of over 50 years. The amount of hazardous waste transported to these landfills has decreased in recent years due to source reduction efforts by generators, and the transport of waste out of state that is hazardous under California law, but not federal law. Much of the hazardous waste generated during facility construction and operation will be recycled, such

as used oil and spent catalysts. Even without recycling, the generation of hazardous waste from BEP would be a very small fraction (less than one percent) of existing capacity and will not significantly impact the capacity or remaining life of any of the state s Class I landfills. (Ex. 53, p. 468.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The project will generate hazardous and nonhazardous wastes during construction and operation.

2. Applicant s Phase I Environmental Site Assessment identified areas at or near the site and along the linear facility routes that may contain contaminated soils.

3. The project owner will implement a soil sampling and remediation plan if contaminated soils are uncovered during excavation and construction.

4. Under BEP s waste management plan, the project will recycle hazardous and nonhazardous wastes to the extent possible and in compliance with applicable law.

5. Hazardous wastes that cannot be recycled, will be transported by registered hazardous waste transporters to an appropriate Class I landfill.

6. Nonhazardous wastes that cannot be recycled will be deposited at the Blythe Sanitary Landfill, which is a Class III landfill.

7. Disposal of project wastes will not result in any significant direct or cumulative impacts to existing waste disposal facilities.

8. The Conditions of Certification, below, and the waste management practices described in the evidentiary record will reduce potential impacts to insignificant levels and ensure that project wastes are handled in an environmentally safe manner.

The Commission therefore concludes that the management of project wastes will comply with all applicable laws, ordinances, regulations, and standards related to

waste management as identified in the pertinent portion of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control prior to generating any hazardous waste.

Verification: The project owner shall keep its copy of the identification number on file at the project site and notify the CPM via the monthly compliance report of its receipt.

WASTE-2 Upon becoming aware of any impending waste management-related enforcement action, the project owner shall notify the CPM of any such action taken or proposed to be taken against it, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

Verification: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action.

WASTE-3 Prior to the start of construction and prior to the start of operation, the project owner shall prepare and submit to the CEC CPM, for review and comment, a waste management plan for all wastes generated during construction and operation of the facility, respectively. The plans shall contain, at a minimum, the following:

- A description of all expected waste streams, including projections of frequency and hazard classifications; and
- Methods of managing each waste, including treatment methods and companies contracted with for treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/reduction plans.

Verification: No less than Thirty (30) days prior to the start of construction, or a lesser time period mutually agreed upon, the project owner shall submit the construction waste management plan to the CPM for review. The operation waste management plan shall be submitted no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 30 days of notification by the CPM (or mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to planned management methods.

WASTE-4 The project owner shall have an environmental professional available for consultation during soil excavation and grading activities. The environmental professional shall meet the qualifications of such as defined by the American Society for Testing and Materials designation E 1527-97 Standard Practice for Phase I Environmental Site Assessments as evidenced by one of the following or similar credentials: (1) Certified Industrial Hygienist with experience in worker exposure monitoring, (2) Qualified Environmental Professional certification, (3) Registered Environmental Assessor II, or (4) Registered Professional Engineer with experience in remedial investigation and feasibility studies.

Verification: At least Thirty (30) days prior to the start of construction, the project owner shall submit the qualifications and experience of the environmental professional to the CPM for approval.

WASTE-5 If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities as evidenced by discoloration, odor, or other signs, the environmental professional shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and file a written report to the project owner and CPM stating the recommended course of action, prior to any further construction activity at that location. If, in the opinion of the environmental professional, significant remediation may be required, the project owner shall contact representatives of the Riverside County Hazardous Materials Department and the Cypress regional office of the California Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any reports filed by the environmental professional to the CPM within 5 days of their receipt.

VII. ENVIRONMENTAL ASSESSMENT

Under its statutory mandate, the Commission must evaluate a project s potential effect upon the environment. The Commission reviews the specific topics of biological resources, soil and water resources, cultural resources, and geological/paleontological resources to determine whether project-related activities will result in adverse impacts to the natural and human environment.

A. BIOLOGICAL RESOURCES

The Commission must consider the potential impacts of project-related activities on biological resources, including state and federally listed species, species of special concern, wetlands, and other topics of critical biological interest such as unique habitats. The following review describes the biological resources of the project site and ancillary facilities, assesses the potential for impacts on biological resources, and determines the adequacy of proposed mitigation measures to ensure compliance with all applicable laws, ordinances, regulations, and standards.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence was uncontroverted and admitted by stipulation. (11/28 RT 18, 23-24.) This occurred after workshops and discussions between the parties that resulted in oral changes to Exhibit 53, pp. 71-100 (Biological Resources section) by Staff s witness, Mr. Richard Anderson. Those changes are reflected herein as appropriate and in Conditions of Certification as well. (See 11/28 RT 3-20.)

The proposed power plant is located in eastern Riverside County, just west of the Colorado River flood plain. Prior to agricultural cultivation and urbanization, the proposed power plant site and surrounding area was likely dominated by

Sonoran creosote bush scrub and desert dry wash woodland communities with extensive desert riparian habitat along the Colorado River. (Ex. 53, p. 76.) The proposed project site is located west of the 100-year floodplain of the Colorado River Basin, which is made up of river bottoms and terraces. The Palo Verde Valley was seasonally inundated by the Colorado River before several large dams were constructed upstream of Blythe. Since the installation of the dams and subsequent irrigation canals and drains, the Palo Verde Valley, and the surrounding terraces, have been transformed into a large agricultural area. The remnant plant communities outside the agricultural and residential areas include: creosote bush (*Larra tridentata*) scrub, disturbed desert areas, and riparian plant communities along the Colorado River and various canals and drains. (Ex. 53, p. 74.)

A variety of sensitive species are found in the project region. Sensitive species known to occur in the project region include desert tortoise (Gopherus agassizii), southwestern willow flycatcher (Empidonax traillii extimus), Yuma clapper rail (Rallus longirostris yumanensis), mountain plover (Charadris montanus), and razorback sucker (Xyrauchen texanus).[25] (Ex. 53, p. 75.)

1. Potential Impacts

Wildlife Habitat and Sensitive Plant Community. Construction of the power plant will result in the permanent loss of 76 acres of Sonoran creosote bush scrub habitat, and possible losses of foxtail cactus and Harwood s milkvetch. (Ex. 53, pp. 78-79; 11/28 RT 4-5.) The construction laydown area is the same area as the power plant site (15 acres for the plant, 16 acres for the evaporation ponds and 45 acres of fenced exclusion area) and does not represent additional losses. (Ex. 53, pp. 78-79.) As discussed below, Applicant will provide habitat compensation funds to mitigate BEP s potential impacts on Harwood s milkvetch.

[25] Table 1 of Exhibit 53, at pages 75-76, contains a complete list of the sensitive species considered for this project.

Staff has determined that the transmission line and natural gas pipeline corridor for the El Paso route will not impact any biological resources and therefore will cause no loss of habitat. The SoCal Gas natural gas pipeline will result in temporary loss of 1.15 acres of Sonoran creosote bush scrub habitat. This loss is from the 1,000 feet of pipeline that would be placed between Hobsonway and I-10, assuming a 50-foot corridor of disturbance from construction equipment. (Ex. 53, pp. 78-79.)

Wildlife. No special-status wildlife species were observed. The site is inherently poor desert tortoise habitat, further compromised by freeway and adjacent agricultural impacts. Burrowing owls may use the site in the future, although they are not presently on site. Other birds and bats may exhibit transient use of the site for foraging, but are not expected to be significantly impacted. (Ex. 2, Testimony of Alice Karl, p. 39.) The project region is part of the Desert Tortoise historic range, although no tortoises, or evidence of the presence of tortoises, were found during an on-site survey using protocol within the USFWS Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise. (Ex. 1,/7.12.1.5.4.2; Ex. 20, Response to Data Request #24; Ex. 53, p. 79.) On a regional perspective, however, desert tortoise habitat has been reduced approximately 50-60 percent since the 1920s and is now highly fragmented and degraded by human-related activities. (Ex. 1,/7.12.1.5.4.2.) As discussed below, Applicant will provide habitat compensation funds to mitigate BEP s potential impacts on the desert tortoise.

The evaporation ponds could attract bird and other wildlife (e.g. waterbirds, bats, etc.). The water directed to these ponds will contain some level of contaminants, including lead, arsenic and selenium (Ex. 1, Table 7.13-11). Due to evaporation, the concentration of contaminants will increase in suspension and at the bottom of the ponds over time. The direct loss of birds, bats, and/or other wildlife could result from ingesting these contaminants. The Blythe area is an agricultural region within a desert environment. Standing, open-water sources include

agricultural canals and drains, the Colorado River and associated sloughs and backwater areas, and numerous small irrigation reservoirs on the Mesa. Birds are attracted to open water and they forage in the more than 100,000 acres of farmed fields. Within this regional and local setting it is likely that some birds will forage in the 16-acre evaporation ponds, which could cause health problems in these individuals. Many of these species are protected under the Migratory Bird Treaty Act and other state and federal laws. Staff was also concerned about the potentially undesirable result that the evaporation ponds will attract birds to the power plant site, which is close to the Blythe airport.

Indirect and Cumulative Impacts. Indirect effects on biological resources (including desert tortoise) would result from increased human activity in the project site area, and include noise, lighting, and traffic. These effects are not by themselves considered significant and would be mitigated satisfactorily by the habitat compensation conditions contained herein. The permanent and temporary earth disturbance adjacent to native habitats increases the potential for exotic, invasive plant and animal species to establish and disperse into native plant communities, which leads to community and habitat degradation. Both 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 replace 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. Indirect impacts to adjacent native plant communities on the north and west side of the power plant site, and adjacent to the Colorado River will be minimized by Conditions **BIO-11** and **BIO-12**. (Ex. 53, pp. 81-82.)

The California Environmental Quality Act defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. (CEQA Guidelines, Cal. Code Regs., Tit. 14, ⁄ 15355). Cumulative impacts can occur when

individually minor but collectively significant projects take place at nearly the same time frame or compound over time. BEP would add to continuing habitat losses in the project area. The power plant, the proposed Blythe Airport Industrial Park, and the recently completed truck stop, cumulatively reduce habitat for biological resources in the area, including listed species such as desert tortoise. These projects cumulatively represent significant impacts to biological resources. The cumulative impacts (as well as direct and indirect impacts) are satisfactorily mitigated by the conditions adopted in this decision. For the installation of the El Paso natural gas pipeline, the applicant has proposed to place the pipeline close to the Interstate bridge, an existing corridor across the Colorado River. Implementation of this strategy would reduce the likelihood that a new utility corridor would be designated, reducing the continued loss of riparian habitat along the Colorado River. (Ex. 53, p. 82.)

Mitigation Measures. Onsite mitigation measures, in addition to careful siting of the plant site and ancillary facilities to avoid impacts, include:

- Fencing of the plant site and any equipment storage areas outside the plant site with desert tortoise-proof fencing;
- Fenced area(s): clearance of desert tortoises after fencing and appropriate translocation;
- Continuous maintenance of the fence for the life of the project;
- Construction monitoring of the pipeline during tortoise activity periods where the route is through or adjacent to native habitat;
- Pre-construction surveys for burrowing owls on the project site, followed by avoidance or passive relocation, if owls are observed;
- Construction of the transmission line following Avian Power Line Interaction Committee Guidelines to minimize the potential for collisions;
- Seasonal construction (September 1 to April 1) of the Borrow Pit Drain, Goodman Drain at Intake Boulevard, and the Colorado River to avoid disturbance to nesting birds, and

- Daytime construction at all drains to avoid impacts to special-status amphibians and mammals. (Ex. 2, pp. 40-41.)

The project proponent has agreed to offsite mitigation for both the desert tortoise and Harwood s milk-vetch. The former will include 1:1 habitat compensation for the 76 acres of desert tortoise habitat at the plant site and 1.15 acres for the pipeline. The new habitat will be in tortoise habitat in the Chuckwalla Bench area that has been targeted for desert tortoise preservation for many years. The funds will not only be adequate to purchase 77.15 acres of land there, but will include sufficient endowment funds for acquisition and management by a qualified non-profit organization. (Ex. 2, p. 41.) The amount of this compensation has been determined to be $92,580.00, representing 77.15 acres at $1200.00 per acre. 11/28 RT 12.) Condition **BIO-12** provides for this compensation.

The potential loss of Harwood s milk-vetch will be compensated by a contribution of $25,000.00 for revegetation of an appropriate area with a minimum of 100 plants or alternate mitigation as described in **BIO-13**. (Ex. 2, p. 1; Ex. 53, p. 87; 11/28 RT 13-15.)

Condition **BIO-14** requires BEP to provide a final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) prior to the start of any project-related ground disturbance activities. The BRMIMP will incorporate all mitigation, monitoring, and compliance conditions identified in this Decision. (See generally Ex. 2, p. 41; Ex.53, pp. 87, 90; 11/28 RT 7-8. See also **BIO-1**.) Applicant is also required to obtain an Endangered Species Act, Section 7 Biological Opinion from the USFWS that will indicate which protected species are likely or not likely to be affected by the project. Western, as the lead Federal agency, is pursuing a Section 7 consultation on the project. A copy of the final Biological Assessment and resulting Biological Opinion and a copy of the CDFG／2081.8 Letter of Concurrence must be provided to the Commission prior to the start of any project-related ground disturbances. All conditions in the Biological Opinion and the Letter of Concurrence will be included in the BRMIMP. (Ex. 53, pp. 87,89.)

Applicant must also obtain a Section 10 permit from the U.S. Corps of Engineers and a CDFG Streambed Alteration Agreement prior to construction at the Colorado River for the El Paso Natural Gas Pipeline. These documents will identify any mitigation measures required by each of those agencies.

Additional mitigation measures include the hiring of a biological resource specialist to monitor compliance efforts. (Conditions **BIO-1**, **BIO-2**, **BIO-3** and **BIO-4**.) BEP will also implement an environmental awareness program for construction workers and permanent staff (Condition **BIO-5**) and a weed reduction program (**BIO-11**).

4. Closure

Sometime in the future, the BEP power plant and ancillary facilities would either experience a planned closure, or may be unexpectedly (either temporarily or permanently) closed. The AFC did not include a discussion of the impacts facility closure could have on biological resources. When facility closure occurs, it must be done in such a way as to protect the environment and public health and safety. These issues will be addressed as a part of the on-site contingency plan which will be developed by the project owner, and approved by the Energy Commission Compliance Project Manager. (See further discussion under General Conditions for Facility Closure in the **Compliance and Closure** section of this decision.)

<u>Intervenor and Public Comment</u>. Intervenor Carmela F. Garnica and a member of the public, a Mr. Quenton Hanson, both made comments and expressed concern about the direction of the funding streams for mitigation in the above areas. Specifically, Mr. Hanson (see 11/28 RT 20-22) implored the Commission to do what it could to see that mitigation funding was spent in the local (Blythe) community. He expressed a valid and well-thought view. Although it is beyond the jurisdiction or capability of this Commission to specifically direct these funds

to the local community, to the extent possible, the Commission encourages the parties and their contractors to employ local means to accomplish the mitigation measures.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we make the following findings and conclusions:

1. The project region has been historically used for agriculture and urbanization.

2. The natural habitat types found in the project area are native Sonoran creosote bush scrub and desert dry wash woodland communities with extensive desert riparian habitat.

3. Sensitive species found in the project region include the desert tortoise, southwestern willow flycatcher, Yuma clapper rail, mountain plover, and razorback sucker.

4. Loss of sensitive species habitat in the region is the primary concern of the local, state, and federal agencies that monitor biological resources.

5. Project specific direct impacts will result in the permanent loss of 76 acres and the temporary loss of 1.15 acres of sensitive habitat for the desert tortoise and other sensitive species in the region.

6. The appropriate habitat compensation ratios in this case are 1:1 for permanent habitat losses and 1:1 for temporary habitat losses, resulting in total compensation acreage of 77.15 acres.

7. Applicant will provide habitat compensation funds to the Desert Tortoise Preserve Committee in an amount no less than $92,580 (77.15 acres x $1200/acre) to purchase 77.15 acres of desert tortoise habitat in the Chuckwalla Bench Area of eastern Riverside County.

8. Applicant will provide habitat compensation funds in an amount no less than $25,000 to revegetate or protect an appropriate area with Harwood s milkvetch.

9. Applicant s habitat compensation package is consistent with the U.S. Fish and Wildlife Service (USFWS) requirements for impacts to listed species habitat.

10. To the extent feasible, Applicant will implement measures to avoid sensitive biological resources.

11. Prior to the start of any project-related ground disturbance activities, Applicant will obtain a Section 7 Biological Opinion from the USFWS; a Letter of Concurrance under section 2081.8 from the California Department of Fish and Game, a Section 10 Permit from the U.S. Corps of Engineers; and a Streambed Alteration Agreement from the California Department of Fish and Game (if the Colorado River is the subject of tunneling).

12. BEP s potential direct, indirect, and cumulative impacts will be adequately mitigated by the measures specified in the Conditions of Certification listed below.

13. With implementation of the mitigation measures identified in the evidentiary record and the Conditions of Certification listed below, BEP will conform with all applicable laws, ordinances, regulations, and standards related to biological resources as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that implementation of the Conditions of Certification will ensure the project conforms with all applicable laws, ordinances, regulations, and standards related to biological resources and that all potential adverse impacts to biological resources will be mitigated to levels of insignificance.

CONDITIONS OF CERTIFICATION

In addition to the following Conditions of Certification, additional conditions may result from the USFWS Biological Opinion and incidental take permit, CDFG s Concurrence Determination and Streambed Alteration permit. The USFWS Biological Opinion and Incidental Take permit will provide mitigation requirements that must be followed prior to project construction, and during construction and operation. Once the CDFG receives a copy of the Biological Opinion and Incidental Take Permit, the CDFG will complete its review and provide a Concurrence Determination. The CDFG Streambed Alteration permit must be issued prior to gas pipeline construction activities. These actions must be completed before construction can begin.

The following Biological Resources Conditions of Certification are proposed by Energy Commission staff.

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). The project owner s 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.

Verification: For the proposed 76-acre power plant site, the project owner shall ensure the following:

1. Fence the project site with desert-tortoise-proof fencing prior to construction. 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.

2. Following fencing, a trained tortoise biologist shall search the interior of the fenced area 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.

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.

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.

BIO-2 Construction site and/or ancillary facilities preparation (described as any ground disturbing activity other than Energy Commission approved geotechnical work) shall not begin until an Energy Commission CPM approved Designated Biologist is available to be on site.

Protocol: The Designated Biologist must meet the following minimum qualifications:

1. A Bachelor s Degree in biological sciences, zoology, botany, ecology, or a closely related field;

2. At least three years of experience in field biology or be currently certified by a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;

3. At least one year of field experience with biological resources found in or near the project area, and

4. An ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation, including experience with the particular species associated with the BEP site.

If the CPM determines the proposed Designated Biologist to be unacceptable, the project owner shall submit another individual s name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new biologist is on site.

Verification: Thirty (30) days prior to the start of any ground disturbance activities, or a lesser time period as mutually agreed, the project owner shall submit to the CPM for approval, the name, qualifications, address and telephone number of the individual selected by the project owner as the Designated Biologist. If a Designated Biologist is replaced, the information on the proposed replacement, as specified in the condition, must be submitted in writing at least ten working days prior to the termination or release of the preceding Designated Biologist.

BIO-3 The CPM approved Designated Biologist shall perform the following during project construction and operation:

1. Advise the project owner s Construction Manager on the implementation of the Biological Resource Conditions of Certification;

2. Supervise or conduct mitigation, monitoring and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as, wetlands and special status species; and

3. Notify the project owner and the CPM of non-compliance with any Biological Resources Condition of Certification.

Verification: During project construction, the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.

BIO-4 The project owner s Construction Manager shall act on the advice of the Designated Biologist to ensure conformance with the Biological Resources Conditions of Certification.

Protocol: The project owner s Construction Manager shall halt, if directed by the Designated Biologist, all construction activities in areas specifically identified by the Designated Biologist as sensitive to assure that potentially significant biological resource impacts are avoided.

The Designated Biologist shall:

1. Inform the project owner of any remedial measures necessary,

2. Inform the project owner and the Construction Manager when to resume construction, and

3. Advise the Energy Commission CPM what remedial measures are needed or have been instituted.

Verification: Immediately upon notification by the Designated Biologist to halt construction, the project owner shall notify the CPM by telephone of the circumstances and actions being taken to resolve the problem. For any necessary remedial action taken by the project owner, a determination of success or failure will be made by the Designated Biologist as soon as possible, but not later than five (5) working days after receipt of notice that corrective action is completed, or the project owner and CPM will be notified by the Designated Biologist that coordination with other agencies will require additional time before a determination can be made.

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 and operation, 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 on-site 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, 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, 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.

BIO-6 The evaporation ponds shall be monitored by plant personnel for bird and wildlife losses (see **BIO-1**). If a substantial number of bird and wildlife are found dead during any year, as determined by the CPM or Designated Biologist, then measures shall be identified and implemented that will substantially reduce or eliminate the problem. This monitoring shall continue for the first three years of plant operations, and depending on the results, could be discontinued at that time.

Verification: In the Annual Compliance Report, the project owner shall submit records of all monitoring dates, data collected, and any corrective actions taken, to the CPM.

BIO-7 The evaporation ponds (following start of operation when liquid is in the ponds) shall be monitored twice monthly (once every two weeks--two weeks apart) by the Designated Biologist or another biologist or person familiar with and who can identify birds of the area and is approved by the CPM. Records shall be made of the type of birds (e.g., waterfowl, shorebird, etc.), number of birds, and behavior. This monitoring shall continue for the first three years of plant

operation, and depending on the results, could be discontinued at that time or continued as needed.

Verification: In the Annual Compliance Report, the project owner shall submit records of all monitoring dates, data collected, and any corrective actions taken, to the Federal Aviation Administration, City of Blythe, Blythe Airport staff, ALUC, CDFG, USFWS, and the CPM.

BIO-8 The water quality in the evaporation ponds shall be monitored monthly for the first three years of operation. Collections of invertebrates shall be taken from the evaporation ponds at the same time, and these samples preserved (e.g., alcohol and water in sealed glass containers labeled with date and location).

Verification: In the Annual Compliance Report, the project owner shall submit records of all monitoring dates, data collected, and any corrective actions taken, in the Annual Compliance Report to the CPM.

BIO-9 The project owner shall conduct maintenance monitoring of the desert tortoise exclusion fencing on a monthly basis and complete repairs within one week of a problem being identified. Temporary fencing must be installed at any gaps opened in the project site fence if those gaps will be left open over night.

Verification: The project owner shall submit records of all monitoring dates, identify the locations that required repair, and any corrective actions taken or temporary fence installed in the Annual Compliance Report.

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 76-acre 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. 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.

BIO-11 If any landscaping must be removed from the directional drill site or laydown areas, the preferred method of revegetation is to follow the Blythe General Plan.

Verification: The Designated Biologist shall supervise the selection and installation of landscaping material and inform the CPM of any non-conforming plantings within 2 weeks of the action. If a state (Caltrans) mandated plant palette is on record, then these species can be used in lieu of the Blythe General Plan species. The success of the landscaping shall be monitored for 5 years after installation and corrective actions taken to sustain a survivorship rate of

greater than 60% for all plantings. The Designated Biologist shall submit records of all monitoring dates, identify areas needing repair, and any corrective actions taken in the Annual Compliance Report

BIO-12 To compensate for permanent impact to desert tortoise habitat, the project owner shall provide compensation funds in the amount of $92,580 to the Desert Tortoise Preserve Committee for the improvement or acquisition of desert tortoise habitat in the Chuckwalla Bench area. The compensation funds include land or conservation purchase costs and endowment funds for administration, management, maintenance, monitoring, operation, and research costs.

Verification: Not less than 15 days prior to the start of any construction activities (including exclusion fencing), the project owner will provide the check made out to the Desert Tortoise Preserve Committee (DTPC) to the DTPC and a copy of the check verifying the funds were paid, to the CPM.

BIO-13 To compensate for permanent impacts to Harwood s milkvetch, the project owner shall provide $25,000 to revegetate or to protect an appropriate area with Harwood milkvetch. The minimum number of viable plants to be installed or protected will be one hundred. On the land conserved for the desert tortoise, appropriate locations for the plantings will be identified and plantings carried out under the supervision of a botanist with desert restoration experience working for the Desert Tortoise Preserve Committee. Alternatively, a donation in the amount of $25,000 shall be given to the Rancho Santa Ana Botanical Gardens for the collection and preservation of Harwood s milkvetch seeds if the mitigation can not be fulfilled on the desert tortoise conservation parcel. Other appropriate options can be considered as needed and desired.

Verification: Within 30 days of the start of construction, 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 Garden as applicable, and will provide a copy of the check to the CPM.

BIO-14 The project owner shall submit to the CPM for review and approval, prior to any project related ground disturbance activities, 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 Decision;
- All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
- All mitigation measures identified in the USFWS Section 7 Biological Opinion;

- All mitigation measures identified in the CDFG Section 2081 Biological Opinion (if applicable) or Letter of Concurrence;

- Terms and conditions contained in the project s federal Section 10 permit;

- Terms and conditions 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; and

- A process for proposing plan modifications to the Energy Commission CPM and appropriate agencies for review and approval

Verification: Thirty (30) days prior to start of any project-related ground disturbance activities (including exclusion fencing installation) or a lesser time period as mutually agreed, 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 modifications to the BRMIMP.

B. SOIL AND WATER RESOURCES

This section reviews the soil and water resources associated with the project, specifically focusing on the project s potential to induce erosion and sedimentation, adversely affect surface and groundwater supplies, degrade water quality, and increase the likelihood of flooding. Other flooding and drainage issues are addressed in the **Geology and Paleontology** section of this document. The analysis also considers the potential cumulative impacts to water quality in the project vicinity. To prevent or reduce any potential adverse impacts, several mitigation measures are included in the Conditions of Certification to ensure that the project will comply with all applicable federal, state, and local laws, ordinances, regulations, and standards (LORS).

SUMMARY OF DISCUSSION OF THE EVIDENCE

1. Soils

The project site is located within the Palo Verde Mesa of the Colorado River Basin near the city of Blythe. The Mesa is bounded on the north by portions of both the Little and Big Maria Mountains, on the west by the McCoy and Mule Mountains, and on the south by the Palo Verde Mountains. The Palo Verde Valley, a subarea of the Colorado flood plain, forms the eastern boundary of the Mesa. The Palo Verde Mesa covers approximately 280 square miles (Ex. 53, p. 312.) The project is located near the center of the Palo Verde Mesa basin about a mile from the Mesa-Valley boundary. The site is on an intermediate plateau, about 70 feet in elevation above the Colorado River Valley near Blythe and about 60 feet in elevation below the Blythe Airport, and the site topography is flat. (Ex. 53, p. 313.)

The soils at the site are made up of sixteen soil types primarily derived from alluvial and colluvial deposits with textures ranging from moderately fine to

coarse.[26] The water erosion hazard is slight at the site, along the transmission lines, and at the interconnection to the SoCalGas natural gas pipeline. At the interconnection to the El Paso natural gas pipeline, the erosion hazard is nonexistent or slight, except for the segment extending from Rannells Drain to Hobsonway. The water erosion potential along this segment is slight to moderate. The wind erosion potential for most of these soils is moderate to high. (Ex. 53, pp. 312-313.)

Project construction activities will result in soil erosion, generation of dust, soil compaction, but no loss of soil productivity.[27] Activities associated with facility construction include grading, and other earth moving activities. Removal of protective cover vegetation and disturbance of the soil surface structure leaves the soil particles vulnerable to detachment by rainfall. Grading activities may result in soil compaction, which increases stormwater runoff velocities, allowing more soil particles to be entrained in the runoff and carried off-site. Alteration of natural drainages may cause runoff to cross-exposed surfaces leading to increased erosion. Sediment carried off-site may be deposited in adjacent water bodies. This may reduce drainage capacity leading to flooding or it may degrade sensitive biological habitats. Erosion is also a significant concern where construction of linear facilities crosses natural and man-made drainages. (Ex. 53, p. 316.) Applicant will implement the temporary and permanent erosion control and drainage measures described in its stormwater and construction erosion control and management plan, which identifies the best management practices to ensure that sediment and other pollutants are not carried offsite by storm water runoff. (Ex. 53, p. 335.)

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[26] The soil types identified for the project components (power plant, transmission line, offsite pipelines and access road) are listed in Table 1 of Exhibit 53, at page 314. Figure 7.14-1 and Table 7.14-1 of Exhibit 1 provide a detailed map and description of the soil types.

[27] Although the land has been designated as prime agricultural land, Staff indicated that construction and operation of the project would not result in any significant impact to agriculture or loss of crop production because the land is currently vacant. (Ex. 53, p. 313.)

BEP will mitigate the potential for wind and water erosion of susceptible soils during construction by implementing a Fugitive Dust Mitigation Plant which will include at a minimum the periodic spraying of water to reduce wind erosion potential of disturbed soils. Additionally, BEP will use temporary erosion control measures including revegetation, slope stabilizers, berms and ditches, and sediment barriers to reduce the potential for water erosion and its impact to surface water quality. (Ex. 2, p.51.)

The project site is relatively flat with only a slight slope from the northwest to the southeast. Although some grading at the site is anticipated, it is not expected to alter the existing slope or drainage pattern. (Ex. 53, p. 334.) Water erosion at the site should be slight once construction is completed, since the finished site will be leveled, covered with concrete and gravel, and drainage systems will be in place. However, during project operation, wind and water action can continue to erode unprotected surfaces. An increase in the amount of impervious surfaces will increase runoff, leading to the erosion of unprotected surfaces. BEP has prepared and will implement a stormwater pollution prevention plan as required under the General Construction Activity Stormwater Permit issued by the State Water Resources Control Board. (Ex. 53, p. 317.)

In general, soils at the plant site and soils along the natural gas pipeline and the transmission line corridors have the same erosion hazards and often similar slopes. Therefore, comparable erosion control measures will be implemented at the site and along the linear facility corridors. (Ex. 53, pp. 317-318.)

The project owner will implement permanent measures to prevent erosion including drainage and infiltration systems, slope stabilization, and revegetation. Condition **SOIL & WATER-2** requires the project owner to submit a final Erosion Control and Revegetation Plan prior to commencement of any ground-moving activities.

The project area will cover approximately 76 acres, with about 30 acres occupied by the powerplant and switchyard. Stormwater runoff from paved main plant areas will be directed to the evaporation ponds, while runoff from other locations on the property will be either contained in the bermed area located along the southeast portion of the property, or discharged to local drainage channels along Hobsonway and Buck Boulevard to the west of the site through a National Pollutant Discharge Elimination System (NPDES) stormwater permit. (Ex. 53, pp. 334-335.)

The plant is configured as a zero discharge power plant. All wastewater is discharged to lined evaporation ponds. A Report of Waste Discharge (ROWD) was submitted to the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB) requesting that draft Waste Discharge Requirements (WDRs) be provided for the project. A preliminary review of the ROWD was completed by the CRBRWQCB, and several recommendations were made to modify the design of the evaporation ponds. The CRBRWQCB has since produced draft WDRs for the project, which include these recommendations. These WDRs require the BEP to be in compliance with Division 7 of the California Water Code and the provisions of the Federal Clean Water Act. (Ex. 53, p. 339.)

BEP has provided a stormwater management and erosion control plan for the project. The BEP has also completed an NPDES Application for Storm Water Pollution Prevention Plan for Construction and an NPDES Application for Storm Water Pollution Prevention Plan — Industrial Operations for the operational phase of the plant. All chemicals will be stored, handled, and used in accordance with best management practices.[28] Condition **SOIL & WATER-1** requires the project owner to develop and implement a Storm Water Pollution Prevention Plan (SWPPP).

[28] See the Hazardous Materials Management section of this Decision.

1a. Floodplain Assessment

In accordance with the U.S. Department of Energy (DOE) Floodplain/Wetland Review Requirements (10 CFR part 1022), Western has prepared a floodplain assessment to determine whether the proposed project will cause harm to the affected floodplain. (See Ex. 53, pp. 353-355.) It will also review actions proposed to avoid or minimize potential harm to or within the affected floodplain.

The only activities within the hundred-year flood stage (base flood) of the Colorado River is the proposed natural gas pipeline that would connect the plant site to the El Paso Gas terminal on the Arizona side of the river (Federal Emergency Management Agency Flood Insurance Rate Map Index for Riverside County, California 1996). The project as proposed would include the installation of a 16-inch pipeline that would be installed at a depth of at least 48-inches below the ground surface. The pipeline right-of-way would be placed within the boundaries of existing roads. The crossing of the Colorado River will involve horizontal directional drilling, which will place the pipeline under the River. The bore will start within the El Paso Gas facility on the Arizona side of the river, and the receiving pit for the bore will be immediately adjacent to Interstate 10 on the California side of the river, adjacent to an existing campground and boat launch. The pipeline will be under the river at least 50 feet below the lowest part of the river. This same technique will be used for any crossings of irrigation canals and drains as the pipeline crosses the Valley. No other facilities will be constructed within the floodplain. The effects of construction on the floodplain would be minimal. In the event of a flood, a buried pipeline would not necessarily become a hazard, nor would it increase the impacts from a flood. A buried pipeline would not necessarily be an endangered feature in the event of a flood. This project will not construct any other facilities within or over the river. A very low risk of minor pollution would result from having construction equipment working in the floodplain. The bore under the river is subject to review by the U.S. Army Corps of Engineers (Corps) under Section 10 of the Rivers and Harbors Act of 1899 (33

USC 403). The Corps has indicated that it will issue a letter of permission to the applicant for the directional drilling under the river. (Ex. 53, pp. 353-354.)

The California Department of Fish and Game (CDFG) also requires a streambed alteration agreement for any borings under rivers or streams.

An increased, but not significant risk of pollution would result if the bore spilled its boring fluid into the Colorado River. Finally, an increased risk of pollution, as well as an increased risk to human health and safety, exists for any natural gas pipeline should that pipeline rupture. There is not an increased risk for this pipeline compared to any other pipeline, but the risk of rupture has to be acknowledged. The risk is not considered significant. (Ex. 53, pp. 354-355)

Several alternatives to the pipeline have been explored in the analysis of the project. One alternative would not build a new pipeline across the floodplain of the Colorado River. Instead, the applicant would build a short segment of new 16-inch pipeline approximately 0.8-mile south from the proposed plant site to an existing interstate natural gas pipeline belonging to Southern California Gas Company. All construction on this alternative would take place on the mesa above the floodplain, and would not have any impact on the floodplain. The applicant has reserved the right to delay the decision on which pipeline to build until prices for natural gas can be negotiated with the two companies. A business decision will determine which pipeline will be built once the California Energy Commission permits the project. Both alternatives are being studied as equal solutions. Several routing alternatives were explored for the pipeline alternative across the floodplain. One alternative was to place the new pipeline on the existing over-water crossing of the interstate pipeline on the Colorado River. However, it was determined that the existing crossing could not support the weight of the added 16-inch pipeline. All other alternative routes across the floodplain included a directional bore under the river, but crossed the floodplain on different routings. The proposed routing under consideration here was in

response to concerns about the number of irrigation drains the pipeline would cross. The proposed routing has the least potential impact on other features of the floodplain. (Ex. 53, p. 355.)

All construction zones will have sediment barriers to reduce erosion and prevent sedimentation in any water body. The horizontal boring under the Colorado River will conform to existing standards and regulations, as well as the conditions of the Corps permit and the streambed alteration agreement from the CDFG. The pipeline itself will conform to existing standards for pipeline construction, installation and monitoring. No additional mitigation measures are necessary. (Ex. 53, p. 355.)

2. Hydrology

There are no significant surface water bodies in the vicinity of the site. The nearest stream, the McCoy Wash, is located about 3 miles north of the project site. The Colorado River is located about 9 miles to the east of the site. There are occasional ephemeral streams evident as surface flow to the north of the site during intense storms (Ex. 1/7.13.1; Ex. 53, p. 314.).

The subsurface geology and groundwater conditions (hydrogeology) at the project site are typical for the Palo Verde Mesa. The site is underlain by the older alluvium of the Colorado River, which is the primary aquifer for the Mesa. The older alluvium is over 500 feet thick in the vicinity of the project site and is composed of sand, silt, clay and some gravel. This aquifer is hydrologically linked with the Colorado River. Wells completed within gravel lenses of the older alluvium are highly productive. Groundwater occurs at a depth of about 90 feet below ground surface (or 246 feet above mean sea level) in the vicinity of the project. It is estimated that groundwater elevations at the site were about 250 feet (mean sea level) in 1964. Based on 1964 groundwater data, the direction of groundwater flow in the project area is to the south. Aquifer properties include

confining conditions, hydraulic conductivity and storage. Although the water-bearing properties of the Mesa have been generally described, no specific information on the localized aquifer properties of the project site are currently available. Most wells on the Mesa draw water from sand layers. The project s water supply will come from groundwater wells to be constructed on the site. Project wells may also tap into highly productive gravel lenses, which only occur within a mile from the Mesa-Valley boundary. Similarly, evaluation of specific yield, the primary storage property of an unconfined aquifer, is not available for the project site. (Ex. 53, p. 315.)

The native chemical composition of groundwater in the vicinity of the project site is best described as either a sodium-sulfate or sodium-chloride water. The groundwater in the Palo Verde Mesa typically has higher Total Dissolved Solids (TDS) values than the Valley. In addition, groundwater sampling performed by the applicant indicates that groundwater in the vicinity of the proposed project wells has been contaminated with low concentrations of organic chemicals. The Blythe Airport, located west of the project site, represents a potential contamination source for the project s water supply. The airport property includes an inactive landfill that was associated with the former Blythe airbase. The landfill lies less than one mile upgradient of the proposed site. A sampling plan was agreed upon by the Commission staff and the applicant to determine the extent of groundwater contamination at the site. Most of the organic chemicals found in the sampling program were near the old mobile home site on the southeast corner of the site, the corner furthest from the landfill, although the source of the contamination was not determined. . (Ex. 53, p. 316.)

3. Project Water Supply

BEP will require water for cooling make-up, potable water, plant service water and demineralized water for the heat recovery steam generators (HRSG) and combustion turbine generator (CTG) inlet air-cooling. The project intends to use

groundwater as the primary source of water. As shown in **Soil & Water Resources Table 2**, below, replicated from Exhibit 53, p. 319, project water demand will range from approximately 2.4 million gallons per day (mgd) to 3.0 mgd. Due to high levels of evaporation, cooling tower makeup represents 95 percent of the project s water demand. Daily water consumption based upon different temperatures is shown in Soil & Water Resources Table 2. These estimates reflect cycling of the water seven times through the cooling towers. Other uses include potable and steam cycle demands. (Ex. 53, pp. 318-319.)

SOIL & WATER RESOURCES Table 2
Blythe Energy Project Daily Water Consumption

Base Load, 59°F, 7 Cycles	
Main Cooling Tower Evaporation	2,305,000 gal.
Inlet Air Chiller Cooling Water	104,000 gal.
Potable Water	1,440 gal.
Miscellaneous Losses	24,600 gal.
Total Daily Consumption	2,435,040 gal.
Base Load, 110°F, 7 Cycles	
Main Cooling Tower Evaporation	2,644,000 gal.
Inlet Air Chiller Cooling Water	367,000 gal.
Potable Water	1,440 gal.
Miscellaneous Losses	13,000 gal.
Total Daily Consumption	3,025,440 gal.

Total annual water use, based upon estimated operating parameters, is shown in **Soil & Water Resources Table 3**, below, replicated from Exhibit 53, p. 319, and consists of makeup water for the cooling system, potable water, and demineralized water as makeup for the stream system. The demineralized water will be produced using either a reverse osmosis unit in series with a mixed bed-polishing unit, or by the mixed bed polisher alone. A storage tank with a 600,000-gallon capacity for demineralized water will provide seven days of backup capacity. (Ex. 53, pp. 318-319.)

SOIL & WATER RESOURCES Table 3
Estimated Total Water Demand

Water Use	Key Assumptions	Total
Low Condition Water Use-15%	1,700 gpm @ 59°F	411 ac-ft
High Condition Water Use-32%	2,200 gpm @ 110°F	1,136 ac-ft
Average Water Use-48%	1,800 gpm @ 74°F	1,394 ac-ft
Non-Operational Periods, Annual O&M, etc.-0.05%	25 gpm	2 ac-ft
Annual Total Water Use-95%	8322 hrs.	2,943 ac-ft

Three wells will be located on the project site and will be about 550 feet deep penetrating approximately 450 feet of water bearing formation. Groundwater is currently located approximately 90 feet below ground surface at the site. The wells will have a 16 inch casing, an average specific capacity of 50 gpm/ft, with each capable of producing 2,500 gpm with a drawdown of 50 feet at the well. Each well will be able to supply the project individually, and each well will be connected to the raw water storage tank. As part of geotechnical testing, a monitoring well was installed on the project site, and will be used to provide data on groundwater level and water quality on an on-going basis. Water treatment for the cooling system make-up water will provide for control of corrosion, mineral scale, and biofouling. (Ex. 53, pp. 318-319.)

a. Well Interference Impacts

Significant well interference impacts occur when a project s pumping causes substantial and unacceptable declines in groundwater levels in existing nearby wells. Power plants are water-intensive operations when water is used for cooling. If groundwater is used for cooling, the drawdown caused by project pumping usually causes drawdown that is significantly greater than drawdown for typical land and water uses. (Ex. 53, p. 320.) There are four adverse impacts that could be caused by well interference:

1. Declines in groundwater levels in affected wells would increase the pumping lift and would correspondingly increase energy costs;

2. The productivity of affected wells would significantly decrease if the declines in groundwater levels significantly reduced the saturated interval from which the wells draw water;
3. Declines in groundwater levels in affected wells could require the lowering of well bowls to maintain efficient operation and to prevent equipment damage;
4. If the declines in groundwater levels caused the water levels in affected wells to drop below the depth of the well, the wells would go dry. Less dramatic, but with the same effect, if well interference caused groundwater levels to drop below the effective pumping depth of the nearby wells, the pumps would suck air and the wells would be unusable.

All of these potential adverse impacts could occur to wells located near the project site, especially because the aquifer in the Palo Verde Mesa is unconfined. In an unconfined aquifer, drawdown causes the aquifer to dewater within the radius of influence. Furthermore, there are no extensive clay layers to buffer shallow wells from the drawdown impact of pumping from deep production wells. (Ex. 53, p. 320.)

Applicant evaluated potential drawdown with a regional groundwater model and a second, more specific analysis of the probable magnitude of well interference to be expected, based on available data and project well specifications. These analyses were reviewed by Staff and found to be suspect. (Ex. 53, pp. 321-324.) Staff then prepared an independent analysis of well interference. Staff used the same basic equation, the Theis nonequilibrium equation, but used somewhat different input parameters. (Ex. 53, p. 324.) **Soil & Water Resources Table 7**, below, replicated from Exhibit 53, page 324, provides a summary of the results of the staff well interference analysis.

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SOIL & WATER RESOURCES Table 7
Results of Staff Well Interference Analysis
Drawdown Impact to Nearby Existing Wells (feet)

Pumping Rate (gpm)	**Average = 1,800**		**Maximum = 2,500**	
Transmissivity (gpd/ft)	64,000	290,000	64,000	290,000
Distance from Project Wells				
3,465 feet	14	4.1	19	5.7
5,280 feet	11	3.5	16	4.9
10,560 feet	6.9	2.6	9.5	3.5

Well Equation: Theis Nonequilibrium Equation
Time period = 40 years
gpm - gallons per minute
gpd/ft - gallons per day/foot

The results of staff s analysis of drawdown indicate that drawdown in nearby wells would be significantly more than the drawdown calculated by BEP. BEP analysis indicated that drawdown in the nearest wells would be less than one foot in all cases. In contrast, the staff analysis estimates that drawdown would be between 4 feet to 19 feet in the nearest well and between 2.6 feet to 9.5 feet in wells located 2 miles from the site. (*Id*.)

The significance of the impact will depend on the actual drawdown that occurs and the size and depth of the wells that are effected. Following well construction, on-site aquifer tests will be required to determine the actual drawdown in the three project wells. Existing large production wells would experience declines in groundwater levels that would increase the pumping lift and would correspondingly increase energy costs. Low capacity, shallow wells could experience declines in groundwater levels that would significantly reduce the saturated interval from which the well draws water and would decrease the productivity of the well. Well interference caused by project pumping could require the lowering of well bowls to maintain efficient operation and to prevent equipment damage in affected wells. If the declines in groundwater levels

caused the water levels in affected wells to drop below the effective pumping depth, wells would need to be deepened. (Ex. 53, p. 328.) A requirement for new aquifer tests in each new project well to determine the site-specific aquifer parameters of transmissivity and storativity and well interference in surrounding wells is contained in Conditions **Soils & Water 5 and Soils & Water 6** below.

b. Water Quality Impacts

The quality of the groundwater is affected by a high concentration of Total Dissolved Solids (TDS). In addition, the applicant has identified pre-existing low concentrations of various organic solvents in the groundwater. Through sampling of groundwater from existing wells in the vicinity of the site, the applicant has developed a profile of organic volatile chemicals, pesticides and nitrates that occur in low levels in the groundwater near the site. The constituents that were identified in the project groundwater samples that exceeded drinking water standards are listed in Exhibit 53, at page 329. The analyses included organic, volatile organic compounds, semi-volatile organic compounds, pesticides, polychlorinatedbiphenyls (PCBs), metals, and other physical and chemical parameters. (Ex. 53, pp. 328-329.)

Groundwater contaminants may produce impacts through concentration as cooling water is circulated in the cooling towers, and/or by volatilization of contaminates as they are evaporated during the cooling process. The potential impacts of concern may include air emissions resulting in worker safety issues, or exposure of downwind receptors. Applicant provided the expected emission rates of organic chemicals associated with groundwater at the power plant site[29]. Calculated groundwater release rates are below OSHA exposure levels for ethylebenzene, toluene, total zylenes, and 1,4-dichlorobenzene. Methylene chloride, styrene, and di-2-ethylhexyl-phthalate exceed the maximum daily exposure level. However, this analysis assumes that one employee is exposed

[29] See Soil and Water Table 9, in Exhibit 53, p. 331.

to all of any particular chemical released from the groundwater in his/her shift, which would be unlikely. At these organic chemical concentrations, secondary impacts such as air emissions, worker safety issues, and downwind receptor exposure do not appear to be significant. Although the current concentrations of groundwater contaminants should not cause any significant adverse impacts, the actual extent of groundwater contamination has not been assessed. Project pumping will induce groundwater gradients causing groundwater in the surrounding area to flow towards the project wells. If higher concentrations of contaminants exist in the subsurface near the project site, concentrations in the water produced by the project wells could increase. (Ex. 53, pp. 329-330.) The potential for change in the concentration of groundwater contaminants in the project water supply is addressed in Condition **Soil & Water 10**, below.

c. Wastewater Impacts

Since BEP will be using groundwater to supply the project, the quality of the water supplied to the project influences the nature of the waste stream. Substances contained in the supply water will be concentrated depending on the number of times it is cycled through the cooling system, and will result in higher concentrations of these substances in the wastewater discharged to the evaporation ponds. (Ex. 1, p. 330.)

The primary wastewater stream will be discharged from the plant s cooling and process systems, and will consist of HRSG and cooling water waste streams. A sanitary wastewater stream will be treated by an on-site septic system composed of catch basins and a leach field. The largest single wastewater stream will be blowdown from the cooling water system. This waste stream is composed of water that has been concentrated approximately seven times through recirculation in the cooling towers. Makeup water for this system will be obtained from groundwater and from water recycled from other plant processes. Chemicals will be added to the circulating water to control scaling, prevent

biofouling of the cooling tower, and to prevent corrosion of the circulating water piping and condenser tubes. Plant drains are located throughout the plant. Wastewater enters these drains from equipment washdown areas, equipment leakage drains, the CTG area, and the HRSG area. These waste streams are sent to an on-site wastewater system for eventual reuse in the cooling tower basin. Drains that collect oil or grease are handled separately through use of an oil/water separator, disposed of off-site, or recycled by a regulated facility, as appropriate. Waste from chemicals in the chemical feed area drains will either be collected on-site or disposed of off-site, depending on the nature of the waste. These drains will be separated from other drains. Wastewater will be routed to a neutralization facility for pH adjustment, and then to the treatment facility for eventual reuse in the cooling tower basin. (Ex. 53, p. 333.)

Other waste streams include the inlet cooler blowdown, which will be subject to 7-10 concentration cycles, cycle makeup treatment wastes, and HRSG blowdown, which will contain dissolved solids and salts. Reject water from the reverse osmosis (RO) unit will also contain dissolved salts at a concentration approximately four times that of chiller cooling water, along with some RO membrane treatment chemicals. Water for reuse in the plant will be recovered from this waste stream through the use of an evaporator. At the point where no additional water can be recovered with the evaporator, the concentrated brine will be discharged to the evaporation ponds. The project s wastewater discharge to the evaporation ponds requires Waste Discharge Requirements (WDRs) from the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB), as required by Title 27 of the California Code of Regulations. BEP has applied for WDRs by filing a Report of Waste Discharge (ROWD) with the CRBRWQCB. Each of the two ponds will be eight acres in size, which will allow for one pond to be taken out of service for removal of accumulated sludge, with the sludge being disposed of offsite at a solid waste disposal facility. These ponds will receive a waste stream from the evaporator of approximately 4 gallons per minute. Each pond will have two cells, and the applicant s analysis indicates that this acreage

will be adequate for both the plant wastewater flow and rainfall falling directly into the ponds. These ponds will have the following characteristics and sufficient depth to allow for:

- Storage of the entire salt production for a period of 30 years plus 50 percent.
- Water level variations throughout the year due to changes in plant inflow, rainfall, and evaporation rates.
- Increases in water level when the evaporation rate is 90 percent of the mean evaporation rate for two successive years.
- Increases in inflow for a minimum period of two weeks should the brine concentrator and reverse osmosis equipment become inoperative.
- Increases in the water level during pond maintenance, which assumes one cell will need maintenance for a period of two months.
- Increases in water level in the case of a 100-year rainfall event on top of the maximum water level resulting from water level variations.
- Freeboard above the maximum water level to provide the greater of 24 inches or the height of the wind wave run-up plus 12 inches.

Two liners will be used, with a leak detection and removal system installed between the liners, and a 12-inch clay or similar material at the base. The outer and inner layers will be covered with high-density polyethylene (HDPE) geomembrane material. The pond influent system will be designed so that each cell can operate independently should a shutdown for maintenance reasons be necessary. (Ex. 53, pp. 333-334.)

Requirements will include monitoring of:

- Evaporation wastewater basin.
- Evaporation sludge.
- Groundwater.
- Leachate collection and recovery system.
- Vadose zone.

The proposed location of groundwater and vadose zone monitoring sites are shown in the ROWD. The ROWD also discusses the type and frequency of sampling, and the constituents analyzed for each type of sample. Sample

collection, storage, and analysis will be performed by State approved labs in accordance with U.S. EPA approved methods or by using the most recent edition of Standard Methods for the Examination of Water and Wastewater. The CRBRWQCB will approve all alternative methods of analysis. (Ex. 53, p. 334.)

d. Cumulative Impacts

Due to the direct hydrologic connection between groundwater and the river, the Bureau of Reclamation considers groundwater in excess of certain depths in the Mesa area to be Colorado River water. Staff and the Applicant agree that the groundwater the project plans to use is primarily derived from the Colorado River through the Colorado River aquifer. Although the impacts from the project on the regional water supply will be relatively small, water from the Colorado River has been fully allocated. For this reason, the cumulative impact of the project water use with regard to regional water management must be discussed. (Ex. 53, p. 335.)

Given the hydraulic connection between the aquifer beneath the Mesa, the aquifer beneath the Palo Verde Valley and the Colorado River, the proposed project pumping will draw on the regional groundwater supply. Project pumping represents one more demand on the cumulative water demand within the Colorado River Basin. In addition, project pumping will have a negative effect on the recovery of the groundwater levels in the Palo Verde Mesa. Groundwater levels in the Palo Verde Mesa declined significantly as a result of groundwater development in the Mesa during the 1970s and 1980s. (Ex. 1, / 7.13.1.4.) Although most of this irrigation was abandoned in the early 1990s, groundwater levels in the Mesa have not fully recovered. Groundwater pumping by the proposed project would induce drawdown in the Mesa and add to the cumulative impact of other existing pumping on the Mesa, both past and present. (Ex. 1, / 7.13.1.4; Ex. 53, pp. 335-336.)

Cooling System Alternatives and SWRCB Policy 75-58

In the Applicant s view, the selected method of cooling relies on use of brackish water from on-site wells, making further discussion of SWRCB Policy 75-58 unnecesssary. Applicant s analysis concluded that use of this water does not result in adverse environmental impacts nor is it inconsistent with State Water Board Policy 75-58. Dry cooling and wet-dry cooling were therefore rejected by Applicant as unnecessary, not cost-effective, and potentially raising other environmental issues such as noise and visual resources. (Ex. 2,p. 7.)

Staff, on the other hand, did not conclude that the water to be used is brackish (Ex. 53, p. 342) and therefore presented an analysis of SWRCB Policy 75-58. SWRCB Policy 75-58 provides, in relevant part, that power plant cooling water should come from the following sources in order of priority:

1. Wastewater being discharged to the ocean.
2. Ocean water.
3. Brackish water from natural sources or irrigation returns flow.
4. Inland wastewaters of low total dissolved solids.
5. Other inland waters.

Clearly, the first two sources listed are not reasonable options for the proposed project. Nor do irrigation return flows appear to represent a reliable or sufficient water source, since they are accounted for as return flows to the Colorado River by the Palo Verde Irrigation District (PVID) and the USBR. Wastewater treatment effluent is also likely not available in sufficient quantities, and appears to be included as return flows to the Colorado River by the PVID. Furthermore, this water would need to be treated to tertiary levels before use as cooling tower make-up. The groundwater the project intends to use is relatively high in total dissolved solids, but Staff declined to determine it to be brackish. Neither Staff nor any other party presented any other natural sources of brackish water within the area, nor any evidence of other wastewater streams in the project vicinity that

are sufficient in volume for project use. Staff concluded that sources of inland water within the project vicinity other than the proposed groundwater are limited to surface water flows resulting from the diversion of Colorado River water, which could likely have greater environmental impacts than the proposed source, thereby effectively reaching the same conclusion as Applicant. (Ex. 53, p. 342.)

Staff continued its analysis of SWRCB Policy 75-58 by considering the alternatives of dry and wet/dry cooling. Cooling towers reject heat from a power plant s steam cycle to condense the steam exiting the steam turbine and to maintain the lowest possible condenser vacuum. The heat rejection mechanism in wet cooling towers is primarily the evaporation of water to the atmosphere. Dry cooling towers transfer heat consecutively through heat exchangers, while wet/dry hybrid cooling towers use combinations of the two mechanisms to reject heat to the atmosphere. Cooling towers use a forced or induced draft method to move ambient air through the tower. The ambient air temperature, humidity, velocity, and mass flow rate affect the heat transfer rate and, ultimately, the efficiency of the cooling tower. The cooling tower heat rejection efficiency and pump and fan loading affect the overall power plant thermal efficiency and output. (Ex. 53, p. 342.)

The fundamental differences between wet, wet/dry hybrid, and dry cooling towers are initial capital costs and heat rejection effectiveness. Dry cooling towers are two to three times more expensive than a wet system. Hybrid systems fall in the range between the two, depending upon the ratio of wet to dry cooling in the hybrid design. In general, the cost differences are due to the dry condenser, or heat exchanger, and taller and larger structures for dry and hybrid cooling systems. Despite the significant cost differences, dry and hybrid cooling systems are occasionally employed because they use less water and reduce the occurrence of visible plumes compared to wet systems. For the Sutter Power Project (97-AFC-2), a combined cycle project, the Applicant s voluntary switch from conventional wet cooling towers to dry cooling represented a 95 percent

reduction in project water demand. For wet/dry hybrid systems, the reduction in water use is dependent upon the percentage of dry versus wet cooling. For certain applications, the wet/dry cooling systems may also be parallel in configuration, in which case the wet and dry systems are separate, with each being independently capable of cooling the plant. (Ex. 53, pp. 342-343.)

Dry and hybrid cooling systems are, however, less efficient in rejecting heat, generally have higher parasitic (fan) electrical loads, and can create a higher pressure (temperature) in the steam turbine condenser. Both of these factors decrease the thermal efficiency and power output of the project. The effects are not as significant on a combined cycle project as compared to a steam-cycle only project, in that the cooling system only affects the steam side of the combined cycle project and not the performance of the gas turbine. The effect would be greater at higher ambient temperatures because the relationship is non-linear. Additional fuel can be burned to overcome some or all of the loss of output, but the fuel will be an additional operating cost and will produce additional air pollutant emissions. Other characteristics include, for example, higher noise impacts for dry or hybrid cooling systems relative to a wet system due to larger fans to move more ambient air through the tower. (Ex. 53, p. 343.)

A comparison of dry, hybrid, and wet cooling towers ultimately depends on the specific needs of the proposed application. Dry and hybrid-cooling systems provide benefits in the areas of water use, plume visibility, and wastewater discharges, but with some performance degradation and additional costs. Additionally, dry and hybrid cooling can be noisier, use additional fuel, and have a more visually obtrusive structure. If the SWRCB policy is applicable, use of fresh inland waters for power plant cooling will be approved only when it is demonstrated that the use of other methods of cooling are environmentally undesirable or economically unsound. Based upon the use of dry cooling by other existing and proposed power plants here in California and elsewhere, the use of dry cooling or wet/dry cooling is technologically feasible. (*Id*.)

Dry cooling estimates were submitted by the Applicant for water usage/wastewater discharge, allowing direct comparison of the wastewater handling impact between the various cooling options using the same technologies. The capital cost of the dry cooling system and related equipment is about twice the capital cost of the wet cooling system. Operation and maintenance costs of the dry cooling system were only slightly lower than the other options. The Total Capital cost was $15.4 M for wet cooling, $20.7 M for wet/dry, and $30.2 M for dry cooling. (Ex. 53, pp. 343-344.)

Using inlet air cooling, the net plant output is reduced by approximately 21 MW at 110°F and by 13 Mw at 74°F when using air cooled condensers (dry cooling). Water usage/wastewater discharge (gallons per minute) was 2,101gpm/7gpm for wet cooling, 1,820gpm/6gpm for wet/dry hybrid, and 139gpm/2 gpm for dry cooling. (Ex. 53, p. 344.)

4. Mitigation

The applicant has concluded that all impacts related to erosion and sedimentation, to well interference, to groundwater contamination, and to drainage are insignificant or would be avoided with the implementation of the construction and operation procedures that BEP has proposed. To address cumulative regional water supply impacts, the applicant has proposed a Water Conservation Offset Program (WCOP) with the PVID. To address potential wastewater impacts, the plant will be configured for zero discharge. (Ex. 53, p. 336.)

Staff s position is that the WCOP was developed and coordinated with both the PVID and the USBR, and is intended to conserve the same amount of water (3,000 acre-feet/year) that the project will consume. The project is within PVID s boundaries for Tier 3 lands, and is entirely within the USBR s accounting surface

zone. This water will be accounted for by PVID and the USBR as Colorado River water, and water that is below the accounting surface will be accounted for against PVID s water right entitlement. The PVID water rights for Colorado River water is not for a discrete quantitative amount, but rather for all water required to supply reasonable and beneficial needs on a gross area of 120,500 acres (104,500 acres of Priority 1 lands in the Palo Verde Valley and 16,000 acres of Priority 3 lands on the Palo Verde Mesa). The PVID, Yuma Project, and Imperial Irrigation District/Coachella Valley Water District have the first three priorities to Colorado River water in the amount of 3.85 MAF. (Ex. 53, p. 336.)

According to the Bureau of Reclamation and the Palo Verde Irrigation District the proposed WCOP does satisfy the requirements of the PVID and USBR concerning LORS issues related to the USBR s accounting for the use of Colorado River water. Authorized use of Colorado River water requires either a contract with the USBR or an agreement with a contractor of the USBR. Specifically, the USBR considers that the water used by the BEP under the WCOP will be accounted for under the PVID s entitlement to Colorado River water. (Ex. 53, p. 337.)

The USBR has stated that an entitlement consistent with the existing Law of the River is required for any water pumped from wells that will be replaced by Colorado River water. An offset program like that envisioned for this project will satisfy that requirement as long as the lands involved are within the PVID, the water use is included as part of the PVID s reported consumptive use to Reclamation, and the consumptive use is consistent with the California priority system for the use of Colorado River Water. The July 17, 2000 proposal: Water Conservation Offset Program for the Blythe Energy Project , meets these criteria. (Ex. 53, p. 337.) Based on this USBR statement, staff concluded that the WCOP is a requirement for authorized use of Colorado River water by BEP for its power plant operational needs. (Ex. 53, p. 337.)

The USBR is currently in the process of developing a policy to regulate unauthorized diversions of Colorado River water, and the accounting surface model is the method that will probably be used for this purpose, presumably within the operational lifetime of the BEP (Ex. 53, p. 337.).

The BEP is located within the Tier 3 lands of the PVID, which includes a total of 16,000 acres on the lower Palo Verde Mesa and for which the PVID has rights to divert surface water. The WCOP has been designed to mitigate the 3,000 ac-ft./year water use of the project. The principal components of the WCOP are:

- The Blythe Energy Project will construct up to three wells on-site to develop the required pumping capacity and redundant systems needed for the project. The wells will pump groundwater from beneath the project site, and will be equipped with continuously recording meters to maintain accurate and complete records of the volume of water pumped.
- The Blythe Energy Project will acquire lands and/or irrigation rights of Tier 3 mesa lands designated for irrigated agricultural use through purchase or lease. These irrigation rights will be retired for the life of the power plant project. Alternatively, if adequate Tier 3 lands are not available, lands and/or irrigation rights of PVID Tier 1 lands will be acquired and retired. At the Board s direction, if Tier 1 are to be utilized, the land may be fallowed on a seasonal rotational basis to offset the volume of water pumped for use at the power plant, so that 50 percent of the land will always remain in agricultural use. This is PVID s preferred alternative.
- A consumptive water use volume of 4.6 acre-feet per acre will be used as stipulated by PVID as the basis of accounting for the Program. This consumptive use fraction has been previously used in two water transfers approved by the PVID Board.
- The acreage of land retired from irrigation will be documented in an annual submittal from the power plant operator to the PVID. If the option for rotational fallowing of Tier 1 lands is exercised, the report will identify the fallowed lands, times of fallowing, and lease agreements for continued farm use of the non-fallowed 50 percent of lands.
- The water balance for this project is completely inter-district (sic); no lands or water outside of the existing PVID boundaries are involved, and no surface water will be physically re-routed from its present use at one site to a new use at another site.
- The Offset Program includes a reliable method of verification for both groundwater use at the Mesa, and for conservation offset of an equivalent amount of Tier 3 (or Tier 1) surface water entitlement that could have

> otherwise been diverted under the District s Tier 3 (or Tier 1) entitlement. PVID s Tier 3 entitlement for the acreage designated pursuant to this program will be retired for the life of the Blythe Energy Project. (Ex. 53, pp. 337-338.)

The WCOP appears to meet the requirements of the USBR for accounting for Colorado River water, and the WCOP would provide for authorized use of this water by BEP. Such use would not reduce either the PVID s current entitlement, or that of the water right holders subordinate to the PVID.

The Applicant has proposed to address the issues of regional groundwater supply impacts with the WCOP. BEP has concluded that there will be no net cumulative impact on the regional water supply with the implementation of the proposed WCOP. Staff asserts that the WCOP does not provide adequate detail on the criteria used for the selection of agricultural lands to be included in the program, thus precluding evaluation of the cumulative impacts of water use over the life of the project. Although Staff concluded that the WCOP does not mitigate the project s localized impact on groundwater level declines and recovery in the Palo Verde Mesa area, it presumably could mitigate the net effect on water consumption on a regional basis if properly designed and implemented. (Ex. 53, pp. 338-339.)

Applicant, on the other hand, asserts that it has supplied all information Staff needs to make conclusions regarding resolution of Colorado River issues pertaining to the WCOP, relying upon the fact that both the Bureau of Reclamation (Bureau) and Palo Verde Irrigation District (PVID) have affirmed the adequacy of the WCOP to address water concerns relative to Colorado River accounting and protection of PVID s entitlement. (Ex.2, p. 56.) In addition, Blythe Energy, LLC has now completed an agreement with the City of Blythe for retirement of irrigation rights to previously irrigated lands subject to the City s control in the vicinity of the Blythe Airport. In Applicant s opinion, the completion of this agreement fulfills requirements of the WCOP as stipulated by the Bureau

of Reclamation and PVID, and should resolve staff concerns regarding both water and land use issues. (Ex.2, pp. 56-57.)

Applicant asserts that the Bureau of Reclamation has sole jurisdiction over Colorado River water use in this region, and together with PVID, they are the agencies responsible for making the determination as to whether the WCOP is capable of providing conservation of the same amount of water as the Blythe Energy Project will consume. The Water Conservation Offset Program was developed in close coordination with both agencies. The Bureau has reviewed the Final WCOP and determined that it does satisfy all of their criteria for accounting for project water use. PVID stipulated the consumptive use volume (4.6 acre-feet per acre) required to satisfy their criteria that all project water use be offset. On these bases, Applicant believes there is conclusive evidence in the record that this question has been reviewed by the agencies with legal jurisdiction and expertise. Both agencies have determined that the WCOP complies with existing and potential future LORS. (Ex. 2, p. 57.) Staff disagrees with this contention. (See Ex. 54, Supplemental Testimony of Richard Sapudar, p.1.)

Staff asserts that the lands to be included in the LTIRA have been out of production for 20 years and there will, therefore be no actual conservation. (Ex. 54, Supplemental Testimony of Richard Sapudar, p.2.) Applicant disagrees and points to the following to make its point.

Applicant has added additional land selection criteria, that were developed in response to CEC concerns on the topic of **Land Use**. They include:

- Avoid lands subject to Williamson Act contracts, or abide by terms of Williamson Act contract
- No lands subject to water intensive urban growth
- No lands in active irrigated agricultural use (Ex. 2, p. 58. Emphasis added)

Applicant asserts that the LTIRA for City controlled lands at the Blythe Airport meet all of the criteria. They are:

a. Within PVID, Priority 3 lands on Mesa

b. Previously irrigated lands, using center pivot irrigation between about mid- to late-1970s and early 1990s. Crops included asparagus, alfalfa, and possibly jojoba.

c. As noted by City (intro to Agreement) and Riverside County (Letter from Assistant County Executive Officer November 7, 2000), selected lands would be expected to return to irrigated agricultural use under favorable economic conditions.

d. Retires 652.66 acres (Agreement, Section 1.3) to cover maximum 3,000 AF annual water use.

e. Includes long term land use restrictions to prohibit subsequent agricultural use or other water intensive uses that rely upon Mesa groundwater for life of power plant project.

f. The lands are not subject to any Williamson Act contracts.

g. The lands are not currently in crop production, avoiding potential farm land impacts as raised by CEC land use staff.

In addition, as noted by Applicant, the Bureau of Reclamation does not presently exert jurisdiction over groundwater use, and does not control any area wells or account for groundwater use in the Palo Verde Valley or Mesa. (Ex. 2, p.61.) The Bureau of Reclamation, in conjunction with the USGS, has developed a model, referred to as the Accounting Surface, in an attempt to determine the relationship of regional groundwater to surface water in the lower Colorado River Basin. This model is the basis on which the Bureau s future policy is being formulated, and they have been working with PVID and other water users on the river for more than a decade on this policy, without resolution. The Bureau believes they are within about two years of actually developing a policy whereby they would regulate groundwater users relative to the surface water. In simple terms, the Accounting Surface model defines a linkage between groundwater in the regional aquifer and surface water in the Colorado River. On that basis,

withdrawals from the regional aquifer would be accounted for as part of the surface water entitlements. Since groundwater pumping for the Blythe Energy Project will take place within the Accounting Surface as defined by the Bureau, the Bureau has determined that this use of water may be accounted for in the future as a part of PVID s Priority 3 surface water entitlement. For that reason, and to ensure that the power plant project does not impact PVID, BEP has voluntarily agreed to enter into the Water Conservation Offset Program. (Ex, 2, p. 62.)

The Bureau does not currently account for other wells on the Mesa or anywhere in the Palo Verde Valley in this fashion, or any other groundwater activity for any use, but has indicated that it may regulate this groundwater in the future, and is developing policy to that end. The Bureau also has no jurisdiction over PVID water use practices or conservation actions. In addition, PVID has no policy to govern groundwater use, and at present does not regulate any groundwater user, or actively account for groundwater use as a part of its Priority 3 entitlement.

In spite of the extended disagreement between Staff and Applicant, Staff did not determine a significant adverse impact related to the WCOP and water resources that required mitigation. (Ex. 54, Supplemental Testimony of Richard Sapudar, p.2.) The project s water use of 3000 acre-feet/year amounts to 0.06 percent of the 5,362,000 acre-feet/year consumptive water use by those agencies included in the Seven Party Agreement, and only 0.08 percent of the 3,850,000 acre-feet/year consumptive water use for the PVID, Yuma Project, Imperial Irrigation District, Coachella Valley Water District, and the Metropolitan Water District. (*Id*.) Staff recognized, and Blythe experts agreed, that the BEP WCOP and water use will not result in significant adverse impacts as it applies regionally and to the Colorado River. (11/27 RT pp. 110-111.)

COMMISSION DISCUSSION

Based upon the above criteria, reasonable alternative sources of water for project cooling are not available or of sufficient quantities. Furthermore, the use of alternative cooling technologies would cost more than the proposed use of wet cooling. Therefore, we conclude that the project complies with SWRCB Policy 75-58, whether it applies or not.

It is important to note that BEP is not using fresh water for cooling purposes in its strictest sense. The quality of the groundwater to be used is very poor as it is high in total Dissolved Solids (TDS). Applicant recognizes this and listed the poor water quality as one of the reasons the project site was selected. Staff also found the quality to be poor, although they declined to use the word brackish. The appropriate inquiry on this project is not whether applicant *could* use an alternative cooling technology, but rather whether it *must*. The use of a dry or hybrid wet/dry cooling system at BEP is technically feasible but is not necessary to reduce any direct, indirect, or cumulative environmental impacts to below a level of significance. SWRCB policy 75-58 is not a prohibition on the use of inland waters but rather direction on consideration of cooling alternatives, particularly when projects have the potential to cause a significant adverse impact. After review of alternative cooling technologies and their associated costs and benefits, and consideration of the lack of any potentially significant adverse impacts associated with BEP s proposed use of resources, we conclude that the water supply as proposed by the applicant is acceptable.

The Commission continues to be concerned over the use of fresh water, a scarce resource in California, for power plant cooling purposes. The poor quality of the groundwater BEP will be using mitigates some of the concerns on this issue for this particular project. We note that the Commission s Energy Facility Siting and Environmental Committee is currently holding hearings on power plant siting constraints in California. One of the topics covered to date is the availability and

use of water. The Commission intends to examine this issue further with the intention of providing clearer policy guidance to prospective applicants in the future.

The need for a Water Conservation Offset Program is not driven by a finding of adverse environmental impact, or need to mitigate under existing LORS. Therefore, the WCOP, in this case, is sufficient to satisfy the Commission s concerns.

Staff and Applicant are at odds over the mitigation for well interference. Staff s position is well documented in Exhibit 53, pages 339-340 and proposed Condition **Soils and Water 7** at pages 348-349 (as modified by its Opening Brief at pages 1-4, and in its argument in its Reply Brief at pages 8-11) and need not be iterated here. In general, Staff proposes mitigation before impact, based on projected or estimated interference impacts from the analysis of site-specific well tests to be conducted for all well owners within a two-mile (or possibly larger) radius. (Staff Opening Brief, pp. 1-4)

Applicant, on the other hand, while agreeing with the *purpose* of Staff s proposed condition (Applicant Reply Brief, page 10), has its own proposed condition that differs significantly from Staff s. Applicant s proposal is set forth in their Opening Brief at pages 17-18 and also need not be iterated here.

As Staff notes, Applicant s proposal only deals with *residential* wells, not commercial or agricultural ones. Staff objects to the use of the word reimburse in Applicant s proposal instead of pay and has other valid concerns as set forth in its Reply Brief. While these concerns are valid and deserving of consideration, we, on the whole, prefer Applicant s proposal. It can, however, be improved by adding/revising language to satisfy Staff s expressed concerns. We have made those revisions, as reflected in **Soil and Water 7**, below. This principal change is to include all types of wells in the mitigation condition as set forth. We also agree

that the individual well owners should be able to hire a contractor of their choice. Staff s concern that the discretion given the CPM to waive the well bowl lowering requirement lacks criteria, while commendable, is not cause for requiring the listing of the suggested criteria. Inherent in the exercise of the CPM s discretion is the ability to posit that discretion on whatever criteria he/she deems applicable at the time it is exercised.

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following findings and conclusions:

1. Project construction will result in soil erosion, generation of dust, soil compaction, without loss of soil productivity.
2. BEP s draft Erosion Control and Storm Water Management Plan contains best management practices that will mitigate potential impacts from erosion and runoff associated with project construction and operation.
3. BEP will implement a Storm Water Pollution Prevention Plan to ensure that hazardous materials will not be transported off-site by storm water.
4. BEP will use groundwater as the primary source of water.
5. BEP water use will range from approximately 2.4 million gallons per day (mgd) to 3.0 mgd.
6. The use of a dry or hybrid wet/dry cooling system at BEP is technically feasible but is not necessary to reduce any direct, indirect, or cumulative environmental impacts to below a level of significance.
7. All well interference of surrounding wells will be mitigated to a level of insignificance.

The Committee concludes, therefore, that construction and operation of BEP will not cause any significant or cumulative adverse impacts to soil and water resources. Implementation of the Conditions of Certification, listed below, ensures that the project will conform with all applicable laws, ordinances, regulations, and standards related to soil and water resources as identified in the pertinent portions of **APPENDIX A** in this Decision.

CONDITIONS OF CERTIFICATION

SOILS & 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.

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.

SOILS & 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.

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.

SOILS & 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.

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.

SOILS AND WATER 4: The project owner will record on a monthly basis the amount of groundwater pumped by the project. This information will be supplied to the Energy Commission, the Palo Verde Irrigation District, and the United States Bureau of Reclamation.

Verification: The project owner will submit a groundwater use summary to both the CPM and the PVID on an annual basis for the life of the project. The annual summary will include the monthly range, monthly average, and total groundwater use by the project in both gallons-per-minute and acre-feet. For subsequent years the annual summary will also include the yearly range and yearly average groundwater use by the project. This same information will be provided to both the PVID and the Lower Colorado Regional Office of the USBR. Any significant changes in the water supply needs for the project during construction or operation of the plant, will be noticed in writing to the CPM at least 90 days prior to the effective date of the proposed change.

SOIL & WATER 5: The project owner shall conduct aquifer tests in each new project well to determine the site-specific aquifer parameters of transmissivity and storativity. Each well shall be tested separately, using one of the other new wells or one of the existing BEP monitoring wells and available local wells as observation wells. The test period shall be long enough to produce stable, measurable drawdown in the observation wells.

Verification: The project owner shall submit a report describing the aquifer test to the CEC CPM and Colorado River Basin RWQCB 30 days prior to the startup of project operations. The report shall include a description of the results of the test, the test procedure, the raw data, and the calculation of aquifer parameters.

SOIL & WATER 6: The project owner shall recalculate the well interference impacts for existing wells within a 2-mile radius of the project. The analysis shall use the new aquifer parameter values developed from the aquifer testing of the new project wells and shall evaluate drawdown impacts for the following 2 conditions:

- the anticipated average project pumping rate for a 40-year period, and
- the anticipated maximum project pumping rate for a 4-month period.

Verification: The project owner shall submit a report to the CPM thirty (30) days prior to the startup of project operations that describes the calculation of well interference. The description shall include a listing of all the parameters used, the calculation method, and the location and distance of impacted wells relative to the project wells.

SOIL & WATER 7: The project owner shall pay or reimburse all well owners (at the affected well owner s option) if the well interference analysis performed in accordance with **SOIL & WATER 6** predicts that the static water level of the well will experience a maximum calculated decline of 5 feet or more during the life of the project. The pay or reimbursement shall include the increase in energy costs associated with the corresponding increase in pump lift from the predicted decline in well water level due to the project s pumping for years in which the well experiences a predicted 5-foot or greater decline in well water level. The project owner shall pay or reimburse the well owner an amount equal to the customary

local cost of lowering the well owner s pump setting an amount equal to the predicted maximum decline in well water level, unless the project owner can demonstrate to the satisfaction of the CPM that the pump setting is sufficiently deep in the saturated zone and lowering is unnecessary. In the event the pump setting is required to be lowered, and this procedure cannot be accomplished without deepening the well, the project owner shall pay or reimburse the well owner an amount equal to the customary local cost of deepening the well. If the well cannot be deepened, the project owner shall pay or reimburse the well owner an amount equal to the customary local cost of installation of a new well.

In addition to the above, the project owner shall pay or reimburse the well owner an amount equal to the customary local cost to either deepen or install a new well for the community of Mesa Verde if the BEP project s pumping is predicted in accordance with **SOIL & WATER 6** to reduce the ability of the existing Mesa Verde well to provide an equivalent volume of water per day. Reduce the ability, as used in the preceding sentence shall mean that mitigation as set forth herein is required if the Mesa Verde well is operating at 90% capacity, or greater, and if the well will experience a 5-foot decline as a result of the project. Alternatively, the project owner shall provide to the Mesa Verde Community Services District an amount of money equal to the costs of either deepening the existing well or installation of a new well if the District makes such a request.

Protocol: The project owner shall notify all residential well owners whose wells are predicted to experience an average calculated decline of 5 feet or greater.

The increase in energy costs shall be calculated in accordance with the following formula:

$$\text{KWhr/yr} = \frac{(\text{Gallons pumped/yr}) \times H^{30}}{162{,}162^{31}}$$

Lump sum payment = KWhr/yr x existing cost/KWhr x (number of years of impact) x (electricity inflation rate factor [32]) x (net present value discount rate factor [33])

Verification: Within one month after the submission of the well interference report required by **SOIL & WATER 6**, the project owner shall submit to the CPM for review at least 90 days prior to production pumping a list of all owners of all wells with predicted average well water decline of 5 feet or more, if any, and proof the well owners have been contacted. At least 30 days prior to production pumping, the project owner shall submit to the CPM a compliance report describing compensation for lift related to additional energy costs or pump lowering as well as any well modifications undertaken to comply with the provisions of this condition to the CPM for review and approval.

SOIL & WATER 8: The project owner shall measure groundwater levels in the on-site monitoring well on a monthly basis for the first six months following the project start up and thereafter on a quarterly basis.

Verification: The project owner shall submit a quarterly report of the groundwater level monitoring to the CEC CPM on a quarterly basis.

SOILS & WATER 9: The Applicant will obtain a final Waste Discharge Requirement (WDRs) issued by the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB) for the project s wastewater discharge.

Verification: The Applicant will obtain and provide a copy of final WDRs issued by the CRBRWQCB for the project s wastewater discharge to the

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[30] Change in liquid head in feet

[31] This formula was derived from combining the following two formulas

$$\text{KW input to motor} = \frac{\text{pump bhp} \times 0.7457}{\text{motor efficiency}}$$

$$\text{pump bhp} = \frac{\text{gpm} \times H(\text{in feet}) \times \text{sp. gr.}}{3960 \times \text{pump efficiency}}$$

where: bhp = brake horsepower
gpm = gallons per minute
sp. gr. = specific density (for water this is 1)
H = liquid head
Typical pump efficiency = 60%
Typical motor efficiency = 85%

[32] Recommended electricity inflation rate at 3%

[33] Recommended discount rate at 9%

evaporation ponds to the CPM at least sixty (60) days prior to the evaporation ponds receiving any wastewater discharge. Any change to the design, construction, or operation of the ponds permitted by the WDRs will be noticed in writing to both the CPM and the CRBRWQCB during both construction and/or operation. The project owner will notify the Energy Commission in writing of any changes to the WDRs that are instituted by either the project owner or the CRBRWQCB, including WDRs permit renewal. The project owner will provide the CPM with the annual monitoring report summary required by the WDRs, and will fully explain any violations, exceedances, enforcement actions, or corrective actions.

SOILS & WATER 10: The Applicant will provide the results of an annual analysis of groundwater from the northeast and southeast monitoring wells (as identified in the BEP response to Staff Data Request 212), and from at least one of the wells constructed to supply the project with groundwater. The analytes will include the volatile and semi-volatile organic compounds reported in the response to Staff Data Request 212.

If there is a significant increase in the concentration of groundwater contaminants, the need for additional pretreatment of water will be reassessed. The need for pretreatment of groundwater prior to use by the project would be based on incompatibility with the WDRs, exceedances of air emissions standards, worker safety standards, or standards of exposure of downwind receptors.

Verification: The results of the required analyses will be provided to the CPM in a summary format similar to that of the Applicant s response to Staff Data Request Attachment 212B, on an annual basis beginning after one year of operation on the anniversary date the BEP begins operation and continuing for a total of 5-years. The need for additional pretreatment of water will be assessed on an ongoing basis. The need for continued monitoring will be reassessed at the end of the 5-year period.

SOILS & WATER 11: The Applicant will submit a workplan that discusses in detail all activities related to the placement of the natural gas pipeline underneath the Colorado River. This workplan will identify all principal materials, methods, and equipment that will be used for the pipeline project, and will address contingencies for both preventing and responding to the accidental penetration of the channel bottom and release of drilling fluids or muds, to include bentonite clay, into the water column of the Colorado River. The workplan will also identify and demonstrate compliance with all LORS associated with the pipeline project, to include Section 10 of the Rivers and Harbors Act, Sections 402 and 404 of the Clean Water Act (if applicable) administered by the U.S. Army Corps of Engineers, Section 401 of the Clean Water Act Water Quality Certification (if applicable) administered by the CRBRWQCB, and California Fish and Game Code Division 2, Chapter 6, Sections 1600, 1607, and Section 1603 Streambed

Alteration Agreement (if applicable) administered by the California Department of Fish and Game.

Verification: The pipeline construction workplan will be submitted to the CEC CPM and all other agencies issuing permits for the project at least 90 days prior to the start of construction activities. The workplan will contain copies of all final draft or final permits required for the pipeline project, and the Applicant will adhere to all conditions specified in these permits. Particular attention will be given to avoiding the release of bentonite clay into the water column of the Colorado River resulting from penetration of the channel bottom during the boring operation. The Applicant will provide a summary report of the pipeline construction operation that details and explains any activities, events, or incidents that deviate from those described in the workplan. The summary report will be sent to the CEC CPM, and all other agencies issuing permits for the project within thirty (30) days after completion of the pipeline construction project, and prior to the start of plant operations.

C. CULTURAL RESOURCES

Cultural resource materials such as artifacts, structures, or land modifications reflect the history of human development. Certain places that are important to Native Americans or local national/ethnic groups are also considered valuable cultural resources. This topic analyzes the structural and cultural evidence of human development in the project vicinity where cultural resources could be disturbed by project excavation and construction. Federal and state laws require a project developer, such as BEP, to implement mitigation measures that minimize adverse impacts to *significant* cultural resources.[34]

SUMMARY AND DISCUSSION OF THE EVIDENCE

Cultural resources are fundamental to understanding human history and heritage. Evidence of California s early inhabitants is becoming increasingly vulnerable due to the ongoing development, industrialization, and urbanization of the state. Cultural resources may be visible on the ground or deeply buried as a result of sedimentation or subsequent uses of the land. These resources provide information about human history and the patterns of human adaptation to environmental change. (Ex. 53, p. 119.)

1. Methodology

To determine whether cultural resources exist in the project vicinity, Applicant, through Tierra Environmental Services, conducted research that included a records search, literature review, and field surveys in the area subject to potential impacts (APE): the entire project site and its surroundings and all linear facility

[34] Potential impacts are considered only for those cultural resources that are deemed significant or important under criteria established by federal and state laws and regulations. If a cultural resource is determined to be eligible for or listed on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), then the resource is deemed

alignments. (Ex 53, pp. 129-130.) Three aspects of cultural resources were addressed in this research: prehistoric archaeological resources, historic archaeological resources and ethnographic resources. (Ex. 53. p. 119.)

Applicant initially reviewed cultural resource data housed at the Eastern Information Center (EIC) located at the University of California, Riverside, the Arizona State Museum at the University of Arizona (ASM), and the Department of Anthropology of Arizona State University (ASU). The EIC records search indicated that three cultural resources inventories have been conducted within portions of the project area, but no sites had been recorded. The EIC records indicated three other surveys and one cultural resource site were known within one mile of the project. The ASM records search identified four surveys and nine sites within one mile of the Arizona portion of the project. (Ex. 53, p. 129.) The single prehistoric site in the vicinity of the California portion of the project area was recorded as a light, dispersed scatter of potsherds and lithic flake materials within a 75 meter square area. The lithic materials included one scraper and quartzite, chert and chalcedony flakes. The sherds included one rim, represented at least three vessels, and appeared to be the Salton Brown variety of Tizon Brown Ware. The nine sites in the vicinity of the Arizona portion of the project are located on the terraces and washes outside the Colorado River flood plain. Sites include ceramics scatters, quarries, what appears to be a habitation site, rock features, and a historic refuse site. None are near the project location (*Ibid.*)

Applicant s walking surveys of the project site and linear facilities revealed four historic sites and three isolated prehistoric artifacts. An additional historic site was recorded outside the property boundaries. The four historic sites were small refuse scatters or dumps, dating before 1950. The site outside the property boundaries is a large historic refuse deposit associated with the World War II

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significant. (National Historic Prevention Act, 16 U.S.C. 470; 36 CFR 800 et seq.; CEQA Guidelines, Title 14, Cal. Code Regs.,/15064.5; Title 14, Cal Code Regs.,/4850 et seq.)

military activity at the Blythe Airport. The three isolated prehistoric artifacts found on the plant site consist of a single flake, a scraper tool, and core of chert. The inventory of the proposed pipeline routes recorded a single mano (grinding stone) in the backdirt berm formed from the cleaning of an irrigation ditch. The additional inventory of pipeline route changes recorded a single pottery sherd along the edge of a canal, and a modern scatter of trash. (Ex. 2, pp. 44-45; Ex. 53, p. 130.)

Tierra Environmental Services initiated contact with Indian Tribes who may have interests in the project area. Letters to Tribal Chairmen and tribal cultural leaders were sent to the Colorado River Indian Tribes in Parker, Arizona; the Fort Yuma Quechan Tribe in Yuma, Arizona; the Fort Mojave Indian Tribe in Needles, California and Mojave Valley, Arizona; the Hualapai Tribe in Peach Springs, Arizona; the Yavapai-Prescott Tribe in Prescott, Arizona; the Havasupai Tribe in Supai, Arizona; the Chemehuevi Tribe in Chemehuevi Valley, California; the Salt River Pima-Maricopa Tribe in Scottsdale, Arizona; the Tohono O dham Nation in Sells, Arizona; and the Cocopah Tribe in Somerton, Arizona. A reply was received from the AhaMaKav Cultural Society of the Fort Mojave Indian Tribe indicating that this area was of interest to the Fort Mojave, but that no specific resources were known to be present in this area. Western mailed informational letters in May 2000 to the same groups plus letters to the Torres-Martinez Desert Cahuilla Indians in Thermal, California, and the Hopi Tribe in Kykotsmovi, Arizona. The Hopi Tribe responded to the information letter in June of 2000 with a concern over the amount of water proposed for use by the project, but with no other specific concerns. Western responded to the Hopi letter by providing information about the water sources and use at the plant. Western followed up the information letter with phone calls to each of the tribal representatives for all the tribes on the mailing lists. None of the tribes contacted expressed concerns with the project, or provided information on potentially sensitive resources in the Project area. (Ex. 2, p. 46; Ex. 53, p. 130.)

During the evidentiary hearings, Mr. Matthew Leiva, Sr. appeared on behalf of the Salt Song Project and offered public comment. He is a member of the Chemehuevi Tribe, but he was not appearing on behalf of any tribe. Without being specific, his only concern was with the location of the project. (11/27 RT 259-264.) Given the result of the cultural resources surveys, it does not appear that this location impacts any cultural resources, nor did Mr. Leiva offer any additional information.

2. Potential Impacts

The development and construction of the Blythe Energy Project involves surface and subsurface disturbance and the project, therefore, has the potential to adversely affect cultural resources that are presently undiscovered. Inventories for cultural resources for the plant site and associated features, such as the transmission lines and natural gas pipelines, have revealed some evidence of prehistoric and historic cultural resources. Five historic trash dumps (refuse scatters) and five prehistoric isolated artifacts were found during the inventory. Four of the refuse scatters are in the area of the power plant, while the fifth site, is outside of the Area of Potential Effect (APE). Three of the isolated artifacts were located on the plant site and two along alternatives of the gas pipeline route. In addition, the Blythe Airport was recommended as an eligible property for the National Register. (Ex. 53, p. 133.) The applicant intends to utilize most of the 76-acre plant site for construction and equipment laydown during the construction phase, though the final configuration of the plant will have facilities concentrated toward the north end of the site. A record search was conducted for the plant site to identify existing or known resources, and then the entire site was inventoried for cultural resources. The inventory for the plant site recorded four trash dumps (refuse scatters) and three isolated artifacts. In addition, a fifth trash dump was recorded on the edge of the property. The Applicant s archeological consultant, Western and the Commission staff agree these sites are not significant resources requiring additional mitigation. The Applicant s

consultant also recommended that the large historic refuse dump associated with World War II is potentially eligible for historic registry, but Western and the Commission staff agree that the historic dump associated with World War II is not within the project s area of potential effect. (*Id*,)

The applicant s archeological consultant recommended the Blythe Airport as potentially eligible for the National Register of Historic Places. Western and Staff expressed concern that the construction of the Project could impact the historic setting and integrity of the airport as it is related to the World War II era. The airport may retain some degree of historic integrity, but the vast majority of the original buildings and other structures associated with the World War II occupation and use of the airport have been demolished. Other impacts, such as center-pivot irrigated fields, the construction of the Interstate, and the addition of a residential area nearby, have also had impacts on the historic setting of the airport. Western and Staff agree that the proposed project will not have a significant impact on the historic setting that may make the airport eligible for the National Register of Historic Places. Finally, Western and Staff agree that the isolated artifacts recorded on the project and linear facilities sites are not eligible for the National Register or California Register and no cultural resources were recorded on the pipeline routes. (Ex. 53, pp. 134-135.) If mitigation measures such as avoidance, recordation, or data recovery are conducted when future developments are approved, any potential cumulative impacts will be mitigated below a level of significance.

3. Mitigation

The preferred mitigation for impacts to cultural resources is preservation by avoiding areas where resources are known to exist and by monitoring areas where they may be discovered. (Ex. 53, p. 139.)

Western and Staff do not believe that monitoring is necessary to prevent significant impacts to cultural resources. BEP also recommended that the Blythe Airport might be eligible for the National Register but it has been determined that the vast majority of the physical integrity of the impact has been removed over the years following World War II. In addition, other developments in and near the airport have also affected the historic setting. The Project will not have an impact on the historic setting of the airport. Despite the lack of information on the presence of significant cultural resources in the project area of potential effects there remains the remote possibility that significant resources may be present but could not be detected by surface inspection. Western and Staff agree that the possibility is extremely remote, given the disturbed nature of the project area. However, caution dictates that resources may be present where they could not be seen, and BEP must be prepared in the event such resources are discovered. Therefore, Western and Staff have developed minor conditions, adopted below, for the rather unlikely event that resources are discovered. If cultural resources are encountered during construction activities, the totality of mitigation measures contained in the Conditions of Certification will ensure that such resources are protected. (Ex. 53, p. 139.)

COMMISSION DISCUSSION

As proposed, Conditions **CUL-1, CUL-2, and CUL-3** all contain time frames that may unnecessarily impede construction of the Project. In the Briefs of Applicant and Staff, Applicant requested shorter time periods and the flexibility to shorten approval times as agreed. (See requested modifications in Applicant s Reply Brief, pp. 3-5.) Staff argued that the verification portions of the Conditions are inherently flexible, but agreed to add a provision allowing a lesser time period, as mutually agreed in the disputed Conditions. (Staff Reply Brief, p. 7.)

Applicant correctly points out that California is experiencing an unprecedented shortage of power generation. Verification timelines may be obstacles to

completing construction when aggressive construction schedules are utilized. It is in the public s best interest to encourage aggressive construction schedules. Allowing the changes requested by Blythe in no way jeopardizes any cultural resources. The suggested modifications in no way impair the Commission s control over the quality of the requirements because the CPM is empowered to reject any unsatisfactory product. (11/27 RT 149). We have therefore incorporated BEP s requested time-line modifications into Conditions **CUL-1, CUL-2, and CUL-3**. The other suggested modifications are rejected as unsupported.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. There are several known cultural resources within the critical Area of Potential Effect (APE).
2. Although there is no surface evidence of cultural resources within the project footprint, several resource sites were discovered within the APE.
3. Linear alignments encounter no cultural resources.
4. There is potential for impacts to unknown cultural resources that may not be discovered until subsurface soils are exposed during excavation and construction.
5. The mitigation measures contained in the Conditions of Certification below will ensure that direct, indirect, or cumulative adverse impacts to cultural resources do not occur as a result of project activities.

The Commission therefore concludes that with implementation of the Conditions of Certification below, BEP will conform with all applicable laws, ordinances, regulations, and standards relating to cultural resources as set forth in the pertinent portions of **APPENDIX A** of this Decision.

CONDITIONS OF CERTIFICATION

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

1. a graduate degree in archaeology, cultural resource management, or a comparable field;
2. at least three years of archaeological 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 archaeological 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.

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.

Verification: Thirty (30) 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 or a lesser time period as mutually agreed, 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.

At least ten (10) 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 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-2 Prior to the start of vegetation clearance or earth disturbing activities or project site preparation, the project owner shall provide the designated cultural resources specialist and the CPM with maps and/or drawings showing the footprint of the power plant and all linear facilities. Maps provided will include USGS 7.5-minute topographic quadrangle maps. If the designated cultural resource specialist requests enlargements or strip maps for linear facility routes, the project owner shall provide them. In addition, the project owner shall provide a set of these maps to the CPM at the same time that they are provided to the specialist. If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes, to the cultural resources specialist and the CPM within five days. Maps shall show the location of all areas where surface disturbance may be associated with project-related access roads, and any other project components.

Verification: Thirty (30) days prior to the start of vegetation clearance or earth disturbing activities or project site preparation, or a lesser time period as mutually agreed, the project owner shall provide the designated cultural resources specialist and the CPM with the maps and drawings. Copies of maps or drawings reflecting changes to the footprint of the power plant and/or linear facilities shall be submitted to the cultural resources specialist and the CPM within five days of the changes.

CUL-3 Prior to the start of vegetation clearance or earth disturbing activities or project site preparation, the designated cultural resource specialist shall prepare an employee training program. The project owner shall submit the cultural resources training program to the CPM for review and written approval. If a video is used as part of the training program, the owner shall submit the script to the CPM for review and written approval.

Protocol: The training program shall discuss the potential to encounter cultural resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training program shall also include the set of resource reporting procedures and work curtailment procedures that workers are to follow if previously unknown cultural resources are encountered during project activities. The training program shall be presented by the designated cultural resource specialist or qualified member of the cultural resources team(s) approved by the CPM and may be combined with other training programs prepared for biological resources, paleontologic resources, hazardous materials, or any other areas of interest or concern.

Verification: Thirty (30) days prior to the start of vegetation clearance or earth disturbing activities or project site preparation, or a lesser time period as mutually agreed, the project owner shall submit to the CPM for review and written approval, the proposed employee training program, the set of reporting procedures, and the work curtailment procedures that the workers are to follow if previously unknown cultural resources are encountered during construction. The project owner shall provide the name and resume of the individual(s) performing the training.

CUL- 4 Prior to the start of vegetation clearance or earth disturbing activities or project site preparation, and throughout the project construction period as needed for all new employees, the project owner shall ensure that the designated cultural resource trainer(s) provide(s) the CPM-approved cultural resources training to all project managers, construction supervisors, and workers. The project owner shall ensure that the designated trainer provides the workers with the CPM-approved set of procedures for reporting any sensitive resources that may be discovered during project-related ground disturbance. In addition, the project owner shall communicate the work curtailment procedures that the workers are to follow if previously undiscovered cultural resources are encountered during construction.

Verification: Within seven (7) days after the start of project construction, the project owner shall provide the CPM with documentation that the designated cultural resources trainer(s) has/have provided the CPM-approved cultural resource training and the set of reporting and work curtailment procedures to all project managers, construction supervisors, and workers hired before the start of vegetation clearance or earth disturbing activities or project site preparation.

Protocol: In each Monthly Compliance Report, after the start of vegetation clearance or earth disturbing activities or project site preparation, the project owner shall provide the CPM with documentation that the designated cultural resource trainer(s) has/have provided to all project managers, construction supervisors, and workers hired in the month to which the report applies, the CPM-approved cultural resources training and the set of resource reporting and work curtailment procedures.

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.

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:

- the specialist, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and
- 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 with a letter confirming that the designated cultural resources specialist has the authority to halt construction activities in the vicinity of a cultural resources find.

CUL-6 Following the discovery of significant resources, the project owner shall ensure that the designated cultural resources specialist prepares a research design and a scope of work for any necessary data recovery or additional mitigation. The project owner shall submit the proposed research design and scope of work to Western s archeologist and the CPM for review and approval.

Protocol: The proposed research design and scope of work shall include (but not be limited to):

1. a discussion of the methods to be used to recover additional information and any needed analysis to be conducted on recovered materials;
2. a discussion of the research questions that the materials may address or answer by the data recovered from the project; and
3. discussion of possible results and findings.

Verification: The project owner shall ensure that the designated cultural resources specialist prepares the research design and scope of work within 7 days following the determination that significant materials have been discovered. After completion of the research design and scope of work, the project owner shall submit it to Western and the CPM for review and written approval. Western shall submit the research design and scope of work to the State Historic Preservation Officer as part of consultation under Section 106.

CUL-7 The project owner shall ensure that the designated cultural resources specialist prepares a report on any discovery of cultural resources. The project owner shall submit the report to Western and the CPM for review and written approval.

Protocol: The Cultural Resources Report 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 discovery;
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 state site 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 cultural resource specialist completes the Cultural Resources Report within ninety (90) days following completion of the analysis of the recovered cultural materials. Within seven (7) days after completion of the report, the project owner shall submit the Cultural Resources Report to Western and the CPM for review and written approval. Western will submit the report, when approved, to the State Historic Preservation Officer in order to complete consultation under Section 106.

CUL-8 If there is a discovery of a cultural resource(s), the project owner shall ensure that the cultural resource specialist performs the recovery, preparation for analysis, analysis, preparation for curation, and delivery for curation of all cultural resource materials

Verification: The project owner shall provide a copy of a curation agreement from a public repository that meets the requirements set out in 36 CFR 79 for the curation of cultural resources. In addition, the project owner shall ensure that all cultural resource materials, maps, and data collected during data recovery and mitigation for the project are delivered to the repository following the approval of the Cultural Resources Report. The project owner shall pay any fees for curation required by the repository unless determined unreasonable by the CPM.

The project owner shall provide Western and the CPM with a copy of a curation agreement no more than thirty (30) days following the discovery of cultural materials. The project owner shall also provide an inventory of all materials curated at the facility and documentation that they have been accepted for curation.

For the life of the project, the project owner shall maintain in its compliance files, copies of signed agreements with the public repository to which the project owner has delivered cultural resource materials for curation.

D. GEOLOGY AND PALEONTOLOGY

This section reviews the project s potential impacts to significant geological and paleontological resources, and surface water hydrology. The analysis also evaluates whether project-related activities could potentially result in public exposure to geological hazards.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project is located within seismic zone 3 as delineated on Figure 16-2 of the 1998 edition of the California Building Code. Staff reviewed the California Division of Mines and Geology publication Fault Activity Map of California and Adjacent Areas with Locations and Ages of Recent Volcanic Eruptions, dated 1994 (CDMG 1994) and aerial photos of the proposed power plant footprint. Staff visited the proposed power plant location and did not observe any surface faulting at the proposed power plant site on the ground or in aerial photos. No active faults are known to cross the proposed power plant footprint. (Ex. 53, p. 498.)

No permanent surface water bodies are located on or adjacent to the power plant footprint. The proposed power plant location is at an elevation of approximately 335 feet above mean sea level. This elevation places the site approximately 70 feet above the Colorado River Valley. Groundwater was encountered during the on-site geological investigation at 88.5 feet below existing grade. (*Id.*)

1. Potential for Seismic Events

The nearest major active fault is the San Andreas fault. The San Andreas fault is located approximately 95 kilometers (60 miles) to the southwest of the site. Strong seismic shaking associated with this fault is possible at the site but the likelihood of major sympathetic earthquakes or aftershocks occurring in the

vicinity of the proposed power plant is considered to be low due to the lack of known active faults in the vicinity of the site. Because the alluvium under the site is dense, the depth to ground water is in excess of 50 feet below existing grade, and the estimated peak horizontal ground acceleration at the site is low (less than 0.2g), the potential for liquefaction at the power plant site is considered to be negligible. (Ex.53, p. 499.)

The project will be designed to withstand strong seismic ground shaking in accordance with California Building Code standards for seismic zone 4. (See the **Facility Design** section of this Decision.) Applicant conducted a site-specific study to determine the potential for ground rupture, liquefaction, in soils beneath the project components and linear facilities that would present potential hazards associated with strong seismic shaking. (Ex. 1,/7.16.) Final project design will incorporate measures to mitigate any potential seismic damage resulting from these geological phenomena. (Ex. 1,/7.16.3.) Condition **GEO-2** requires the project owner to submit a final Engineering Geology Report.

2. Hydrocompaction and Expansive Soils

Applicant is aware of the potential of collapsing soils by hydrocompaction and they will assess the power plant footprint and linear facilities with respect to collapsing soils prior to developing the final design of the project. The reworking of the upper five feet of soil at selected areas of the power plant site to mitigate the potential for settlement will also mitigate the potential for collapsing soils in the upper five feet of the soil column since the soil matrix will be densified by the recompaction and moisture conditioning process required for placement of an engineered fill. The potential for expansion of project soils when wetted is considered to be negligible since the soils at the project site and along the linear facilities alignment are relatively dense and do not contain a high percentage of expansive clay. (Ex. 53, p. 500.)

3. Potential for Flooding

The potential for flooding at the project site is discussed in the **Soil and Water Resources** section of this Decision.

4. Potential Impacts to Geological/Paleontological Resources

There are no known geological or paleontological resources at the proposed power plant location or along the proposed linear facility alignments. (Ex. 53, p. 501.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The project and linear facilities are located in seismic zone 3, which does not present significant earthquake hazards.
2. The project and linear facilities will be designed to withstand strong earthquake shaking in accordance with the California Building Code.
3. Final project design will include measures to mitigate potential seismic risk from ground rupture, liquefaction, associated with strong seismic shaking.
4. The final project design will include measures to mitigate the potential for hydrocompaction and expansive soils.
5. Potential flooding of the site will be mitigated by drainage measures incorporated into project design.
6. The project will not cause significant adverse impacts to surface water hydrology.
7. There is no evidence of geological or paleontological resources at the project site or along the linear facility corridors.
8. To prevent impacts to unknown sensitive paleontological resources, the project owner will implement a Paleontological Resources Monitoring and Mitigation Plan.

9. With implementation of the Conditions of Certification, the project will conform with all applicable laws, ordinances, regulations, and standards relating to geology and paleontological resources as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that Implementation of the Conditions of Certification, below, will ensure that project activities do not cause adverse impacts to either geological or paleontological resources or expose the public to geological hazards.

CONDITIONS OF CERTIFICATION

GEO-1 Prior to the start of construction, the project owner shall assign to the project an engineering geologist(s), certified by the State of California, to carry out the duties required by the 1998 edition 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 the project owner and the Compliance Project Manager (CPM)] prior to the start of construction, the project owner 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 the project owner of its findings within 15 days of receipt of the submittal. If the engineering geologist(s) is subsequently replaced, the project owner 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 the project owner 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 CBC, Appendix Chapter 33, Section 3309.4 Engineered Grading Requirement, and Section 3318.1 — Final Reports. Those duties are:

1. Prepare the Engineering Geology Report. This report 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 Report.

Protocol: The Engineering Geology Report required by the 1998 CBC Appendix Chapter 33, Section 3309.3 Grading Designation, 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 Final Engineering Geology Report to be completed after completion of grading, as required by the 1998 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.

Verification: (1) Within 15 days after submittal of the application(s) for grading permit(s) to the CBO, the project owner shall submit a signed statement to the CPM stating that the Engineering Geology Report has 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 Report required by the 1998 CBC Appendix Chapter 33, Section 3318 Completion of Work, to the CBO, and to the CPM on request.

PAL-1 Prior to the start of any project-related construction activities (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities), the project owner shall ensure that the designated paleontological resource specialist approved by the CPM is available for field activities and prepared to implement the conditions of certification.

Verification: The designated paleontological resources specialist shall be responsible for implementing all the paleontological conditions of certification and for using qualified personnel to assist in this work.

Protocol: The project owner shall provide the CPM with the name and statement of qualifications for the designated paleontological resource specialist.

The statement of qualifications for the designated paleontological resources specialist shall demonstrate that the specialist meets the following minimum

qualifications: a degree in paleontology or geology or paleontological resource management; and at least three years of paleontological resource mitigation and field experience in California, including at least one year s experience leading paleontological resource mitigation and field activities.

The statement of qualifications shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist s work on these referenced projects.

If the CPM determines that the qualifications of the proposed paleontological resource specialist do not satisfy the above requirements, the project owner shall submit another individual s name and qualifications for consideration.

If the approved, designated paleontological resource specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontological resource specialist by submitting the name and qualifications of the proposed replacement to the CPM, at least ten (10) days prior to the termination or release of the preceding designated paleontological resource specialist.

Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

Verification: At least sixty (60) days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CPM), the project owner shall submit the name and resume and the availability for its designated paleontological resource specialist, to the CPM for review and approval. The CPM shall approve or disapprove of the proposed paleontological resource specialist.

Protocol: At least ten (10) days prior to the termination or release of a designated paleontological resource specialist, the project owner shall obtain CPM approval of the replacement specialist by submitting to the CPM the name and resume of the proposed new designated paleontological resource specialist. Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

PAL-2 Prior to the start of project construction, the designated paleontological resource specialist shall prepare a Paleontological Resources Monitoring and Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive paleontological resources, and submit this plan to the CPM for review and approval. After CPM approval, the project owner s designated

paleontological resource specialist shall be available to implement the Monitoring and Mitigation Plan, as needed, throughout project construction.

Protocol: The project owner shall develop a Paleontological Resources Monitoring and Mitigation Plan in accordance with the guidelines of the Society of Vertebrate Paleontologists (SVP 1994) that shall include, but not be limited to, the following elements and measures:

- A discussion of the sequence of project-related tasks, such as any pre-construction surveys, fieldwork, flagging or staking; construction monitoring; mapping and data recovery; fossil preparation and recovery; identification and inventory; preparation of final reports; and transmittal of materials for curation;

- Identification of the person(s) expected to assist with each of the tasks identified within this condition for certification, and a discussion of the mitigation team leadership and organizational structure, and the inter-relationship of tasks and responsibilities;

- Where monitoring of project construction activities is deemed necessary, the extent of the areas where monitoring is to occur and a schedule for the monitoring;

- An explanation that the designated paleontological resource specialist shall have the authority to halt or redirect construction in the immediate vicinity of a vertebrate fossil find until the significance of the find can be determined;

- A discussion of equipment and supplies necessary for recovery of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;

- Inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontologists standards and requirements for the curation of paleontological resources, and

- Identification of the institution that has agreed to receive any data and fossil materials recovered during project-related monitoring and mitigation work, discussion of any requirements or specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution.

Verification: At least forty-five (45) days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CPM), the project owner shall provide the CPM with a copy of the Paleontological Resources Monitoring and Mitigation Plan prepared by the designated paleontological resource specialist for review and approval. If the plan is not

approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes.

PAL-3 Prior to the start of construction, and throughout the project construction period as needed for all new employees, the project owner and the designated paleontological resource specialist shall prepare, and the owner shall conduct CPM-approved training to all project managers, construction supervisors, and workers who operate ground disturbing equipment. The project owner and construction manager shall provide the workers with the CPM-approved set of procedures for reporting any sensitive paleontological resources or deposits that may be discovered during project-related ground disturbance.

Protocol: The paleontological training program shall discuss the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall also include the set of reporting procedures that workers are to follow if paleontological resources are encountered during project activities. The training program shall be presented by the designated paleontological resource specialist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

Verification: At least thirty (30) days prior to the start of project construction (or a lesser number of days mutually agreed to by the project owner and the CPM), the project owner shall submit to the CPM for review and approval, the proposed employee training program and the set of reporting procedures the workers are to follow if paleontological resources are encountered during project construction.

If the employee training program and set of procedures are not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes, before the beginning of construction.

Documentation for training of additional new employees shall be provided in subsequent Monthly Compliance Reports, as appropriate.

PAL-4 The designated paleontological resource specialist shall be present at all times he or she deems appropriate to monitor construction-related grading, excavation, trenching, and/or augering in areas where potentially fossil-bearing sediments have been identified. If the designated paleontological resource specialist determines that full-time monitoring is not necessary in certain portions of the project area or along portions of the linear facility routes, the designated specialist shall notify the project owner.

Verification: The project owner shall include in the Monthly Compliance Reports a summary of paleontological activities conducted by the designated paleontological resource specialist.

PAL-5 The project owner, through the designated paleontological resource specialist, shall ensure recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: The project owner shall maintain in its compliance files copies of signed contracts or agreements with the designated paleontological resource specialist and other qualified research specialists who will ensure the necessary data and fossil recovery, mapping, preparation for analysis, analysis, identification and inventory, and preparation for and delivery of all significant paleontological resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resources Report and shall keep these files available for periodic audit by the CPM.

PAL-6 The project owner shall ensure preparation of a Paleontological Resources Report by the designated paleontological resource specialist. The Paleontological Resources Report shall be completed following completion of the analysis of the recovered fossil materials and related information. The project owner shall submit the paleontological report to the CPM for approval.

Protocol: The report shall include (but not be limited to) a description and inventory list of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the paleontological resource specialist that project impacts to paleontological resources have been mitigated.

Verification: The project owner shall submit a copy of the Paleontological Resources Report to the CPM for review and approval under a cover letter stating that it is a confidential document. The report is to be prepared by the designated paleontological resource specialist within 90 days following completion of the analysis of the recovered fossil materials.

PAL-7 The project owner shall include in the facility closure plan a description regarding facility closure activity s potential to impact paleontological resources. The conditions for closure will be determined when a facility closure plan is submitted to the CPM twelve months prior to closure of the facility. If no activities are proposed that would potentially impact paleontological resources, then no mitigation measures for paleontological resource management are required in the facility closure plan.

Protocol: The closure requirements for paleontological resources are to be based upon the Paleontological Resources Report and the proposed grading activities for facility closure.

Verification: The project owner shall include a description of closure activities described above in the facility closure plan.

VIII. LOCAL IMPACT ASSESSMENT

All aspects of a power plant project affect to some degree the community in which it is located. The impact on the local area depends upon the nature of the community and the extent of the associated impacts. Technical topics discussed in this portion of the Decision consider issues of local concern, including land use, traffic and transportation, visual resources, noise, and socioeconomics.

A. LAND USE

The land use analysis focuses on two main issues: 1) whether the project is consistent with local land use plans, ordinances, and policies; and 2) whether the project is compatible with existing and planned land uses.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Riverside County Comprehensive General Plan (RCCGP) policies, the Riverside County Zoning Ordinance sections, the City of Blythe planning policies, the City of Blythe Zoning Ordinance, and the Blythe Airport Comprehensive Land Use Plan (CLUP) are the ordinances and policies relevant to the BEP. (Ex. 53, p. 201.)

The Blythe Energy Project (BEP) will be a nominally rated 520 MW combined cycle power plant located on a 76-acre site within the City of Blythe, in Riverside County, California approximately 5 miles from the Blythe Central Business District. The power plant will consist of two F-Class Combustion Turbine Generators (CTG) manufactured by Siemens — Westinghouse model V84.3A, two heat recovery steam generators (HRSGs) with duct burners, a single condensing steam turbine generator (STG), a deaerating surface condenser, a bank of mechanical draft wet cooling towers and auxiliary equipment. The project will be supplied with natural gas either through an .8-mile interconnection

to a SoCal Gas line south of the site, or through an 11.5-mile interconnection east of the site in Ehrenberg, Arizona at an existing El Paso Natural Gas Company (EPNG) corporation yard. This interconnection will utilize a bore under the Colorado River. Interconnection of the project with the existing Blythe substation will require that some transmission line poles in the citrus groves across the street from the project site be replaced. This will entail the removal of a small number of trees in that area. (Ex. 2, pp. 67-68.) The interconnection with the El Paso Natural Gas Pipeline will take place on the east side of the Colorado River in La Paz County, Arizona. The point containment pit for the pipeline boring is located on a parcel zoned General Commercial (C-2). The existing El Paso Natural Gas facility is located on a parcel zoned Light Industrial. According to the La Paz County (Arizona) Department of Community Development the interconnect with the El Paso Natural Gas Pipeline is a permitted use in the zone and no special permits are required (Ex. 53, p. 209.)).

The Water Conservation Offset Program will entail retiring the irrigation rights for the lands previously under agricultural production at the Blythe Airport. Existing land uses in the area around the project site consist of vacant land, agricultural uses, and scattered industrial and residential uses. The nearest residence to the project site is located approximately 3,465 feet southwest of the project site, toward Interstate 10. The project site is in an area for which annexation to the City of Blythe was recently approved. The City of Blythe General Plan and zoning for the project site allow industrial uses such as the proposed project. Portions of the natural gas pipeline are located in unincorporated areas of Riverside County. (Ex. 2, p. 68.) The Water Conservation Offset Program is not a significant impact to agriculture. (Ex. 53, p. 236; Ex. 54, Testimony of Melinda Rivasplata, p. 4.)

The project site is not in agricultural production. Lands at the Blythe Airport, for which the agricultural irrigation rights will be retired as a part of the Water Conservation Offset Program, are not currently under agricultural production.

(*Id*.) All applicable LORS are summarized in Appendix A of this Decision. BEP will comply with all applicable LORS. (Ex. 2, p. 68; Ex. 54*; cf*; Ex. 53,. pp. 237-238.)

Land use impacts during construction could consist of potential disruption of local road access due to the construction of the natural gas pipeline. Staff correctly stated that a variance for the height of the HRSG stacks would need to be approved by the City of Blythe in order for the project to conform with the City of Blythe Zoning Ordinance. (Ex. 53, p. 236, 238.) BEP filed for the variance and it was approved by the City of Blythe on November 14, 2000. (Ex. 2, p. 68.-69) No land use impacts will occur as a result of operation of the project. (Ex. 2, p. 69.)

BEP will mitigate the potential for temporary land use impacts related to construction of the natural gas pipeline by preparing and submitting to the City of Blythe for review and approval a Traffic Management Plan addressing traffic management during pipeline installation so as to minimize traffic flow conflict during the construction phase of the project. (Ex. 2, p. 69.)

Staff proposed conditions of certification designed to ensure compatibility with adjacent and nearby land uses and to ensure compliance with the general plan and zoning regulations in effect at the time the project s final design is complete. As expected by Staff, the annexation process to the City of Blythe has been completed. The project is consistent with the City of Blythe s General Plan and consistent with the City of Blythe s zoning, now that the height variation has been granted. (Ex. 53, p. 236; Ex. 54, Testimony of Melinda Rivasplata, pp. 1-2.) Condition LAND-5, proposed by Staff, was deleted in its Supplemental Testimony. (Ex. 54, Testimony of Melinda Rivasplata, pp. 1-2.) The modification proposed for **LAND-2** by Applicant (Ex. 2, p. 69) was accepted by Staff (Ex. 54, Testimony of Melinda Rivasplata, p. 4) and we adopt that condition as so modified.

Applicant urged a modification to **LAND-4** regarding the timeline for submission of documents that was opposed in principle by Staff, if not in practice. We agree with Applicant that accelerated construction schedules should be accommodated whenever possible, consistent with the proper execution of staff responsibilities and workload. We believe Staff can accommodate Applicant s request as we have amended it in **LAND-4**.

FINDINGS AND CONCLUSIONS

Based on the evidence of record as a whole, the Commission makes the following findings and conclusions:

1. The Blythe Energy Project is consistent with the policies expressed in the Riverside County General Plan Comprehensive General Plan policies, the Riverside County Zoning Ordinance sections, the City of Blythe planning policies and the Blythe Airport Comprehensive Land Use Plan.

2. The City of Blythe s zoning conditions of approval, which would otherwise be imposed if the city were the permitting agency, have been incorporated in Condition of Certification **LAND USE-4.**

3. The project s linear components are permitted uses under the Riverside County General Plan and applicable Zoning Ordinances.

4. The City of Blythe approved BEP s petition for a height variance for the project.

5. The site has been historically used for agriculture, but is not currently being utilized as agricultural land.

6. Use of the site to construct and operate the project will not adversely affect agricultural production in Riverside County or significantly initiate other development of the surrounding area.

7. The project s potential cumulative impacts on agricultural lands are insignificant.

8. Implementation of the Conditions of Certification, below, ensures that the project will comply with all applicable laws, ordinances, regulations, and standards relating to land use as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that the project will not create any significant direct, indirect, or cumulative adverse land use impacts.

CONDITIONS OF CERTIFICATION

LAND-1 The project owner shall obtain all easements on private lands necessary to construct and maintain the natural gas pipeline and transmission line interconnection with the Blythe Substation.

Verification: At least 30 days prior to start of construction of the natural gas pipeline and transmission line, or a lesser time period as mutually agreed to by the California Energy Commission Compliance Project Manager (CPM), the project owner shall submit a copy of the recorded easement agreement for each affected private property to the CPM.

LAND-2 The proposed water conservation offset program shall not retire lands in the Palo Verde Valley (Priority 1 Lands) designated as Prime Farmlands or Farmlands of Statewide Importance as defined by the Department of Conservation, or lands included in a Williamson Act Preserve. Fallowing or retirement of farmlands shall not violate any provision of a Williamson Act Contract. Lands selected for retirement on the Mesa shall not include lands currently involved in active orchard crop production.

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

LAND-3 Prior to construction of the natural gas pipeline, the project owner shall inform residents and farmers along the natural gas pipeline right-of-way of the construction timetable for the pipeline via mailed notices and posted signage. A construction liaison shall be provided and contact phone number shall be listed in the notice to provide the public with a point of contact for additional information and for registering complaints.

Verification: At least 30 days prior to the start of construction of the natural gas pipeline, the project owner shall submit a copy of the notice, the mailing list and a map showing the location of the posted notices to the CPM.

LAND 4 Prior to the start of construction of foundations for the power plant, the project owner shall submit a site development plan of the project to the City of

Blythe for their review and comment, and to the CPM for review and approval. The site development plan shall comply with all applicable provisions of Section 17, City of Blythe zoning code including Chapters 17.12 (Setbacks), 17.16 (Off-Street Parking), 17.22 (Landscaping), 17.26 (Signs), and 17.14 (Fences).

Verification: At least 30 days prior to the start of construction of foundations for the power plant, the project owner shall submit to the CPM for review and approval a site development plan and a letter from the City of Blythe Planning Director stating that the site development plan (including landscape plan) conforms to the City s Zoning Code.

B. TRAFFIC AND TRANSPORTATION

Construction and operation of the project have the potential to adversely impact the transportation system in the project vicinity. During the construction phase, large numbers of workers arriving and leaving during peak traffic hours and transportation of large pieces of equipment could increase roadway congestion and affect traffic flow. Trenching and other activities associated with building the linear facilities may also be disruptive. During plant operation, there is reduced potential for impacts due to the limited number of vehicles involved.

The evidentiary record contains a review of the roads and routings that will be used; the potential traffic problems associated with those routes; the anticipated number of deliveries of oversized/overweight equipment; anticipated encroachments upon public rights-of-way; the frequency of, and routes associated with the delivery of hazardous materials; and the availability of alternative transportation methods.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is located approximately five miles west of the center of the City of Blythe, near Interstate 10 (I-10) in southeastern California. The site is 76 acres in size and is approximately one mile east of the Blythe Airport. The project site is accessed directly from Hobsonway, a two-lane arterial (oriented east/west). Hobsonway serves as the I-10 frontage road in the area and as the business loop for the City of Blythe. From the west the site is reached from the I-10/Mesa Drive interchange located near the airport. From the east the site is reached via I-10 at interchanges located at SR-78 (Neighbors Boulevard), Lovekin Boulevard or US-95 (Intake Boulevard). Buck Boulevard, a dirt road (oriented north/south) along the eastern boundary of the project site extending from Hobsonway north, would become the asphalt-paved access road to the proposed site. (Ex. 53, p. 360.)

Three highways, I-10, State Route (SR) 78 and United States (U.S.) Highway 95 provide regional access to the plant site. I-10 is a major four-lane divided, east-west freeway that links the Greater Los Angeles Metropolitan Region eastward through Phoenix and Tucson, Arizona to New Mexico and points east. I-10 is located approximately 0.25 miles south of the BEP site. U.S. 95 is a two-lane, north-south highway that provides access from the north to the City of Blythe via the cities of Vidal and Needles. The highway is located approximately 6.5 miles east of the BEP site. SR 78 is a two-lane, north-south highway that provides access south to the Palo Verde Valley and the City of Brawley. SR-78 has its western terminus in San Diego County at Interstate 8. The highway is located approximately 1.5 miles east of the site. (Ex. 53 p. 360.)

TRAFFIC AND TRANSPORTATION Table 1, below, replicated from Exhibit 53, page 363, identifies the annual average daily traffic (AADT), annual average daily truck traffic, annual average percent of truck traffic, annual average peak-hour traffic, hourly highway design capacity, and peak hour level of service (LOS) for highways in the vicinity of the project. The information shown was obtained from the Caltrans 1998 Traffic Volumes on California State Highways publication and from the Caltrans web-site. The traffic estimates are presented for various road segments between mileposts or junctions on each highway. Daily and peak hour traffic volumes are illustrated on **TRAFFIC and TRANSPORTATION Figure 1,** below, replicated from Exhibit 53, page 362. (Ex. 53, pp. 360-363.)

LOS levels refer to the average vehicle capacity and the flow of traffic. LOS A denotes free flow of traffic while LOS E and F means that there is a congested flow. The LOS criteria take into account numerous variables such as annual average daily traffic (AADT), lane capacity, grade, environment, and other relevant information. A threshold of LOS D is the minimum standard accepted by both Caltrans and Riverside County. However, the Congestion Management Plan (CMP) authority in the area of the project site is Riverside County. The

County CMP states that LOS D is to be achieved whenever practical and LOS E threshold represents the maximum vehicles per day that a highway or roadway can serve and still meet the minimum acceptable standard on the CMP roadway system (Ex. 53, p. 361.).

Traffic volumes for Hobsonway and Mesa Drive were not available Applicant noted that traffic counts for local roadways are limited or nonexistent as neither the County of Riverside nor the City of Blythe measure traffic flows on roads near the site due to the rural nature and low traffic volume in the area. (Ex. 1,／7.4.1.3.) As shown in **Table 1**, below, all highways in the area currently operate at LOS A.

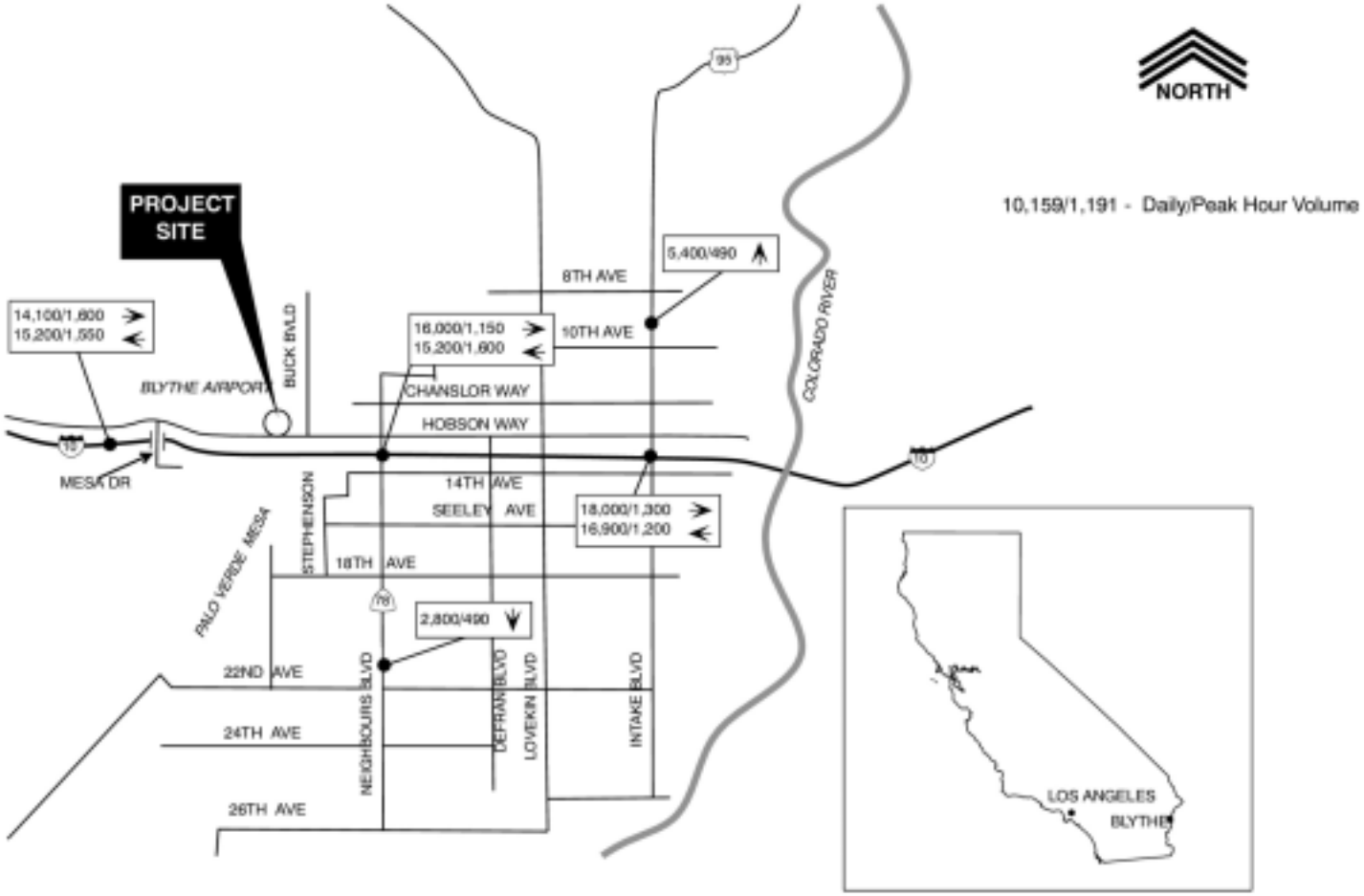

Figure 1

PROJECT LOCATION AND

DAILY / PEAK HOUR TRAFFIC VOLUMES ON MAJOR ROADS

06/1582/BASE-8/2/2000

TRAFFIC AND TRANSPORTATION TABLE 1
Conditions of Affected Highways

Highway Segment	Annual Average Daily Traffic[1]	Annual Average Daily Truck Traffic[2]	Percent of Daily Truck Traffic	Annual Average Peak Hour Traffic[1]	Hourly Highway Capacity[3]	LOS[4]
State Route 78						
S. of Interstate 10	2,800	171	6.1	240	1,200	A
US-95						
N. of Interstate 10	5,400	648	12	490	1,200	A
Interstate 10						
E. of Mesa Dr.	15,200	5,898*	38.8	1,600	4,400	A
W. of Mesa Dr.	14,700	6,192*	42.1	1,550	4,400	A
E. of SR-78	16,000	5,898	38.8	1,150	4,400	A
W. of SR-78	15,200	6,192	42.1	1,600	4,400	A
E. of US-95	18,000	6,540	36.3	1,300	4,400	A
W. of US-95	16,900	6,480	38.3	1,200	4,400	A

Source: Adapted from BEP AFC, Table 7.4-1, Page 7.4-4
[1] Source: 1998 Traffic Volumes on the California State Highway System (Caltrans 1999)
[2] Source: 1997 Truck Volumes, Caltrans Official Web-site (Caltrans 2000)
[3] Maximum number of vehicles per hour, one-direction.
[4] LOS calculated by dividing peak hour volume (V) by peak hour capacity (C); and using the V/C ratio.

* Annual average daily truck traffic not available for this segment. Estimate based on SR 78 interchange segments volumes given proximity and low density of development at the Mesa Drive interchange.

Applicant provided accident data from the Highway Patrol (Blythe Station) for I-10, SR-78, US-95 and unincorporated roadways in the vicinity of the project site for a period between 1997 and September 1999 (Ex. 1,／7.4.1.4.) The accident rates for the highways near the study area are well below statewide accident averages. (Ex. 53, p. 363)

1. Construction Impacts

Commuter Traffic: Construction of the generating plant and transmission facilities would occur over an estimated 20-month period and would require a peak (three-month) construction workforce of 385 workers, assuming a single shift and a 40-hour, five-to-six day work week. The pipelines would have a peak workforce of 71. Construction workers commuting from the greater Blythe area would travel west on Hobsonway or travel west on I-10 to the I-10/SR 78 interchange; those workers who live west of the site would travel east on I-10 to the Mesa Drive interchange. Workforce vehicle trips were calculated based on this data. Ex.1,／7.6.2.3; Ex. 53, pp. 295-296, 365.)

BEP assumes an average automobile occupancy (AAO) of 1.1 persons per vehicle to the site represents a worst-case construction worker commute scenario. Using the AAO rate of 1.1 results in approximately 700 daily trips to and from the site with a maximum of 350 vehicle trips during the early evening peak hour. Parking for construction worker vehicles would be provided on the power plant site. A worst-case scenario which assumes that all workers would drive individually to the project site would result in 770 daily vehicle trips to and from the site and a maximum of 385 trips from the site during the early evening peak hour. Even under worst-case conditions (770 daily vehicle trips) the impact to local roads and highways would not be significant given the current operating levels of service (LOS A) and the relatively low volumes of background traffic. (Ex. 53, p. 365.)

Using the traffic pattern assumptions described above, construction related vehicle traffic would be heaviest on I-10/Mesa Drive and Hobsonway. The impact on I-10 during peak hours, assuming the worst case scenario of 385 trips by workers (maximum workers at peak construction of the project) would result in traffic increases of approximately 24 percent along portions of I-10. This traffic impact is not significant because the highway segment under this worst case

scenario would continue to operate at LOS A. Hobsonway would experience an increase in traffic at peak hours, but given the current level of peak hour traffic observed by staff, estimated at LOS A, the impact is not considered significant since the LOS level would probably not decrease below B for the commute period. The current General Plan identifies Hobsonway as a primary arterial and Mesa Drive as a collector street. (Ex. 53, pp. 365-366.)

The construction contractor would be required to prepare a construction traffic control plan and implementation program to be submitted to Caltrans and to the City of Blythe Public Works Director. (Ex. 1,// 7.2, 7.4.2.5.1.)

TRUCK TRAFFIC

Construction of the generating plant would require the use and installation of heavy equipment and associated systems and structures. Heavy equipment would be used throughout the construction period, including trenching and earthmoving equipment, forklifts, cranes, cement mixers and drilling equipment. In addition to deliveries of heavy equipment, construction materials such as concrete, wire, pipe, cable, fuels and reinforcing steel would be delivered to the site by truck. An estimated 4,310 truck deliveries would be made to the plant site over the course of the 20-month construction period (on average approximately 216 truck deliveries per month). Assuming 22 average workdays per month and two trips for each truck delivery (one to and one from the site), the project will generate approximately 19 truck trips per day, on average. During the peak month of construction truck activity daily truck trips are estimated at 50 per day. Deliveries will also include small quantities of hazardous materials to be used during project construction. The applicant has stated that the deliveries of hazardous materials to and from the site will be conducted in accordance with California Vehicle Code Section 31300, *et seq*. (Ex. 53, p. 366.)

Applicant did not select a specific truck route for supplying and removing hazardous materials. However, it does note that pursuant to Section 31303 of

the California Vehicle Code, the transportation of hazardous materials will be on state or interstate highways that offer the shortest overall transit time possible. The CHP has identified I-10, US-95, and SR-78 as roadways to be used in the transportation of designated hazardous materials. (Ex. 1,/7.4.2.3.1.)

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, Sections 35780, *et seq*., require permits for the transportation of oversized loads on state and county roads. By statute, Energy Commission certification takes the place of all necessary state, local and regional permits. However, the Commission typically requires applicants to obtain permits from Caltrans for oversized loads, encroachment and activities within road right-of-ways. The Commission has included a condition of certification to ensure compliance with County and Caltrans requirements. (Ex. 53, pp. 366-367.)

The project high voltage transmission line will cover a relatively short distance and will be constructed and strung within the BEP parcel from the existing substation to the power plant. Construction of the 230 kV structures and stringing the transmission line will cause temporary closure of Buck Boulevard and the use of some construction vehicles. Applicant included the transmission line construction vehicles in its estimate of overall truck trip generation for the power plant. Potential impacts from construction of the transmission line would be insignificant and short-term. (Ex. 53, p. 370.)

SoCal Gas Company Interconnection

Construction of the natural gas pipeline interconnection to the SoCalGas pipeline is estimated to take approximately two months and require on average 40 workers per day with a peak daily workforce estimate of 60 people. A worst case estimate in which all pipeline workers drive alone to the site would result in 60 early evening peak hour trips during peak construction activities and 40 early

evening peak hour trips during average construction activities. An estimate of 20 trucks or pickup trucks would be used daily during construction of the pipeline as well as heavy duty equipment for trenching, pipe laying and backfilling activities. The pipeline will extend approximately 2,000 feet south from the power plant across (trenching) or under (microbore drilling) Hobsonway and under I-10 to an existing SoCalGas Company connection. The crossing of Hobsonway will require an encroachment permit from Riverside County. BEP expressed its intent to comply with County encroachment permit requirements. Working in the right-of-way of I-10 will require an encroachment permit from Caltrans. The applicant will comply with Caltrans encroachment permit requirements. We adopt conditions of certification ensuring compliance with both County and Caltrans limitations for encroachment into public rights-of-way. All crossings of roads and other sensitive areas during construction activities will be in accordance with local, state, and federal regulatory requirements and specifications. The crossings will be provided with adequate barricades and lights in accordance with the Caltrans Manual of Traffic Control for Construction and Maintenance of Work Zones and the California Vehicle Code (Section 21400). I-10 and Hobsonway would continue to operate at acceptable levels of service during the two-month pipeline construction period. The Caltrans I-10 pavement rehabilitation project scheduled for April 2001, could potentially overlap with BEP pipeline construction activity. In the event of construction overlaps, coordination between BEP and Caltrans would be required to minimize impacts. Use of routine construction safety measures and compliance with encroachment permit requirements should be sufficient to ensure no significant impacts. (Ex. 53, pp. 370-371.)

El Paso Natural Gas Company Interconnection

Construction of the gas pipeline interconnection to the El Paso Natural Gas pipeline is expected to take four months and require on average 48 daily workers per month. The construction workforce would peak at 71 workers. A worst case estimate in which all pipeline workers drive alone to the site would result in 71

early evening peak hour trips during peak construction activities and 48 early evening peak hour trips during average construction activities. An estimate of 20 trucks or pickup trucks would be used daily during construction of the pipeline as well as heavy duty equipment for trenching, pipe laying and backfilling activities. The pipeline would extend approximately 11 miles from the power plant to the east side of the Colorado River in La Paz County, Arizona. The adjusted pipeline route would extend from the power plant site east along Hobsonway to Arrowhead Boulevard, south on Arrowhead Boulevard passing under I-10 to Seeley Avenue (formerly 16th Avenue). The pipeline would continue east on Seeley Avenue under the AT&SF Railroad tracks to Intake Boulevard, north on Intake Boulevard to Riviera Drive which fronts I-10 and east on Riviera Drive near the I-10 on-ramp where the pipeline would be drilled under the Colorado River to the gas line connection on the east side of the river. The pipeline route is primarily within County and City rights-of-way and most of the route is characterized as agricultural land. Some residential and business access driveways will be temporarily impacted by the pipeline construction, particularly along Seeley Avenue. BEP will comply with local, County and State encroachment permit requirements. We adopt conditions of certification ensuring compliance with limitations for encroachment into public rights-of-way. (Ex. 53, p. 371.)

La Paz County planning staff had initial concerns about the BEP pipeline construction in Arizona. La Paz planning staff indicted that a special use permit might be needed from the Board of Supervisors and that two public meetings would be required. Following a meeting with BEP representatives and a visit to the drilling site, they determined that no special requirements would likely be needed. The construction is a permitted use and no grading permit or encroachment permit is required because the project will move less than 50 cubic yards of earth. (Ex. 53, pp. 371-372.)

Local roads and highways will continue to operate at acceptable levels of service during the four-month pipeline construction period. Impacts to residential and commercial uses along the route will be temporary. Given the relatively low number of estimated commute and construction worker trips and the low levels of existing traffic, no significant impact to local roads and highways is expected from construction of the gas pipeline. (Ex. 53, p. 372)

2. Operation Impacts

COMMUTE TRAFFIC

Operation of the generating plant would require a labor force of approximately 20 full-time employees. A worst case scenario assumes that each employee would drive a separate vehicle to work and that they would make one round trip from home to work per day, generating approximately 40 vehicle trips per day. Adequate parking would be made available for employees on an on-site paved lot. BEP has assumed, and staff agrees, that the majority of the permanent workforce would reside in the greater Blythe area and their preferred route to work would be from the east along I-10 to Mesa Drive, then east on Hobsonway to Buck Boulevard and from the west on Hobsonway to Buck Boulevard or west on I-10 to the SR 78 interchange and west on Hobsonway to Buck Boulevard. BEP operations-related traffic impacts are considered minimal, representing less than 1 percent of existing AADT on I-10. (Ex. 53, p. 367.)

TRUCK TRAFFIC

Approximately eight or nine truck deliveries of aqueous ammonia, a hazardous substance, will occur each month with an average of two deliveries per week. For an in-depth description of the amount and type of hazardous materials that will be used during operation of the facility, see the **Waste Management** and **Hazardous Materials** Sections of this Decision. Hazardous waste materials would be picked up at the project site once every 90 days and hauled offsite by licensed hazardous waste transporters. The materials will be transported to

three Class 1 landfills in Southern California or recycled at one of several oil haulers/recyclers located in Southern California.Transportation of materials and 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. We have included a condition of certification to ensure compliance with County and Caltrans requirements. Due to the limited amount of truck traffic associated with the operational phase of the project, hazards with other local truck traffic in the area are considered minimal. Mitigation measures and conditions of certification that ensure compliance with state, federal and local permit and safety requirements are discussed later in this section. There is good hazard free road access to the site. (Ex. 53, pp. 367-368)

Airport Operations

Aircraft landing from the east at Blythe Airport may fly over the project site on approach. The east edge of the primary airport runway (Runway 8-26) is approximately one mile west of the BEP site. The end of Runway 8-26 is located at 393 feet above mean sea level (MSL). The BEP is approximately 335 feet above MSL. When constructed, the power plant heat recovery steam generator stacks will be 130 feet high. The stacks are estimated to be 72 feet above the level of the runway. When using the lowest Instrument Landing System (ILS) angle (2.9 degrees) for Runway 8-26, the height of the aircraft during landing approach over the stacks could be about 168 feet. (Ex. 53, p. 368.)

The Federal Aviation Administration (FAA) has made an evaluation related to the project stack height and found that the proposed structure would not exceed obstruction standards and would not be a hazard to air navigation. Based on this evaluation, marking and lighting are not necessary for aviation safety. The FAA did indicate, however, that if marking or lighting were accomplished on a

voluntary basis that it be installed and maintained in accordance with FAA requirements. The applicant will install lighting on the power plant stacks in accordance with FAA requirements. The ILS approach to Runway 8-26 has not been approved by the FAA. (Ex. 53, p. 368).

BEP will have two evaporation ponds with a combined surface area of approximately 16 acres. These ponds may attract birds that could adversely affect aircraft during landing from or departing to the east. In addition, the proposed project may generate visible cooling tower plumes of various sizes during certain times of the year. (Ex. 53, p. 369.) The Riverside County Airport Land Use Commission (ALUC) found the BEP was consistent with the Blythe Airport Comprehensive Land Use Plan subject to a number of conditions. One of the conditions requires BEP to submit prior to the issuance of any permit an avigation easement to the County of Riverside which will ensure that the project does not adversely affect Blythe Airport operations. We have included a condition of certification to require proof of the easement. (Ex. 53, p. 369.)

Caltrans Aeronautics reviewed the project and initially raised some concerns about potential adverse impacts related to airport operations that included the effects of heat and visible plumes, electrical interference, and approaches to Runway 08/26 from the east. However, after further correspondence with the City of Blythe and the acknowledgement that the runway would not be extended to the east, Caltrans has determined that the concerns have been adequately addressed.

3. Cumulative Impacts

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 BEP area (along the potentially affected highways) is operating at very efficient levels of service with significant reserve capacity. The three primary

highways and the primary local arterial operate at LOS A. As mentioned above, Caltrans plans on re-paving portions of I-10 in the BEP area in 2001 and 2002. This could overlap with the construction of BEP. Applicant provided an analysis of year 2003 traffic conditions plus project commute trips. Background forecast volumes were developed by Caltrans for year 2015 conditions. An analysis of the 2003 early evening peak hour forecast plus peak hour employee trips indicates that freeway segments in the area would continue to operate at LOS A. (Ex. 53, p. 372.)

The only other significant potential development proposed for the BEP area is the Blythe Airport Industrial Park site located two miles west of the power plant. 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 that is currently underway. Development of the Blythe Airport Industrial Park could create potential localized impacts at the I-10/Mesa Drive interchange. The industrial park development would not significantly impact operations on any of the affected highway segments. A draft Master Plan is expected in the Spring of 2001. (Ex. 53, p. 372.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. Construction and operation of the Blythe Energy Project will cause increased traffic on roadways in the local and regional areas.

2. The roadway capacities in the local and regional areas are sufficient to accommodate the increased traffic resulting from construction and operation of the project.

3. Impacts upon traffic and roadway conditions due to construction activities will be temporary and not significant.

4. The project owner will obtain necessary encroachment permits from Caltrans for access to public rights-of-way and for traffic management during the construction phase.

5. The project owner will repair any roadway damage after completion of the construction phase.

6. Potential cumulative impacts to traffic resulting from construction and operation of the project will be insignificant.

7. Potential adverse impacts associated with the transportation of hazardous materials will be mitigated to insignificant levels by compliance with applicable laws.

8. Implementation of the Conditions of Certification, below, ensures that construction and operation of the Blythe Energy Project will comply with applicable laws, ordinances, regulations, and standards on traffic and transportation.

The Commission therefore concludes that construction and operation of the project will not result in any significant, direct, indirect, or cumulative adverse impacts to the regional transportation system.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall comply with Caltrans, County of Riverside, La Paz County and City of Blythe limits on vehicle sizes and weights. In addition, the project owner or its contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: In the Monthly Compliance Reports, the project owner shall certify that it has received all oversize and overweight transportation permits required during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

TRANS-2 The project owner or its contractor shall comply with Caltrans, County of Riverside, and City of Blythe requirements for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

Verification: In Monthly Compliance Reports, the project owner shall submit copies of any encroachment permits received during the reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

TRANS-3 The project owner shall ensure that all federal and state regulations for the transport of hazardous materials are observed and all necessary permits acquired during both construction and operation of the facility.

Verification: The project owner shall include in its Monthly and Annual Compliance Reports, copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous materials.

TRANS-4 The project owner shall prepare a Traffic Management Plan (TMP) to address potential conflicts on Seeley Avenue during construction of the El Paso Natural Gas Pipeline interconnection. The TMP shall also address all traffic control measures necessary during construction, including time of day and duration of temporary lane closures to permit equipment ingress and egress, safety measures and techniques, signage, barrier requirements, and any other communications requirements.

Verification: At least thirty (30) days prior to the start of earth moving or disturbance activity, the project owner shall provide the CPM, Riverside County and the City of Blythe Public Works Director a copy of its Traffic Management Plan for review and comments.

TRANS-5 Following construction of the power plant and all related facilities, the project owner shall meet with Riverside County, La Paz County and the City of Blythe to determine the actions necessary to repair local roads which will be used for construction traffic, to original or as near original condition as possible.

Protocol: At least thirty (30) days prior to the start of earth moving activities, the project owner shall photograph or videotape the primary routes to be used by construction traffic from the junction of SR-78 westerly along Hobsonway and from the junction of Mesa Drive easterly along Hobsonway to the project site. To document the condition of the roads, the project owner shall provide Riverside County and the City of Blythe copies of these photographs or videotapes.

Following completion of project construction, the project owner shall meet with Riverside County, La Paz County and the City of Blythe to determine the condition of the roads.

Verification: At least fifteen (15) days prior to the start of earth moving activities, the project owner shall provide copies of photographs or videotapes of construction traffic routes to Riverside County and the City of Blythe, and the CPM. Within sixty (60) days of this meeting, the project owner shall complete the necessary repairs. Within ninety (90) days of the completion of project construction the project owner shall acknowledge satisfactory completion of the roadway repairs to the CPM.

TRANS-6 The project owner shall comply with the conditions outlined in the October 19, 2000 decision of the Riverside County Airport Land Use Commission that the BEP was consistent with the Blythe Airport Comprehensive Land Use Plan.

Verification: At least thirty days prior to the start of earth moving activities, the project owner shall provide the City of Blythe, Riverside County Airport Land Use Commission, and the CEC s CPM a copy of the avigation easement, the applicable standards, and a plan regarding reflection of sunlight, electrical interference, noise, smoke and vapor, and attraction of birds. The project owner shall also provide the above-noted parties a copy of the Risk Management Plan required by Condition of Certification **HAZ-2**. The project owner shall also provide the above-noted parties a copy of the Lighting Plan required by Condition of Certification and verification for **VIS-3**.

TRANS-7 The project owner shall comply with the ALUC condition that an avigation easement will be filed with the County of Riverside.

Verification: At least thirty days prior to the start of earth moving activities, the project owner shall provide a copy of the avigation easement filed with the County of Riverside to the CPM.

C. VISUAL RESOURCES

Visual resources are the natural and cultural features of the landscape that contribute to the visual character or quality of the environment. The California Environmental Quality Act (CEQA) requires an examination of a project s visual impacts on the environment which, in this case, would focus on the project s potential to cause substantial degradation to the existing visual character of the site and its surroundings. (Cal. Code of Regs., tit. 14,／15382, Appendix G.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project is located on Palo Verde Mesa in eastern Riverside County. The project region encompasses broad flat desert valleys and north-south trending, highly eroded mountain ranges that rise sharply from the adjacent basins. The region marks the transition zone between the high elevation Mojave Desert and the arid, lower elevation Colorado Desert. Typical landforms include mesas, valleys, mountains, and foothills. The elevation ranges from approximately 250 to 800 feet. Most development within the region occurs within Palo Verde Valley along the west side of the Colorado River and includes the City of Blythe, the towns of Palo Verde and Ripley, as well as agricultural fields, railroad lines, power transmission lines, and the Palo Verde Dam and diversion works. Most of the agricultural activity in the region also occurs in the valley and is dominated by irrigated farming consisting primarily of row crops and alfalfa. Overlooking Palo Verde Valley to the west lies the two-tiered Palo Verde Mesa. The mesa is a broad alluvial plain situated between, and derived from, the McCoy Mountains to the west, Little Maria Mountains to the north, and Big Maria Mountains to the northeast. To the south are the Mule and Little Chuckwalla Mountains. The mountain ranges add visual variety to the otherwise flat desert landscape. (Ex. 53, pp. 387-388.)

Because the site is situated on an elevated mesa, ground level components are generally only visible from foreground viewing opportunities in close proximity of the site, typically on Hobsonway and Interstate 10. However, the taller portions of the plant facilities would be visible at distances greater than 10 miles because of the relatively flat terrain and minimal view obstructions. The majority of viewers of the site would be motorists on Interstate 10, located approximately 0.25 miles south of the site; commercial areas on the east side of Blythe Airport; rural residences; and the Blythe Municipal Golf Course and adjacent residences in the Mesa Bluffs area. Other locations from which viewers would be able to see the project include the main part of the City of Blythe (located approximately five miles to the east), residential subdivisions on the mesa and in the valley, and recreational use areas in the surrounding mountains. The Blythe Airport is considered potentially eligible for listing in the National Register of Historic Places and could be considered a sensitive viewing location. However, the plant site is located approximately 1.3 miles distant to the east and at an elevation approximately 58 to 60 feet lower than the airport. Thus, views of the plant site from the airport would be limited. Visibility would be attenuated with increasing distance, particularly at times of the year when dust and poor visibility conditions persist. Vapor plumes from the project, which would extend above the tallest project structures, could be seen from greater distances than the power plant structures, particularly on clear days that coincide with favorable meteorological conditions for plume formation (low temperature and high humidity). (Ex. 53, p. 388.)

The project will be located on the eastern lower tier of Palo Verde Mesa, which is characterized by a mostly undeveloped desert landscape of level terrain and sparse desert scrub vegetation interspersed with a small amount of irrigated agriculture and containing some industrial, utility, and transportation facilities. Views of the mesa are panoramic in scope and encompass a landscape of generally uniform tan coloration interspersed with contrasting dark and light zones. Middleground views reveal a natural setting of stippled appearance due

to the contrasts between vegetation, soil, and rock. Closer foreground views present a mosaic of sparse shrubby vegetation and desert pavement openings. The project site and the surrounding landscape are characterized by views that are expansive and relatively unobstructed. Structures are few and widely dispersed. Although the site is undeveloped, several electric transmission lines cross the site and are supported on wood pole H-frame structures. Immediately adjacent and to the east of the site are a citrus orchard and the Blythe Substation. Sewage disposal ponds are located adjacent to the site and to the southwest but are not generally visible from either Hobsonway or Interstate 10. There are three rural residences located within one mile of the plant site. Staff found less than 200 residences located between one mile and four miles from the site, but obviously this does not include the Mesa Verde community. There are an additional 77 residences between four and five miles of the site. Interstate 10 in the vicinity of the proposed project has been identified as Eligible for County Scenic Highway designation in the Scenic Highways portion of the County Comprehensive General Plan. (Ex. 1,// 7.5.1.1, 7.5.1.2; Ex. 53, p. 388-389.)

The most noticeable project features are the two heat recovery steam generator (HRSGs) at 93 feet tall, the two HRSG stacks at 130 feet tall, and the generator building at 60 feet tall. The cooling towers will be the primary sources of visible atmospheric plumes, releasing warm water vapor that will rise into the air, resulting in elongated, vertical white plumes. Vapor plumes from the project may be seen from distances of several miles on clear days. (Ex. 1, // 7.5.2.1, 7.5.2.1.2-7.5.2.1.6; Ex. 53, p. 418.)

1. Methodology

Applicant and Staff conducted visual field studies that viewed the project landscapes from public roads and vantage points to develop an overall assessment of landscape characteristics and the potential for project impacts.

Eight Key Observation Points (KOPs) were chosen to represent particularly sensitive viewpoints (Ex. 53, pp.383, 390-401):

- KOP 1 on Interstate 10 (I-10), approximately one-quarter mile due south of the site, represents the area along the freeway, the most heavily used travel corridor and the primary area of public visual access.

- KOP 2 adjacent to and south of Hobsonway, approximately 0.75 mile southwest of the project site represents the view area from the nearest residence and commercial establishment.

- KOP 3 was selected to capture the potential visual impact to the nearest major residential area. The Nicholls Warm Springs residential subdivision is located south of Blythe Municipal Airport, adjacent, and to the south of, Interstate 10. KOP 3 was established on the north side of the subdivision at a distance of approximately 2.5 miles southwest of the project site.

- KOP 4 is located adjacent, and to the north of, Hobsonway on the C Canal east levee adjacent to the K-Mart parking lot. This location is approximately four miles east of the project site and was selected to depict the closest view of the site from the City of Blythe urban center.

- KOP 5 was selected to characterize the impact to the Blythe Municipal Golf Course and the adjacent residences, all of which are located on Palo Verde Mesa and have a direct, though distant (at approximately 4.5 miles), line of sight to the proposed plant site. KOP 5 is located in a small parking area adjacent to the Golf Course and several residences at the edge of the mesa.

- KOP 6 was selected as one of two locations to characterize the impact to motorists on Hobsonway. KOP 6 is located on westbound Hobsonway at the southeast corner of the project site and captures the view of the site available to westbound motorists.

- KOP 7 was selected to characterize the reasonable worst case visual impact to nearby residences and eastbound traffic on Hobsonway. KOP 7 is located on eastbound Hobsonway, immediately north of a residence that is located on the eastern face of the mesa s upper tier, approximately 0.85 miles southwest of the project site.

- KOP 8 was selected to characterize the visual impact to eastbound motorists on Interstate 10. KOP 8 is located on eastbound I-10 southwest of the project site and immediately east of the upper mesa eastern face.

Applicant took panoramic photographs of viewpoints KOP 1 through KOP 5 to document their existing visual features. Applicant then prepared photosimulations of the viewpoints that show project features superimposed on the original photographs. (Ex. 1,/7.5, Figures 7.5 .-3, 7.5.-4, 7.5.-5 7.5.-6 and 7.5.-7.) Applicant asserts that these simulations objectively demonstrate whether project impacts will be noticeable to sensitive public views. (*Id.*, at/7.5.2.5.) The results of Applicant s analysis is collected in Ex. 1,//7.5.2.5.1-7.5.2.5.5. Applicant also analyzed the KOPs selected by Staff. (Ex. 2, p. 82.) The results of Staff s analysis is collected in Exhibit 53, at pages 390-401, and in Exhibit 53, Appendix A. (Ex. 53, p. 390.)

Applicant s analysis concluded that the construction and operation of the project, including the transmission lines and gas pipeline, would not result in significant adverse visual impacts. BEP also concluded that, with the recommended mitigation measures, night lighting will not result in significant adverse visual impacts. Finally, based on review of the modeling, BEP concluded that the visible cooling tower plume is not anticipated to cause significant adverse visual impacts. BEP anticipates no impacts from a HRSG stack plume. (Ex. 2, p. 82.) Staff concluded, assuming effective implementation of applicant s proposed mitigation measures, as modified, expanded, and augmented by staff s

recommendations, the project is not expected to cause any significant visual impacts. With the proposed mitigation, the project is also expected to be in compliance with applicable laws, ordinances, regulations, and standards regarding visual resources. (Ex. 53, pp. 425-426.)

Construction of the proposed power plant, electric transmission lines, water evaporation ponds, and access road would cause temporary visual impacts due to the presence of equipment, materials, and workforce. These impacts would occur at the proposed power plant site and construction laydown areas, along the short rights of way for the transmission lines, at the water evaporation ponds, and along the access road. All of these components are located within, or immediately adjacent to, the proposed 76-acre development site. Traffic would also increase dramatically along Hobsonway during construction. Construction activities would be visible from Hobsonway, the nearest commercial establishment, the nearest residences, and Interstate 10 which is the primary travel corridor in the region. Due to the relatively short-term nature of project construction, adverse but not significant visual impacts are anticipated. (Ex. 53, p. 402.)

3. Mitigation

Applicant proposed seven mitigation measures to be incorporated into the project design to minimize visual impacts associated with the operation of the facility. Staff generally agreed with Applicant s proposals in regard to color, fencing, lighting, revegetation, and management of construction debris, but sought conditions that were more precisely developed, which they proposed. No additional mitigation was proposed by Staff. (Ex. 53, p. 425.) In its Supplemental Testimony (Ex. 54) Staff proposed an addition to Condition VIS-3. Applicant has agreed to all the Conditions, including the modification. (Applicant s Opening Brief, p. 12.) We adopt them.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. The Blythe Energy Project (BEP) is located in a rural area, which is characterized by panoramic views of the mesa, the valley and the mountains.

2. The nearest sensitive viewing areas are from Interstate 10 (I-10) and Hobsonway, which are both within one-quarter mile of the project.

3. Project facilities that could result in significant visual impacts include the cooling towers, HRSG exhaust stacks, and the transmission line.

4. Views of project facilities are too transitory or too distant to result in significant visual impacts.

5. Plumes from the cooling towers and HRSG stacks will not result in significant visual impacts to the panoramic landscape.

6. There is no evidence of potential cumulative visual impacts with the addition of BEP in the viewshed.

7. Implementation of the Conditions of Certification, below, will insure that BEP complies with all applicable laws, ordinances, regulations, and standards relating to visual resources as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission concludes that the implementation of the mitigation measures contained in the Conditions of Certification and otherwise described in the record of evidence will ensure that neither the power plant nor its overhead transmission line will cause significant adverse impacts to visual resources.

CONDITIONS OF CERTIFICATION

VIS-1 Prior to first synchronization of the project, the project owner shall treat the project structures, buildings, and tanks in an earthen hue or hues that minimize visual intrusion and contrast by blending with the surrounding landscape, and shall treat those items and the switchyard structures and electric transmission towers in a non-reflective finish. The project owner shall develop a specific treatment plan for CEC approval to ensure that the proposed colors do not unduly contrast with the surrounding landscape colors. The plan shall be submitted sufficiently early to ensure that any precolored buildings, structures, and linear facilities will have colors approved and included in bid specifications for such buildings or structures.

Protocol: The project owner shall submit a treatment plan for the project to the Compliance Project Manager (CPM) for review and approval. The treatment plan shall include:

- specification of the treatment proposed for use on project structures, including structures treated during manufacture, and 11 x 17 color simulations of the project with the proposed treatment;
- a list of each major project structure, building, and tank, specifying the color(s) proposed for each item;
- documentation that a non-reflective finish will be used on all project elements visible to the public;
- a detailed schedule for completion of the treatment; and
- a procedure to ensure proper treatment maintenance for the life of the project.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall submit a revised plan to the CPM.

After approval of the plan by the CPM, the project owner shall implement the plan according to the schedule and shall ensure that the treatment is properly maintained for the life of the project.

For any structures that are treated during manufacture, the project owner shall not specify the treatment of such structures to the vendors until the project owner receives notification of approval of the treatment plan by the CPM.

The project owner shall not perform the final treatment on any structures until the project owner receives notification of approval of the treatment plan from the CPM.

The project owner shall notify the CPM within 7 (seven) days after all precolored structures have been erected and all structures to be treated in the field have been treated and the structures are ready for inspection.

Verification: At least 60 (sixty) days prior to ordering the first structures that are color treated during manufacture, the project owner shall submit its proposed plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 (thirty) days of receiving that notification, the project owner shall submit to the CPM a revised plan.

Not less than 30 (thirty) days prior to first synchronization of the project, the project owner shall notify the CPM that all structures treated during manufacture and all structures treated in the field are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

VIS-2 All fencing for the project shall be non-reflective.

Protocol: Prior to ordering the fencing the project owner shall submit to the CPM for review and approval the specifications for the fencing documenting that such fencing will be non-reflective.

If the CPM notifies the project owner that revisions of the specifications are needed before the CPM will approve the submittal, the project owner shall submit to the CPM revised specifications.

The project owner shall not order the fencing until the project owner receives approval of the fencing submittal from the CPM.

The project owner shall notify the CPM within 7 (seven) days after the fencing has been installed and is ready for inspection.

Verification: Prior to first turbine roll and at least 30 (thirty) days prior to ordering the non-reflective fencing, the project owner shall submit the specifications to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 (thirty) days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 (seven) days after completing installation of the fencing that the fencing is ready for inspection.

VIS-3 Prior to first synchronization of the project, the project owner shall design and install all lighting such that light bulbs and reflectors are not visible from

public viewing areas and illumination of the vicinity and the nighttime sky is minimized. To meet these requirements:

Protocol: The project owner shall develop and submit a lighting plan for the project to the CPM for review and approval. The lighting plan shall require that:

- Lighting is designed so that exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of this outdoor lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary;
- High illumination areas not occupied on a continuous basis such as maintenance platforms or the main entrance are provided with switches or motion detectors to light the area only when occupied; to the extent that it does not impact worker safety, and
- A lighting complaint resolution form (following the general format of that in Attachment 1) will be used by plant operations, to record all lighting complaints received and document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall prepare and submit to the CPM a revised plan.

Lighting shall not be installed before the plan is approved. The project owner shall notify the CPM when the lighting has been installed and is ready for inspection.

Verification: At least 90 (ninety) days before ordering the exterior lighting, the project owner shall provide the lighting plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 (thirty) days after receiving that notification the project owner shall submit a revised plan to the CPM.

The project owner shall notify the CPM within seven (7) days of completing exterior lighting installation that the lighting is ready for inspection.

VIS-4 The project owner shall provide landscaping satisfactory to the City of Blythe Planning Department.
Protocol: The project owner shall submit a landscaping plan to the CPM for review and approval. The submittal shall include evidence that the plan is satisfactory to the City of Blythe Planning Department.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, the project owner shall submit to the CPM a revised plan.

The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

Verification: Prior to first synchronization of the project and at least 60 (sixty) days prior to installing the landscaping, the project owner shall submit the plan to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 (thirty) days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 (seven) days after completing installation of the landscaping, that the landscaping is ready for inspection.

VIS-5 The project owner shall provide soil restoration and revegetation satisfactory to the City of Blythe Planning Department.

Protocol: The project owner shall submit a soil restoration and revegetation plan to the CPM for review and approval. The submittal shall include evidence that the plan is satisfactory to the Director of the City of Blythe Planning Department.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, the project owner shall submit to the CPM a revised plan.

The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

Verification: Prior to first synchronization of the project and at least 60 (sixty) days prior to undertaking soil restoration and revegetation, the project owner shall submit the plan to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 (thirty) days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 (seven) days after completing installation of the landscaping, that the soil restoration and revegetation is ready for inspection.

D. NOISE

The construction and operation of any power plant project will create noise. The character and loudness of this noise, the times of day or night during which it is produced, and the proximity of the project to sensitive receptors combine to determine whether project noise will cause significant adverse impacts to the environment. In this section, the Commission evaluates whether noise produced by project-related activities will be sufficiently mitigated to comply with applicable noise control laws and ordinances.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Laws that regulate noise disturbances in the project vicinity are included in the LORS of Riverside County. Facility-related noise levels near residential receptors must not exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. and 65 dBA (10-minute L_{eq}) between the hours of 7:00 a.m. to 10:00 p.m. (10-minute L_{eq}). It should be noted that temporary construction activities are not covered by this standard.

Construction noise is covered under Ordinance 457.90, Section 1G of the Riverside County Building and Safety Department, which states the following: whenever a construction site is within one-quarter (1/4) mile of an occupied residence(s), no construction activities shall be undertaken between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. Exceptions to these standards shall be allowed only with the written consent of the Riverside County building official. (Ex. 53, p. 247.)

The project site for the proposed Blythe Energy Project is located in an unincorporated area of Riverside County that has recently received approval for annexation into the City of Blythe. The City of Blythe has established a 24-hour (L_{dn} or CNEL) exterior noise limit of 65 dBA at the property line and an interior noise limit of 45 dBA. An area may be considered noise-impacted if future levels

exceed 60 dBA at the exterior of an industrial building or property boundary (BEP 1999a, AFC/7.3.3.3, FSA p. 248)

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1. Setting

Existing *insensitive* land uses near the power plant site include undeveloped and agricultural lands. The nearest *sensitive* noise receptor is a residence 3,465 feet west-southwest of the site, but within 600 feet of Interstate 10. (FSA p. 249)

Existing land uses for the proposed natural gas pipeline route (both options) include agriculture, sewage disposal ponds, residences, and manufacturing. Several sensitive receptors exist in the vicinity of the proposed natural gas pipeline route associated with the EPNG connection. The nearest receptor is the Felix J. Appleby Elementary School, which is approximately 0.75 mile north of the proposed pipeline corridor in the City of Blythe. Farm residences exist one mile east and south of the proposed pipeline corridor, located on various mesas and topographic depressions. Nicholls Warm Springs is the nearest unincorporated residential area and it is approximately 2.5 miles southwest of the proposed pipeline corridor. (FSA p. 249)

2. Potential Impacts and Mitigation

Applicant conducted surveys of the ambient noise levels adjacent to the site and at the sensitive residential receptors. Noise levels at the residential receptor nearest the power plant site are influenced primarily by traffic on Interstate 10.

a. Construction

Construction of the power plant and associated linear facilities will cause short-term noise impacts. Noisy construction work is restricted to the hours delineated in Condition **NOISE-8**. The Commission notes however, the need to expedite the construction of power plants to address the current problem of insufficient

electrical generating capacity. Therefore, if the Applicant believes the current conditions of certification will adversely delay the construction of the BEP, the Applicant is directed to consult with Commission Staff to identify ways to expedite construction while trying to minimize noise impacts to the local residents. The Commission is currently working on procedures to help expedite the construction of power plants.

Applicant predicted construction noise impacts on the nearest sensitive residential receptor. When construction activities occur at the southern portion of the facility, noise levels at the nearest residence are projected to be approximately 55 dBA. Noise levels at the nearest residence are expected to drop to 52 dBA when construction is occurring at the northwestern portion of the BEP site. Since the plant construction will be confined mainly to the northern portion of the site, construction noise related impacts would be closer to 52 dBA at the nearest residence, well within the limits of the City of Blythe. The daytime noise levels (hourly L_{90}) measured at the residential receptor ranged between 42.5 to 53.5 dBA. It is assumed that construction noise will be most prevalent during low volume traffic periods along I-10. However, temporary construction activities will be limited to daytime hours; therefore, construction related noise levels would be considered minor and will not result in any noise impacts (BEP 1999a, AFC/7.3.2.1). (FSA p. 250)

Construction of the gas line will also produce noise. This noise will be noticeable, and possibly annoying, to persons outside their homes at those residences nearest the construction area. This work, however, is only a temporary phenomenon; the work will progress at such a pace that no single receptor will be inconvenienced for more than a few days. In addition, such work is customarily performed during the daytime, and would cause no impacts at night, when quiet time is most important. (FSA p. 251)

Transmission line construction is limited to approximately 400 feet from the BEP facility. Since the closest receptor is 3,465 feet away from the transmission

interconnect, no significant adverse noise impacts are likely to occur due to the construction of the linear facilities. (FSA p. 251)

Conditions **NOISE-1** and **NOISE-2** require the project owner to notify all residents and business owners in the vicinity of planned construction activities and to establish a noise complaint resolution process.

The loudest construction noise is created by steam blows, which are necessary to flush piping and tubing of accumulated debris prior to start-up. A series of short steam blows, lasting a few minutes, is performed several times daily over a period of two or three weeks. Steam blows can produce noise as loud as 130 dBA at a distance of 100 feet, which would attenuate to 83 dBA at the nearest residence. (FSA p. 251) The project owner will install an appropriate silencer to reduce steam blow noise levels by 20-30 dBA or employ a new, quieter steam blow process. Condition **NOISE-4** restricts steam blows to daytime hours to minimize annoyance to residents. Condition **NOISE-5** requires notification to neighbors prior to initiating the steam blow process.

Project workers are susceptible to injury from excessive noise during construction-related activities. **NOISE-3** requires the project owner to implement a noise control program for construction workers in accordance with Cal/OSHA standards. (FSA p. 251)

b. Operation

During normal baseload operation, BEP will emit a steady, continuous noise source day and night. Noise mitigation measures incorporated into the project design will ensure that noise levels at the nearest sensitive receptor will. The applicant calculated the noise levels from the BEP at the closest residence, 3,465 feet to the west-southwest of the proposed site (BEP 2000, AFC/7.3.2.2). The noise level was determined to be 48.2 dBA. This noise level would be below the 60 dBA level established by the City of Blythe. As a result, the noise

levels associated with the proposed project would not cause any significant noise impacts on the residential community. It should be noted that the proposed Condition of Certification **NOISE-6** would require that the noise levels at the closest residential receptor would not be any greater than the specified noise level of 49.2 dBA. (FSA p. 252, 253)

The evidence establishes that there are no noise impacts associated with operation of the linear facilities: the gas and water pipelines will be buried below ground, and the transmission line and switchyard are not located near noise-sensitive land uses. (FSA p. 253)

Staff reviewed the potential for cumulative impacts related to new or existing projects. The City of Blythe is planning industrial development in the area surrounding the airport. A new distribution warehouse has been recently constructed in this area. In addition, it is expected that the cumulative noise level associated with constructing both projects would not significantly increase the ambient noise level in the area, particularly since Interstate-10 is the primary noise source in the area. As a result, there are no significant cumulative effects associated with construction of BEP (BEP1999a, AFC/7.2.2.5; FSA p. 254).

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. Construction and operation of the Blythe Energy Project (BEP) will create noise.
2. Construction noise levels are temporary and transitory in nature and will be mitigated to the extent feasible by sound reduction devices, limiting construction to daytime hours, and providing notice to nearby businesses and residences, as appropriate.

3. Construction noise along either natural gas pipeline routes will be temporary and will not result in significant adverse noise impacts.

4. The nearest sensitive residential receptors potentially affected by operational noise are located about 3,465 feet from the project site.

5. Operational noise from the power plant will not increase the existing ambient noise levels experienced at the nearest sensitive receptors.

6. The project owner will implement measures to protect workers from injury due to excessive noise levels.

7. Implementation of the measures contained in the Conditions of Certification, below, ensures that BEP will comply with the applicable laws, ordinances, regulations, and standards specified in the pertinent portion of Appendix A of this Decision, and that noise impacts will be mitigated to the extent feasible.

The Commission therefore concludes that the mitigation measures described in the evidentiary record and the Conditions of Certification, below, ensure that project-related noise levels will not cause significant adverse impacts to sensitive noise receptors.

CONDITIONS OF CERTIFICATION

NOISE-1 At least 15 days prior to the start of project-related ground disturbing activities, the project owner shall notify all residents and business owners within one-half mile of the site or adjacent to the pipeline route, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: The project owner shall transmit to the Energy Commission Compliance Project Manager (CPM) in the first Monthly Construction Report following the start of project-related ground disturbing activities, a statement, signed by the project manager, attesting that the above notification has been performed, and describing the method of that notification. This statement shall also attest that the telephone number has been established and posted at the site.

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.

Protocol: The project owner or authorized agent shall:

- Use the Noise Complaint Resolution Form (see Exhibit 1 for example), or 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 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, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 30-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE-3 Prior to the start of project-related ground disturbing activities, the project owner shall submit a noise control program to the CPM for review. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal-OSHA standards.

Verification: At least 30 days prior to the start of project-related ground disturbing activities, the project owner shall submit to the CPM the above referenced program. The project owner shall make the program available to OSHA upon request.

NOISE-4 If a traditional, high-pressure steam blow process is employed during construction, the project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 110 dBA measured at a distance of 100 feet. The project owner shall conduct steam blows only during the hours of 8 a.m. to 5 p.m., unless the CPM agrees to longer hours based on a demonstration by the project owner that offsite noise impacts will not cause annoyance. If a low-pressure continuous steam

blow process is employed, the project owner shall submit a description of this process, with expected noise levels and projected hours of execution, to the CPM.

Verification: At least 15 days prior to the first high-pressure steam blow, the project owner shall submit to the CPM drawings or other information describing the temporary steam blow silencer and the noise levels expected, and a description of the steam blow schedule. At least 15 days prior to any low-pressure continuous steam blow, the project owner shall submit to the CPM drawings or other information describing the process, including the noise levels expected and the projected time schedule for execution of the process.

NOISE-5 If high pressure steam blows are used at least 15 days prior to the first steam blow(s), the project owner shall notify all residents or business owners within one mile of the site of the planned steam blow activity, and shall make the notification available to other area residents in an appropriate manner. The notification may be in the form of letters to the area residences, telephone calls, fliers or other effective means. The notification shall include a description of the purpose and nature of the steam blow(s), the proposed schedule, the expected sound levels, and the explanation that it is a one-time operation and not a part of normal plant operations.

Verification: Within five (5) days of notifying these entities, the project owner shall send a letter to the CPM confirming that they have been notified of the planned steam blow activities, including a description of the method(s) of that notification.

NOISE-6 Within 30 days of the project first achieving an output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey, utilizing the same monitoring sites employed in the pre-project ambient noise survey as a minimum. The survey shall also include the octave band pressure levels to ensure that no new pure-tone noise components have been introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints. If the results from the survey indicate that the project noise levels at the closest sensitive receptor (i.e., residence located 3465 feet distance) are in excess of 49.2 dBA L_{90} averaged over lowest 8-hour period, additional mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

Verification: Within 30 days after completing the survey, the project owner shall submit a summary report of the survey to the City of Blythe (or applicable Agency), and to the CPM. Included in the report shall be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. If additional mitigation measures are necessary within 30 days of completion of installation of these measures, the project owner shall

submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

NOISE-7 The project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted within 30 days after the facility is in full operation, and shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

Verification: Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

NOISE-8 Noisy construction work (that which causes off-site annoyance, as evidenced by the filing of a legitimate noise complaint) shall be restricted to the times of day delineated below:

High-pressure steam blows:	8 a.m. to 5 p.m.
Other noisy work:	According to City of Blythe Regulations and Riverside County Ordinance 457.90

Verification: 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 Energy Facility (99-AFC-8)
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).

E. SOCIOECONOMICS

The socioeconomic analysis evaluates the effects of project-related population changes on local schools, medical and protection services, public utilities, and other public resources, as well as the fiscal and physical capacities of local government to meet these needs. The construction phase of project development is typically the focus of the analysis because of the potential influx of workers into the area. Socioeconomic impacts are considered significant if a large influx of non-resident workers and dependents move to the project area, increasing demand for community resources that are not readily available.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Applicant identified a study area of communities in and around eastern Riverside County most likely to be affected by the project s socioeconomic and fiscal impacts, including Blythe, and other communities within a larger radius of the site such as Los Angeles, Las Vegas, Yuma and Phoenix. (Ex. 1,/7.6.2.3.) The construction and operation of BEP will have the greatest potential impact on the City of Blythe. (Ex. 53, p. 295.) Other areas that may be impacted are Riverside County, and La Paz County, Arizona, which is approximately 10 miles east of the proposed facility. It is possible that during construction the project may have some impact throughout these areas. (Ex. 53, p. 292.)

1. Construction Impacts

Applicant assumed the workforce would be local except for contractor staff who may temporarily relocate to the area during portions of the 24-month construction period and some permanent employees who may relocate after plant operation begins. (Ex. 1,/7.6.2.3.)

The BEP is composed of two fundamental construction projects, the power plant and the associated fuel gas pipelines. The two construction projects are expected to occur over an 18-month period with the pipeline construction running concurrent with plant construction. The labor force for construction of the plant and natural gas pipelines is expected to peak in the tenth month after the start of construction at 481. The labor force for plant construction would range from 40 to 130 employees for the first four months during mobilization and site preparation. Peak employment for plant construction would occur in the 12th month at 385. Two natural gas pipelines have been proposed to supply fuel to the project. The proposed pipelines will connect the El Paso Natural Gas Company and SoCalGas pipeline systems to the plant. The construction phase for the natural gas pipelines is scheduled to commence eight months after plant construction has started. The El Paso Natural Gas pipeline connection is the larger of the two projects and is estimated to take four months for construction with a peak workforce of 71. The SoCalGas pipeline connection is estimated to take two months for construction with a peak workforce of 60. The construction phase for the fuel gas pipeline is scheduled to be completed six months before plant construction is completed. Construction of the natural gas pipelines is scheduled to start when plant construction is peaking. The peak construction workforce could be higher than the estimated 481 if construction of the natural gas pipeline does not start in the ninth month as proposed. If construction for the natural gas pipelines were delayed by two months the peak labor force would increase by 12 percent at 525 in the 12th month. (Ex. 1,／7.6.2.3; Ex 53, pp. 295-296.)

The labor force required for construction of the project includes boilermakers, carpenters, electricians, ironworkers, laborers, millwrights, operators, pipefitters and others. The employed force would include both skilled and non-skilled workers. Based on occupational employment projections by the California s Employment Development Division, the project would require less than 1.5 percent of the labor pool in Riverside County. If Los Angeles County is included

as a potential source of labor, the construction project would require only 0.2 percent of the available labor pool in Los Angeles and Riverside Counties. If additional workers are required, the project could draw from adjoining areas such as Las Vegas, Yuma and Phoenix. Therefore, sufficient workers for construction of the BEP are available within the general area. Most of the workforce will be within a one-way commute time of two hours from the plant site. The demand for skilled laborers should not result in a community labor shortage. (Ex. 1, / 7.6.2.3; Ex. 53, p. 296.)

The chance of a tight housing market during construction if a large number of the workers relocate to the area is lessened by past experience in the area and recent housing construction. Blythe has experienced large construction projects in the past, such as the two State Prisons west of Blythe. During the construction of these projects there were a maximum of 250 to 300 construction workers involved. There was no noticeable shortage of housing for these workers during construction. Many of the workers were reported to have brought Recreation Vehicles (RV) with them and took advantage of the many RV parks in the area for housing during construction. Since this construction, Blythe has added 5 new motels with an additional 357 rooms. (Ex. 53, p. 298.) This gives the Blythe area 23 motels with approximately 1,100 rooms (Ex. 1, / 7.6.2.5). There are an additional 78 motels within a one hour commute time. Blythe has also had additional housing, condominiums and apartments built since these construction projects. Permanent housing is not considered to be in short supply in Blythe. Blythe also has over 300 mobile homes spaces. Not included, as permanent-housing units are the many RV parks located in the Blythe area, which have in excess of 600 spaces. The combination of housing, apartments, motel/hotel rooms, and RV spaces available to non-local construction and operation workers for this project should be sufficient. (Ex. 53, p. 298.)

The fiscal benefits will be substantial. Estimated construction cost will be $225 to $250 million, the bulk of which will be spent in the study area communities. BEP

will spend an estimated $4-$10 million locally on materials and equipment. (Ex. 1,/7.6.2.6; Ex. 53, pp. 301-302.)

In response to the concerns of the Intervenor and various members of the public and to ensure that the project owner makes a good faith effort to recruit employees and procure materials within the Blythe Area, we have added Condition **SOCIO-2**.

The project will generate a school impact fee of $0.31 per square foot for new construction. (Ex. 53, p. 299. See also Condition **SOCIO-1**.) Annual property tax for the project is estimated at $2 million, which will accrue to Riverside County and be partly allocated to county schools. (Ex. 53, p. 299.)

2. Operational Impacts

During project operation, BEP will hire about 20 permanent employees, including engineers, equipment operators, maintenance, and security personnel. Applicant assumed that all these employees would be available in the local labor pool. Ex. 1, / 7.6.2.3.) The potential addition of 20 households to the area will be insignificant. (Ex. 1,/7.6.2.4; Ex. 53.p. 298.) Applicant estimated that the 20 direct jobs created by project operation will result in an average operational payroll of about $1.2 million annually. (Ex. 1, /7.6.2.6.)

3. Environmental Justice Screening Analysis

Both Applicant and Staff conducted a screening analysis to determine whether environmental justice concerns are present in this case.[35] (Ex. 1,/7.6.2.11; Ex.

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[35] Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations requires the U.S. Environmental Protection Agency (EPA) and all other federal agencies and state agencies receiving federal aid to identify and address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations. Although the Energy Commission is not

53, p. 302.) The screening analysis assessed 1) whether the potentially affected community that is more than 50% minority or low-income populations income or has a minority or low-income population percentage that is meaningfully greater than the percentage in the general population; and 2) whether the project s potential environmental impacts are likely to fall disproportionately on minority and/or low-income members of the community. According to EPA guidelines, a minority population exists if the minority/low-income population of the affected area constitutes 50 percent or more of the general population. (*Ibid.*)

The Blythe Area has a significant portion of its population classified as minorities and/or living below the poverty level. The U.S. census data for the Palo Verde Division and US census tract 458 indicates a population of 18,351. Of this total 46.0 percent were classified with a white ethnic background. The next largest segment was those with Hispanic heritage, (persons of Hispanic heritage may be of any race) at 41.5 percent. The area minority population was 54.0 percent. To further define the minority population a review of the census tracts within six miles of the proposed project site was done. Four of the census tracts within this six-mile radius of the BEP have a minority population greater than 50 percent based on the 1990 census. Tract 462 had the largest minority population at 65.8 percent. This is out of a total population of 1,253. This tract is located in the City of Blythe south of Interstate 10, approximately five miles from the plant site. Census tract 459 has a minority population of 64.5 percent. This is from a population base of 1,732. Tract 459 covers a large area located west of the City of Blythe, and east of the Blythe Airport. The proposed Blythe Power plant is located just west of this census tract in census tract 458. (Ex. 53, p. 302.)

Staff found no evidence of any unique circumstances that could lead to significant impact.. An environmental analysis was conducted in the areas of

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obligated as a matter of law to conduct an environmental justice analysis, we have typically included this topic in our power plant siting decisions to ensure that any potential adverse impacts on identified populations have been addressed.

public health and air quality to determine whether there could be any significant and adverse impacts on the minority population. With implementation of the proposed conditions of certification included for air quality and public health in this Decision, the project will not cause any significant impact on the minority population. Because staff has determined that there will not be a significant impact on any population, no disproportionate impact analysis was necessary. Based on the 1990 Census data for the five census tracts impacted by the BEP, 80.7 percent or 4,232 households were above the US poverty level while 19.3 percent or 1,013 households were below the US poverty level. This percentage is below the greater than 50 percent threshold the Commission uses to determine if there is a need for additional analysis of disproportionate impact on this population. (Ex. 53, pp. 303-304. See also Ex. 1,/7.6.2.11.)

The reduction in harvested acreage potential from the water conservation agreement will not have a significant impact on the agricultural labor market. (Ex. 54, Supplemental Testimony of James Fore.) BEP s compliance with the Conditions of Certification ensures that no unmitigated significant adverse impacts will result from project-related activities.

4. Cumulative Impacts

The only major construction project in the Blythe area is the construction of a new campus for the community college approximately four miles from the BEP site. The construction of the facility has been started and is scheduled to be completed in June 2001. Therefore the BEP will not overlay the community college construction in such a way as to have any cumulative impact on the community. (Ex. 53, p. 304.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we make the following findings and conclusions:

1. The project will not cause an influx of a significant number of construction or operation workers into the local area.

2. The project will not result in significant adverse effects to local employment, housing, schools, public utilities, or emergency services.

3. The project will provide an estimated $2.0 million in annual property tax revenues that will accrue to Riverside County.

4. The project will spend an estimated $5-$10 million for local purchases of materials and equipment during construction.

5. The project does not present any indications of environmental justice issues.

6. Construction and operation of the project will not result in any direct, indirect, or cumulative adverse socioeconomic impacts.

We therefore conclude that implementation of the Condition of Certification, below, and the mitigation measures identified in the evidentiary record, ensures that the project will comply with all applicable laws, ordinances, regulations, and standards relating to socioeconomic factors as identified in the pertinent portions of APPENDIX A.

CONDITIONS OF CERTIFICATION

SOCIO-1 The project owner shall pay the statutory school impact development fee as required at the time of filing for the in-lieu building permit.

Verification: The project owner shall provide proof of payment of the statutory development fee to the Compliance Project Manager (CPM) in the next Monthly Compliance Report following the payment.

SOCIO-2 The project owner and its contractors and subcontractors shall recruit employees and procure materials and supplies within The Blythe Area, unless:

- To do so will violate federal and/or state statutes;
- The materials and/or supplies are not available; or
- Qualified employees for specific jobs or positions are not available; or
- There is a reasonable basis to hire someone for a specific position from outside the local area.

Verification: At least five days prior to the start of construction, the project owner shall submit to the Energy Commission Compliance Project Manager (CPM) copies of guidelines stating hiring and procurement requirements and procedures. In addition, the project owner shall notify the Energy Commission CPM in each Monthly Compliance Report of any procurement of materials or hiring outside the local regional area that has occurred during the previous month. The Energy Commission CPM shall review and comment on the submittal as needed.

Appendix A

LORS: Laws, Ordinances, Regulations, and Standards

AIR QUALITY

FEDERAL

Under the Federal Clean Air Act (42 U.S.C. /7401 et seq.), there are two major components of air pollution law, New Source Review (NSR) and Prevention of Significant Deterioration (PSD). NSR is a regulatory process for evaluation of those pollutants that violate federal ambient air quality standards. Conversely, PSD is a regulatory process for evaluation of those pollutants that do not violate federal ambient air quality standards. The NSR analysis has been delegated by the Environmental Protection Agency (EPA) to the Mojave Desert Air Quality Management District. The EPA determines conformance with the PSD regulations. The PSD requirements apply only to those projects (known as major sources) that exceed 100 tons per year for any pollutant.

STATE

The California State 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 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.

LOCAL

The proposed facility is subject to the following Mojave Desert Air Quality Management District (District or MDAQMD) rules and regulations:

RULE 102 - DEFINITION OF TERMS

Prohibits any person from circumventing any applicable section of rules and regulations.

RULE 201 — PERMITS TO CONSTRUCT

Requires the District s authorization prior to construction of a new facility.

RULE 203 — PERMIT TO OPERATE

Requires the District s authorization before a new facility commences operations.

RULE 401 — VISIBLE EMISSIONS

Limits the discharge of air contaminants that affect ambient visibility.

RULE 402 — NUISANCE

Protects the public s health and welfare from the emission of air contaminants that may constitute a nuisance.

RULE 403 — FUGITIVE DUST

Regulates operations that may cause fugitive dust emissions into the atmosphere.

RULE 406 — SPECIFIC CONTAMINANTS

Limits the emissions of sulfur compounds to no greater than 500 parts per million by volume (ppmv), and a number of other contaminants (such as bromine, hydrogen chloride and fluorine) to specific ppmv levels.

RULE 407 — LIQUID AND GASEOUS AIR CONTAMINANTS

Limits CO emissions to 2,000 parts per million (ppm) over a 15-minute averaging period.

RULE 409 — COMBUSTION CONTAMINANTS

Limits discharging of combustion contaminants (PM10) to no greater than 0.1 grains per dry standard cubic foot (gr/dscf).

RULE 431 — SULFUR CONTENT OF FUELS

Limits sulfur content of gaseous fuel to 800 ppm, and liquid or solid fuel to 0.5 percent by weight.

RULE 475 — ELECTRIC POWER GENERATING EQUIPMENT

Limits the oxides of nitrogen (NOx) emissions of any electric power generating equipment to no more than 80 ppm if using gaseous fuel, 160 ppm if using liquid fuel and 225 ppm if using solid fuel.

RULE 476 — STEAM GENERATING EQUIPMENT

Limits the emissions of any fuel combustion equipment to no more than 200 pounds per hour of oxides of sulfur (SOx), 140 pounds per hour of NOx, or 10 pounds per hour of combustion contaminants.

RULE 900 — STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES (NSPS)

Establishes requirements for general definitions, monitoring, records, and administrative requirements applicable to the federal New Source Performance Standard (NSPS).

Also establishes limits for NO2 and SO2 from new or modified stationary gas turbines with a designed heat rate input of 10 MMBtu/hr or more. The proposed turbines NOx concentrations shall not exceed 75 ppm dry at 15% oxygen, and SO2 concentrations shall not exceed 150 ppm dry at 15% oxygen.

Establishes the general definitions, monitoring and administrative requirements applicable to the federal National Emission Standards for Hazardous Air Pollutants (NESHAP).

RULE 1158 — ELECTRIC UTILITY OPERATIONS

Establishes NOx emission standards and other requirements for electric utility operations including installation of an approved continuous emission monitoring (CEM) system, reporting and an approved emission control plan.

RULE 1200 — GENERAL (TITLE V)

Establishes administrative requirements for obtaining a federal operating permit (Title V operating permit).

RULE 1300 — GENERAL (NSR)

Provides general discussions of the New Source Review (NSR) purposes, applicability, exemption, and interaction with other Federal, State and District rules, regulations and plans. The NSR applies to all new and modified stationary sources that are required to have permits to construct and operate within the District.

RULE 1301 — DEFINITIONS (NSR)

Provides various definitions for the NSR regulations.

RULE 1302 — PROCEDURES (NSR)

Provides administrative procedures for the processing of applications for permits to construct and operate of new and modified stationary sources.

Section 1302 (C)(3) Determination of Offsets , part (b) states upon receipt of the notification [from the district regarding specific amount and type of offset required], the applicant shall provide the Air Pollution Control Officer (APCO) a proposed Offset package which contains evidence of Offset eligibility for use pursuant to the provisions of District Rule 1305.

Section 1302 (C)(3)(b)(iii) also states after determining that the Offsets are real, enforceable, surplus, permanent and quantifiable and after any permit modifications required pursuant to District Rule 1305 or Regulation XIV have been made, the APCO shall approve the use of the Offsets subject to the approval of California Air Resources Board (CARB) and EPA during the comment period required pursuant to subsection (D)(2) below.

RULE 1303 - REQUIREMENTS

Provides specific requirements for new or modified stationary sources including Best Available Control Technology (BACT) and offsets.

RULE 1304 - EMISSIONS CALCULATIONS

Provides methods to calculate emissions changes from a new or modified stationary source.

RULE 1305 - EMISSIONS OFFSETS

Provides the procedures and formulas for quantifying and determining the eligibility of emission reduction credits (ERC) available for use as offsets in accordance to Rule 1303.

Rule 1305(B)(5) allows for the use of interbasin offsets from upwind air districts that are outside the Mojave Desert Air Basin. Rule 1305(B)(6) allows for the use of interpollutant offset trading as long as there is technical justification for such a trade and the combined emissions increase from the proposed project and the reductions from the interpollutant offsets do not cause or contribute to a violation of an ambient air quality standard. Both sections directly relate to the proposed offset package, discussed in the Mitigation section below.

RULE 1306 - ELECTRIC ENERGY GENERATING FACILITIES

Provides administrative requirements for new or modified power plants that are required to obtain licensing from the California Energy Commission.

RULE 1401 — DEFINITIONS (ERC)

Provides various definitions for the banking rules.

Section (N) defines the historic actual emissions of a facility to be its average emissions over the past two year period, or of any two years of the previous five years, prior to the date of application for ERC.

RULE 1402 — EMISSION REDUCTION CREDIT REGISTRY

Provides administrative procedures for the registry of ERC for stationary sources. The requirements include the specific timing of an application for an ERC and criteria for approval of the ERC.

Section (A)(1)(e)(ii) defines emission reductions to be eligible for ERC if such reductions are actual emission reductions and either recognized by the District in writing or were included in the emission inventory after the shutdown or modification occurred.

RULE 1404 — EMISSION REDUCTION CREDIT CALCULATIONS

Provides methods to calculate the ERC available.

Section (A)(2)(c) indicates that the ERC shall be the difference between the historical actual emissions and the proposed emissions.

BIOLOGICAL RESOURCES

FEDERAL

SECTION 10 OF THE RIVERS AND HARBORS ACT OF 1899

Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This section provides that the construction of any structure in or over any navigable water of the United States, or the accomplishment of any other work affecting the course, location, condition, or physical capacity of such waters is unlawful unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army. The Secretary's approval authority has since been delegated to the Chief of Engineers.

ENDANGERED SPECIES ACT OF 1973

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.

MIGRATORY BIRD TREATY ACT

Title 16, United States Code, sections 703 - 712, prohibits the take of migratory birds.

STATE

CALIFORNIA ENDANGERED SPECIES ACT OF 1984

Fish and Game Code sections 2050 et seq. protects California s rare, threatened, and endangered species.

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 or 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 nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird.

FULLY PROTECTED SPECIES

Fish and Game Code sections 3511, 4700, 5050, and 5515 prohibits 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. designates state rare, threatened, and endangered plants.

CALIFORNIA CODE OF REGULATIONS

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

STREAMBED ALTERATION AGREEMENT

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

REGIONAL WATER QUALITY BOARD

To verify that the federal Clean Water Act permitted actions comply with state regulations, the Colorado River Basin Regional Water Quality Control Board issues a Section 401 certification. The Regional Board provides its certification after reviewing the federal Nationwide Permit(s) that is provided by the U. S. Army Corp of Engineers. The use of evaporation ponds would also need to be approved by the Colorado River Basin Regional Water Quality Control Board under Section 13050 of Division 7 of the California Water Code (see Soils and Water Resources Section).

WILDLIFE OF SPECIAL CONCERN IN ARIZONA

Arizona Game and Fish converted their 1988 list of Threatened Native Wildlife of Arizona to a list of Wildlife Species of Concern in 1996 (AGFD 1996). The list provides guidance to agencies, private industry, and the public on the Department s management priorities for a variety of species, but has no regulatory status. The final version of the list has never been released.

LOCAL

RIVERSIDE COUNTY, CALIFORNIA GENERAL PLAN

ENVIRONMENTAL HAZARDS AND RESOURCES

Goal 6 is to recognize and protect rare, threatened and endangered species of wildlife and vegetation as important County resources and a source of natural diversity.

Goal 8 is to recognize and promote the conservation of unique species of wildlife and vegetation found within a locale as an important County resource.

RIVERSIDE COUNTY, AIRPORT LAND USE PLAN

The Airport Land Use Plan is being prepared for the Airport Land Use Commission (ALUC) and is intended to protect and promote the safety and welfare of residents in the airport vicinity and users of the airport while ensuring continued operation of the airport. The Public Utilities Code of the State of California, Section 21675 requires the ALUC to formulate a comprehensive land use plan for the area surrounding each public use airport.

CITY OF BLYTHE, CALIFORNIA GENERAL PLAN

BIOLOGICAL RESOURCES GOALS

Goal 1 is to preserve and protect the City and regional biological resources, especially those of 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 1 is that the City shall coordinate and cooperate with State and Federal agencies to preserve and enhance the recreational opportunities for fishermen and conserve habitat in the Colorado River.

Policy 2 is that the City shall require or insist that responsible County, State and Federal agencies assure the provision of ample natural and enhanced open-space setbacks from the Colorado River s edge in conjunction with any development near or adjacent to the river s edge.

Policy 4 is that the Palo Verde Mesa habitat area extending from Interstate 10 to 20th Avenue and desert land immediately west shall be designated as Open Space on the General Plan land use map to assure their protection as valuable and important wildlife habitat.

Policy 8 is that the City shall encourage and/or if appropriate, require the use of native trees and 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 the preservation of riparian and ruderal habitats as important breeding and foraging habitat for native and migratory birds and animals.

LA PAZ COUNTY, ARIZONA

ZONING

La Paz County has zoned the El Paso Natural Gas Company Terminal Area where the directional drill would be initiated as General Commercial. According to the La Paz County Department of Community Development, the interconnect with the El Paso Natural Gas Pipeline is a permitted use in the zone and no special permits are required (LC 2000a). The construction in this highly disturbed area would not require a conformance analysis for biological resources.

CULTURAL RESOURCES

FEDERAL

Antiquities Act of 1906 (Title 16, United States Code, Sections 431-433):

This act authorized the Secretaries of Interior, Agriculture and Defense to control the excavation and removal of historic and prehistoric materials and objects of antiquity on federal lands and provided for criminal sanctions for violations of the act.

National Historic Preservation Act of 1966, as amended (Title 16, United States Code, Sections 470-470w-6):

This act expresses the general policy of the federal government that supports and encourages the preservation of prehistoric and historic resources for present and future generations. It established the National Register of Historic Places, established the President s Advisory Council on Historic Preservation, established procedures for actions taken by federal agencies that may affect historic resources, and established a fund for preservation. Pertinent to this project, Section 106 of this act requires federal agencies to take into account the effects of their undertakings on historic properties through consultations beginning at the early stages of project planning.

36 Code of Federal Regulations Part 800. These procedures of the Advisory Council on Historic Preservation, most commonly referred to as the Section 106 process, established a process to ensure that federal agencies have taken into account the impacts of their undertakings on significant cultural resources. An agency is strongly encouraged to consult with various parties, including the State, private parties, and Indian Tribes as they determine the presence or absence of cultural resources, the eligibility of resources for nomination to the National Register of Historic Places, and the effect the federal action may have on those resources. Very similar criteria and procedures are used by the State of California in identifying cultural resources eligible for listing in the California Register of Historical Resources.

National Environmental Policy Act of 1969 (NEPA; Title 42, United States Code, Sections 4321-4347). This act requires federal agencies to consider impacts of their projects on the human environment, whether the action is funded or permitted by the agency. Part of the human environment includes the cultural environment.

10 Code of Federal Regulations Part 1021. These are the procedures of the Department of Energy that implement the provisions of the National Environmental Policy Act.

Executive Order 11593, Protection of the Cultural Environment, May 13, 1971 (3 Code of Federal Regulations Part 154) provides for federal leadership in the preservation, restoration and maintenance of the cultural environment.

Federal Register, Volume 48, No. 190, pp. 44716-44740 (September 29, 1983), Archeology and Historic Preservation: Secretary of the Interior s Standards and Guidelines: These Standards and Guidelines provide technical advice on the proper conduct and methodologies of professionals in historic preservation activities. The California 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.

American Indian Religious Freedom Act (Title 42, United States Code, Section 1996). This act established a federal policy of respect for and protection of Native American religious practices.

Native American Graves Protection and Repatriation Act of 1990 (Title 25, United States Code, Section 3001, et seq.). This act provided for the repatriation of certain items from the federal government and certain museums to the native groups to which they once belonged. The act also define cultural items , sacred objects, and objects of cultural patrimony ; and it establishes a means for determining ownership of these items. However, the provisions for repatriation only apply to items found on federal lands or Indian lands.

Executive Order 13007 (Federal Register Volume 61, No. 104, pp. 26771-26772). This order requires federal agencies with land management responsibilities to allow access and use of Indian sacred sites on public lands, and avoid adversely affecting these sites.

Executive Order 13084 (Federal Register Volume 63, No. 96, pp. 27655-27657). This order reaffirms the government-to-government relationship between the federal government and recognized Indian tribes, and requires agencies to establish procedures for consultation with tribes.

STATE

Public Resources Code, Section 5020.1 defines several terms, including the following:

> (j) historical resource includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.
>
> (q) substantial adverse change means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.

Public Resources Code, Section 5024.1 establishes a California Register of Historic Places; sets forth criteria to determine significance; defines eligible properties; and lists nomination procedures.

Public Resources Code, Section 5097.5 states that any unauthorized removal or destruction of archaeological or paleontological resources on sites located on public land is a misdemeanor. As used in this section, public lands means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

Public Resources Code, Section 5097.98 defines procedures for notification of discovery of Native American artifacts or remains and for the disposition of such materials.

Public Resources Code, Section 5097.99 prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions.

Public Resources Code, Section 5097.991 states that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated.

Public Resources code, Section 21000, et seq, California Environmental Quality Act (CEQA). This act requires the analysis of potential environmental impacts of proposed projects and requires application of feasible mitigation measures.

Public Resources Code, Section 21083.2 states that the lead agency determines whether a project may have a significant effect on unique archaeological resources; if so, an EIR shall address these resources. If a potential for damage to unique archaeological resources can be demonstrated, the lead agency may require reasonable steps to preserve the resource in place. Otherwise, mitigation measures shall be required as prescribed in this section. The section discusses excavation as mitigation; limits the applicant s cost of mitigation; sets time frames for excavation; defines unique and non-unique archaeological resources ; and provides for mitigation of unexpected resources.

Public Resources Code, Section 21084.1 indicates that a project may have a significant effect on the environment if it causes a substantial adverse change in the significance of a historic resource; the section further defines a historical resource and describes what constitutes a significant historical resource.

CEQA guidelines, Title 14, California Code of Regulations, Section 15126.4 Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects sub-section (b) discusses impacts of maintenance, repair, stabilization, restoration, conservation, or reconstruction of a historical resource. Subsection (b) also discusses mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

CEQA Guidelines, Title 14, California Code of Regulation, Section 15064.5 Determining the Significance of Impacts to Archaeological and Historical

Resources . Subsection (a) defines the term historical resources. Subsection (b) explains when a project may be deemed to have a significant effect on historical resources and defines terms used in describing those situations. Subsection (c) describes CEQA's applicability to archaeological sites and provides a bridge between the application of the terms "historical resources and a unique archaeological resource.

CEQA Guidelines, Title 14 California Code of Regulations, Section 15064.7 Thresholds of Significance. This section encourages agencies to develop thresholds of significance to be used in determining potential impacts and defines the term cumulatively significant.

CEQA Guidelines, Appendix G Issue V: Cultural Resources. Lists four questions to be answered in determining the potential for a project to impact archaeological, historical, and paleontological resources.

California Penal Code, Section 622.5. Anyone who willfully damages an object or thing of archaeological or historical interest can be found 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.

Public Resources Code, Section 5097.98. If the county coroner determines that the remains are Native American, the coroner is required to contact the Native American Heritage Commission, which is then required to determine the Most Likely Descendant to inspect the burial and to make recommendations for treatment or disposition of the remains and any associated burial items.

LOCAL

The General Plans of Riverside County and the City of Blythe are addressed below.

RIVERSIDE COUNTY

Riverside County s General Plan identifies two objectives for Historic and Prehistoric Resources. The first objective requires that significant historic and prehistoric resources are identified and documented, and that there are provisions for the preservation of representative and worthy examples. The second objective recognizes the value of these resources and requires that land uses be assessed for impacts to these resources.

In addition, Riverside County s Ordinance 578, which was intended to create and protect historic districts within the county, does address the desire on the part of the County to preserve the County s heritage. The Ordinance does not specifically address archeological resources or historic resources outside designated districts.

CITY OF BLYTHE

The General Plan of the City of Blythe establishes four goals for cultural resources (BEP 1999a, AFC Table 7.1-2):

1. To protect and preserve important and unique resources of the City and region, thereby maintaining the City residents and Palo Verde Valley s cultural heritage.

2. Review and evaluate proposals for development to determine the potential for impacts to known and suspected cultural resources of importance, in order to determine mitigation where necessary.

3. Treat archaeological resource information as confidential in order to prevent vandalism and other threats to those resources.

4. Requires a professional archaeologist be employed to examine and document any resources discovered during construction, and to develop appropriate mitigation measures.

FACILITY DESIGN

The applicable LORS for each engineering discipline, civil, structural, mechanical and electrical, are included in the application as part of the engineering appendices, Appendices 8-A through 8-E, and summarized in Section 3, Table 3 (Blythe 1999a). A summary of these LORS includes: Title 24, California Code of Regulations, which adopts the current edition of the California Building Code (CBC) as minimum legal building standards; the 1998 CBC for design of structures; American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code; and National Electrical Manufacturers Association (NEMA) standards.

GEOLOGY AND PALEONTOLOGY

FEDERAL

There are no federal LORS for geological hazards and resources, grading or paleontological resources for the proposed project.

STATE AND LOCAL

The California Building Code (CBC) 1998 edition is based upon the Uniform Building Code (UBC), 1997 edition, which was published by the International Conference of Building Officials. The CBC is a series of standards that are used in the investigation, design (Chapters 16 and 18) and construction (including grading and erosion control as found in Appendix Chapter 33). The CBC supplements the UBC s grading and construction ordinances and regulations.

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 geological hazards.

Sections (X) (a) and (b) pose questions about the project s effect on mineral resources.

The Standard Procedures, Measures for Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources (SVP 1994) are a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. They were adopted in October 1994 by a national organization of vertebrate paleontologists (the Society of Vertebrate Paleontologists).

HAZARDOUS MATERIALS MANAGEMENT

FEDERAL

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III and Clean Air Act of 1990 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. The Act (codified in 40 C. F. R., ⁄ 68.110 et seq.) 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. The requirements of these Acts are reflected in the California Health and Safety Code, section 25531 et seq.

STATE

The California Health and Safety Code, section 25534, directs facility owners 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 (EPA), and the designated local Administering Agency for review and approval. The plan must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any pre-existing evaluations or studies of the material, the likelihood of the substance being handled in the manner indicated, and the accident history of the material.

Title 8, California Code of Regulations, section 5189, requires the owners of facilities that handle very large quantities of hazardous materials to develop and implement effective Process Safety Management (PSM) plans to insure safe handling of such materials. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the RMP process. Facilities that trigger PSM requirements are also automatically in the most stringent RMP program level.

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.

California Government Code, section 65850.2, restricts the issuance of an occupancy permit to any new facility involving the handling of acutely hazardous materials until the facility has submitted an RMP to the administering agency with jurisdiction over the facility.

LOCAL AND REGIONAL

The Uniform Fire Code (UFC) contains provisions regarding the storage and handling of hazardous materials. These provisions are contained in Articles 79 and 80. The latest revision to Article 80 was in 1997 (UFC, 1997). These articles contain minimum setback requirements for the outdoor storage of ammonia.

The California Building Code 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. A further discussion of these requirements is provided in the **Facility Design** portion of this document.

LAND USE

RIVERSIDE COUNTY COMPREHENSIVE GENERAL PLAN

The project site for the Blythe Energy Project (BEP) is located in the unincorporated area of Riverside County, approximately five miles west of the City of Blythe and one mile east of the Blythe Airport (please refer to **LAND USE Figure 1**). The BEP is located in the Chuckwalla Land Use Planning Area of Riverside County. This planning area occupies approximately 3,629 square miles of the eastern most portion of Riverside County with boundaries defined by Joshua Tree National Monument on the west, the San Bernardino County line to the north, the Imperial County line to the south, and the Arizona State border on the east.

The Land Use Element of the Riverside County Comprehensive General Plan (RCCGP) is the primary policy statement for implementing the development and conservation goals of the County s General Plan. The Countywide policies for land use compatibility, population levels, public facility levels, environmental constraints and community policies are also contained within the General Plan. The County continuously updates the Land Use Element using data on current conditions to revise the General Plan s maps and diagrams.

Land use planning goals include: orderly industrial development which includes a variety of types of industry and the promotion of adequate supplies of suitable and properly distributed industry; and the retention as open space of those lands containing important natural resources such as scenic beauty, sensitive vegetation, wildlife habitats and historic or prehistoric sites or which are subject to environmental hazards, such as seismic hazards, flooding, hazardous slopes and high fire risks.

OPEN SPACE AND CONSERVATION INVENTORY AND PLAN

The County maintains an open space and conservation inventory, which delineates those areas that have significant open space or conservation value. These areas may include agricultural lands, parks and recreation areas, vegetation resources, wildlife resources, scenic highways, historic resources, energy resources, fire hazard areas, seismic/geologic hazard areas, slope areas, flood hazard areas, noise impacted areas and other natural resources and hazards. The Open Space and Conservation Inventory indicates open space and resource areas for the preservation of natural resources, for the conservation and management of economically productive natural resources, for outdoor recreation, and for public health and safety. Land uses designated on the Open Space and Conservation Map are restricted to the permitted land uses and minimum lot sizes specified for each mapped item. Mapped land uses include open space, recreation, agriculture, mining, research and related compatible land uses (RCCGP, 1989, page 368).

The open space category applicable to the BEP power plant site is Agriculture. The policy for this land use category allows agriculture and associated uses (including limited commercial, industrial and single family residential); open space; farm labor housing; landfills; compatible resource development and associated uses; and governmental uses. The minimum lot size is 10 acres (RCCGP, 1989, page 370).

OPEN SPACE AND CONSERVATION OBJECTIVES

The RCCGP sets three broad objectives for all open space and conservation areas (RCCGP page 367):

- Open Space which will protect County environmental resources and maximize public health and safety in areas where significant environmental hazards exist shall be preserved and maintained.

- Open space considerations shall be incorporated into urban developments in order to enhance recreational opportunities and project aesthetics.

- The utilization of natural resources including soil, water, vegetation, air, wildlife, and mineral resources shall be carefully controlled and managed.

PALO VERDE VALLEY AREA LAND USE POLICIES

The RCCGP contains land use policies specific to the Palo Verde Valley Area. The overall land use policy for future land uses in this area is for continued agricultural land uses, with urban uses in the City of Blythe s Sphere of Influence. Industrial development should occur within the sphere of influence, south of Blythe along the Arizona and California Railroad line (formerly AT&SF) and adjacent to the Blythe Airport (RCCGP 1992, page 99). The City of Blythe is in the process of annexing 1,446 acres located between the existing City limits and the Blythe Airport (see **LAND USE Figure 1**). The power plant site is located within the annexation area.

AGRICULTURE PROGRAMS, POLICIES, AND STANDARDS

Agricultural objectives contained in the RCCGP encourage the retention of productive agricultural lands in agricultural use and discourage placing incompatible land uses adjacent to agricultural lands (RCCGP 1984 page 377. The County participates in the California Land Conservation Act of 1965 (Williamson Act) which reduces the tax assessment on agricultural land located within an Agricultural Preserve which has been voluntarily placed under contract (Gov. Code ⁄51200 et seq.). Lands placed in agricultural preserve are restricted to agriculture and compatible uses (RCCGP 1984 page 378). Ordinance No. 509 of the County of Riverside enacted the Agricultural Preserve program within the County and describes uses consistent with the program. These uses include any use of the land for the

purpose of producing an agricultural commodity; a stand for display and sale of agricultural commodities; gas, electric, water and communication utility facilities and public service facilities; public highways; fire protection works and facilities; flood control works; public works required for fish and wildlife enhancement and preservation; one family dwellings for the use of an owner or manager; farm labor camps; and packing or processing of commodities performed on the site where it is produced. Other uses may be considered consistent contingent upon a hearing before the Board of Supervisors.

Lands located on the Palo Verde Mesa, above the Palo Verde Valley are not in Williamson Act Agricultural Preserve (Blythe 2000a); however, a high proportion of the agricultural lands in the Valley floor are in Williamson Act Agricultural Preserves and under Williamson Act contract.

The RCCGP also recognizes the State Department of Conservation Important Farmland Mapping Program farmland classifications (Prime Farmlands, Statewide Important Farmlands, Unique Farmlands and Local Important Farmlands) (RCCGP pages 379-380).

Prime Farmland is land that has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained yields of crops when treated and managed, including water management, according to current farming methods. Prime farmlands must have been in production of irrigated crops at some time during the update cycles prior to the mapping date.

Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as greater slope or less ability to hold and store moisture. Lands of Statewide Importance must have been in production of irrigated crops at some time during the update cycles prior to the mapping date.

Unique Farmland is land of lesser quality soils used for the production of specific high economic value crops (as listed in the California Department of Food and Agriculture California Agriculture publication) at some time during the update cycles prior to the mapping date. Examples of crops grown on Unique Farmlands include oranges, olives, avocados, rice, grapes, and cut flowers.

Farmland of Local Importance is land of importance to the local agricultural economy as determined by each County s board of supervisors and local advisory committees.

The State of California Important Farmlands Inventory map for the area classifies Mesa land as Prime Farmland and Farmland of Local Importance (BEP 2000p, DR #58). The BEP power plant site is classified as Farmland of Local Importance. The Farmland of Local Importance designation is applied where soil types would qualify as prime farmland if the land were irrigated.

The RCCGP Agricultural Protection Program requires use of buffers between agricultural uses and incompatible land uses and sets forth minimum lot size requirements in some areas.

Land use standards regarding agriculture, open space and conservation address the consideration of nonagricultural land uses located in agricultural areas shown on the Countywide Agricultural Resources Map. Conversion of agricultural lands to other uses requires a review in light of the historic and existing agricultural uses of the land, consideration of existing public services available to serve the area, soil conditions, water usage and distribution system and economic factors.

RIVERSIDE COUNTY LAND USE DESIGNATIONS

According to information received from the Riverside County Planning Department (McCoy 2000, Clark 2000) the northern 53 acres of the project site are designated Agriculture Open Space and the southern 22.88 acres are Not Designated For Open Space on the Open Space and Conservation Map. The Agriculture Open Space designation allows agriculture and associated uses (including limited commercial, industrial and single family residential); open space; farm labor housing; landfills; compatible resource development and associated uses; and governmental uses. The minimum lot size is 10 acres (RCCGP, 1989, page 370). Upon completion of the City of Blythe annexation of the project site, City land use designations will apply to the site.

Land use designations adjacent to the El Paso Natural Gas pipeline interconnection route are primarily Agriculture Open Space. The land use designation along the SoCal pipeline interconnect route is Not Designated As Open Space on the Open Space and Conservation Map.

The project also proposes a Water Conservation Offset Program (WCOP) to offset the power plant s water use by retiring agricultural lands from irrigation and production. Lands would be located within Palo Verde Irrigation District (PVID) boundaries on the Mesa, or alternatively, lands in the Palo Verde Valley would be fallowed on a rotating basis. An estimated total of 600 to 652 acres could be retired based on an assumed consumptive water use rate for Mesa lands of 4.6 to 5.0 acre-feet per acre. Lands potentially involved in the proposed Water Conservation Offset Program (WCOP) have not been specifically identified, therefore, land use designations cannot be identified at this time. For a detailed discussion of the WCOP refer to the **SOIL AND WATER RESOURCES** section of the FSA.

RIVERSIDE COUNTY ZONING

LAND USE Figure 2 shows Riverside County zoning at the site and for areas within one mile of the site and _ mile of the pipeline interconnection routes. Zoning on the power plant site is Controlled Development Area (W-2). The northern 53 acres of the site is zoned W-2-10 and the southern 22.88 acres is

zoned W-2-5. Upon completion of the City of Blythe annexation of the project site, City land use designations will apply to the site.

The Controlled Development Area (W-2) zone, in accordance with Article 15 of the Riverside County Zoning Ordinance, allows public utility uses as follows: Structures and the pertinent facilities necessary and incidental to the development and transmission of electrical power and gas such as hydroelectric power plants, booster or conversion plants, transmission lines, pipelines and the like. Height limitations in the W-2 zone development standards (Subsection 15.2) are 105 feet with possible exceptions according to Subsection 18.34 of the Zoning Ordinance.

Zoning designations within one mile of the power plant site are Light Agriculture (A-1-10) to the east; Controlled Development (W-2) to the north, south and immediate west; Medium Manufacturing to the west, adjacent to the Airport; Light Agriculture (A-1-1) to the southwest, between Hobsonway and I-10; and Watercourse, Watershed and Conservation Area to the southwest of the site, immediately south of I-10 (Refer to **LAND USE Figure 2**).

Riverside County Zoning designations for the route of the proposed interconnection of the El Paso Natural Gas pipeline include Heavy Agriculture, Light Agriculture, Medium Manufacturing, Manufacturing-Service Commercial, Scenic Highway Commercial. Zoning in the area traversed by the SOCAL Gas pipeline is Controlled Development (W-2-5).

Agricultural zones allow public utility facilities subject to plot plan approvals (Sections 13.1 and 14.1 of the Riverside County Zoning Ordinance).

CITY OF BLYTHE GENERAL PLAN

In September of 1989, the City of Blythe approved a comprehensive general plan for the incorporated City and the Blythe Sphere of Influence. A much larger study area covering 63 square miles was addressed, but is not under the jurisdiction of the City. The Blythe General Plan applies only to those areas within the City s Sphere of Influence[1].

The BEP power plant site is located within a 1,446 acre area which is being annexed to the City. The area to be annexed extends from the City s present western boundary up to the eastern boundary of the Blythe Airport property. The final Conducting Authority hearing in the annexation process was held before the Blythe City Council on October 10, 2000. The annexation was approved and will become final in mid-November of 2000. Once final, the power plant site will be

[1] Sphere of Influence is defined by Government Code /56076 as a plan for the probable physical boundaries of a local agency as determined by the Commission (Local Area Formation Commission).

within the sphere of influence and the corporate boundaries of the City and subject to City planning regulations.

The pending City General Plan designation for the power plant site is Heavy Industrial (I-H) and the pending City Zoning Designation is General Industrial (I-G). According to the City of Blythe General Plan (1989), the Heavy Industrial General Plan designation (I-H) provides for the most intense industrial development to be contemplated in the City. Uses associated with this designation may include slaughter houses, rendering plants, metals smelting and/or manufacturing, refining oils and other flammable or hazardous materials, and other uses which may require extensive outdoor storage areas or materials handling.

The pending General Plan designations for properties adjacent to and within one mile of the Power Plant site is Agricultural Reserve. The pending General Plan land use designations adjacent to the pipeline route within the annexation area are Agricultural Reserve, Urban Reserve, Tourist Commercial and Light Industrial. The General Plan land use designation within the existing City limits is Urban Reserve in the vicinity of the power plant. In the area east of downtown Blythe, land use designations are Agricultural Reserve, Low Density Residential, Tourist Commercial, and General Commercial.

The City of Blythe General Plan (1989) land use categories referenced in the above discussion are briefly described below.

Agricultural Reserve consists of land in active or potentially active cultivation and sufficiently removed from urban development to warrant protection.

Urban Reserve consists of land in the sphere of influence and outlying planning areas planned for future urban core development. Requires a specific plan.

Open Space consists of areas of special resource value including recreation and biological areas.

Low Density Residential consists of detached single family dwelling units (du) at a maximum density of 7 du/acre.

Tourist Commercial consists of commercial uses geared to freeway travelers and area tourists.

General Commercial consists of community-scale centers, grocery, specialty retail, and service business development.

Light Industrial consists of uses which are non-intensive in nature with limited outdoor storage.

Medium Industrial consists of industrial uses which are moderately intensive with potentially more extensive outdoor storage than in the light industrial designation.

Heavy Industrial provides for industrial uses which are relatively intense and which may also include extensive outdoor storage.

Public/Quasi-Public consists of schools, hospitals, city and county facilities, fire stations, parks and other public facilities.

INDUSTRIAL LAND USE GOALS AND POLICIES

Under the proposed annexation, the City of Blythe land use designation for the power plant site would be Heavy Industrial (I-H). The Heavy Industrial land use designation allows uses that are relatively intense and which may also include extensive use of outdoor storage. The Heavy Industrial designation implies the most intense industrial use with many attributes that make the use incompatible with most other land uses. According to the current City of Blythe General Plan, development in industrial land use designations is guided by performance standards associated with each class or category of industrial use (Blythe 1989 pp. III-19 and 20). However, according to City staff, there are no established performance standards that are applied to industrial development (Wellman 2000b). The Blythe General Plan indicates that issues that determine the appropriate location of the various types of industrial land uses are noise, smoke, odor, dust and dirt, noxious gases, glare and heat, transportation and traffic, and aesthetics. These issues are taken into consideration when reviewing industrial development plans (Blythe 1989 p. III-16).

Industrial goals relevant to the project are as follows (Blythe 1989 p. III-18):

To provide lands and facilities for expansion of industrial development, which will enhance and broaden the economic base of the City and the region.

To optimize the use of the interstate highway and rail systems passing through the City to the greatest extent possible, thereby building upon vital existing infrastructure and transportation systems.

To enhance industrial development and assure its compatible integration with other non-industrial land uses.

Industrial policies relevant to the proposed project are as follows:

The City should encourage the development of new industrial areas and the redevelopment of existing older or marginal industrial areas where appropriately designated on the Land Use Map of the General Plan.

The City shall seek to attract industrial users for which the area is particularly well suited, and encourage those industries to take advantage of the local labor force.

Development proposed in each industrial land use category shall substantially comply with the types and intensities of uses as set forth for each land use designation.

All industrial sites shall be appropriately landscaped and all outdoor storage areas shall be screened from view from public rights-of-way and surrounding properties with a combination of fencing and landscaping.

AGRICULTURAL LAND USE GOALS AND POLICIES

The A-R designation is assigned to lands which are in active or potentially active cultivation, and which are sufficiently removed from urban development to warrant protection and preservation. These lands are generally composed of larger holdings which make on-going cultivation viable. This designation also may be assigned to areas where farm structures and residences occur, but is not applicable to agriculture-related industrial land uses (Blythe 1989 p.III-26).

Agricultural Reserve Policies relevant to the project are as follows.

- The City shall protect agricultural lands from premature development by assuring the logical and coherent expansion of urban development in the City.
- The City shall encourage the continuation of agricultural activity on undeveloped land as a method of assuring their on-going use and function as rural open space areas.

URBAN RESERVE LAND USE DESIGNATION

The Urban Reserve (U-R) designation provides for the preservation of agricultural lands and other existing land uses for future land uses compatible with those in existing urban core areas of the City. Urban core development is expected to continue along the Interstate 10 corridor. Future development of Urban Reserve lands shall be controlled through the processing of Specific Plans (Blythe 1989 p. III-14).

CITY OF BLYTHE ZONING REGULATIONS

The City of Blythe has pre-zoned the power plant site General Industrial (I-G). The General Industrial zone allows a variety of manufacturing uses by right including public maintenance services, utility operations facilities, custom manufacturing, general manufacturing, and warehousing in accordance with ⁄17.08 010 of the City of Blythe Zoning Ordinance. The proposed power plant would be allowed by right as a Utility Operations Facility in the Heavy Industrial zone in accordance with City of Blythe Zoning Ordinance⁄17.08.710 (Wellman 2000b). City of Blythe zoning designations to be applied to lands within one mile of the power plant site are Agriculture (A) to the north, east and west. Properties to the south of the site, between I-10 and Hobsonway are zoned Service Industrial (I-S).

The City of Blythe zoning designations adjacent to the pipeline route are Residential Reserve, Service Industrial, Agricultural Reserve, Low Density Residential, Medium Density Residential, General Commercial, and Specific Plan Reserve. The Zoning Ordinance Chapter 17.46 specifically addresses public utility and pipeline facilities and states as follows:

The provisions of this title shall not be construed as to limit or interfere with the construction, installation, operation and maintenance of any use coming under the jurisdiction of the Public Utilities Commission, which uses are related to public utility purposes, of water and gas pipes, mains and conduits, electric light and power transmission and distribution lines, telegraph and telephone lines, sewers and sewer mains and incidental appurtenances. The location of such lines, mains and conduits shall be subject to city council review and approval.

The project is not under the jurisdiction of the Public Utilities Commission and the project applicant is not a public utility. Therefore, this ordinance does not appear to apply to the project.

LA PAZ COUNTY, ARIZONA LAND USE REGULATIONS

The interconnection with the El Paso Natural Gas Pipeline will take place on the east side of the Colorado River in La Paz County, Arizona. The point containment pit for the pipeline boring is located on a parcel zoned General Commercial (C-2). The existing El Paso Natural Gas facility is located on a parcel zoned Light Industrial. According to the La Paz County Department of Community Development the interconnect with the El Paso Natural Gas Pipeline is a permitted use in the zone and no special permits are required (LC 2000a).

BLYTHE AIRPORT COMPREHENSIVE LAND USE PLAN

The Blythe Airport is located approximately one mile west of the proposed BEP power plant site. The Blythe Airport is the largest airport serving eastern Riverside County and serves primarily general aviation demand in the Blythe area. The Airport is classified in the National Plan of Integrated Airport Systems as a general aviation transport airport, designed to accommodate business jets and transport type aircraft. The Blythe Airport currently has two runways. The primary runway is Runway 8-26 which is oriented generally east-west and the power plant site is located one mile east of this runway. Additional detail regarding the operations and facilities at the Blythe Airport can be found in the **TRAFFIC AND TRANSPORTATION** section of the Final Staff Assessment (FSA).

The *Comprehensive Land Use Plan for Blythe Airport, Riverside County, California* was adopted by the Riverside County Airport Land Use Commission (ALUC) in August of 1992. The purpose of the Airport Comprehensive Land Use Plan (CLUP) is to protect and promote safety and welfare of residents of the airport vicinity and users of the airport while ensuring the continued operation of the airport. The ALUC is established under the authority of California Government Code Sections 21670 et. seq. and is charged with formulating a comprehensive land use plan for the area surrounding each public use airport in its jurisdiction. The ALUC is authorized to review proposed development actions to ensure consistency with the CLUP. Where local general plans or specific plans are not consistent with the CLUP, State law enables the ALUC to require

the local agencies to submit all development actions, regulations, and permits to the ALUC for review.

The Blythe Airport has been designated as a County redevelopment area. The intent is to encourage expansion of airport facilities and commercial and industrial development at the airport. The County s redevelopment plans are described in the Riverside County *Redevelopment Plan for Redevelopment Project Airports*, County of Riverside Economic Development Agency 1988 (RCALUC 1992 pp. 2-18).

NOISE

FEDERAL

Under the Occupational Safety and Health Act of 1970 (OSHA) (29 U.S.C.⁄651 et seq.), the Department of Labor, Occupational Safety and Health Administration (OSHA) has adopted regulations (29 C.F.R.⁄1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise level exposure as a function of the amount of time during which the worker is exposed. 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.

There are no federal laws governing off-site (community) noise.

STATE

California Government Code Section 65302(f) requires that a noise element be prepared as part of the general plan to address foreseeable noise problems. In addition, Title 4, California Code of Regulations has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. The State land use compatibility guidelines are listed in Table 1.

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Table 1 Land Use Compatibility for Community Noise Environment

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE - Ldn or CNEL (db)													
	50		55		60		65		70		75		80	
Residential - Low Density Single Family, Duplex, Mobile Home														
Residential - Multi-Family														
Transient Lodging - Motel. Hotel														
Schools, Libraries, Churches, Hospitals, Nursing Homes														
Auditorium, Concert Hall, Amphitheaters														
Sports Arena, Outdoor Spectator Sports														
Playgrounds, Neighborhood Parks														
Golf Courses, Riding Stables, Water Recreation, Cemeteries														
Office Buildings, Business Commercial and Professional														
Industrial, Manufacturing, Utilities, Agriculture														

	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development generally should not be undertaken.

Source: State of California General Plan Guidelines, Office of Planning and Research, June 1990.

Other State LORS include the California Environmental Quality Act (CEQA) and California Occupational Safety and Health Administration (Cal-OSHA) regulations.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires that significant environmental impacts be identified, and that such impacts be eliminated or mitigated to the extent feasible. The CEQA Guidelines (Cal. Code Regs., tit. 14, ⁄ 15000 et seq., Appendix G, ⁄ XI) explain that a significant effect from noise may exist if a project would result in:

a) 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.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project .

CAL-OSHA

Cal-OSHA has promulgated Occupational Noise Exposure Regulations (Cal. Code Regs., tit. 8, ⁄⁄ 5095-5099) that set employee noise exposure limits. These standards are equivalent to the federal OSHA standards described above.

LOCAL

RIVERSIDE COUNTY GENERAL PLAN NOISE STANDARDS AND ORDINANCES

According to the Riverside County Department of Health, noise standards have been developed for stationary (facility-related) noise sources. Facility-related noise levels near residential receptors must not exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. and 65 dBA (10-minute L_{eq}) between the hours of 7:00 a.m. to 10:00 p.m. (10-minute L_{eq}). It should be noted that temporary construction activities are not covered by this standard (Redden, 1999).

> Construction noise is covered under Ordinance 457.90, Section 1G of the Riverside County Building and Safety Department, which states the following: whenever a construction site is within one-quarter (1/4) mile of an occupied residence(s), no construction activities shall be undertaken between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during

the months of October through May. Exceptions to these standards shall be allowed only with the written consent of the Riverside County building official.

CITY OF BLYTHE NOISE REGULATIONS

The City of Blythe has established a 24-hour (L_{dn} or CNEL) exterior noise limit of 65 dBA at the property line and an interior noise limit of 45 dBA. An area may be considered noise-impacted if future levels exceed 60 dBA at the exterior of an industrial building or property boundary (BEP 1999a, AFC/7.3.3.3).

COUNTY OF LA PAZ

According to Mary Dahl, who is the Director of the Department of Community Development, La Paz County (Arizona) does not have any noise ordinances or standards (County of La Paz, 2000).

POWER PLANT EFFICIENCY

FEDERAL

No federal laws apply to the efficiency of this project.

POWER PLANT RELIABILITY

Presently, there are no laws, ordinances, regulations or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation.

PUBLIC HEALTH

FEDERAL

CLEAN AIR ACT SECTION 112 (42 UNITED STATES CODE SECTION 7412)

Section 112 requires new sources, which emit more than ten tons per year of any specified hazardous air pollutant (HAP) or more than 25 tons per year of any combination of HAPs to apply Maximum Achievable Control Technology.

STATE

CALIFORNIA HEALTH AND SAFETY CODE SECTIONS 39650 ET SEQ.

These sections mandate the Air Resources Board and the Department of Health Services to establish safe exposure limits for toxic air pollutants and identify pertinent best available control technologies. They also require that the new source review rule for each air pollution control district include regulations that require new or modified procedures for controlling the emission of toxic air contaminants.

CALIFORNIA HEALTH AND SAFETY CODE SECTION 41700

This section states that 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.

SOCIOECONOMICS

FEDERAL

Executive Order 12898, Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low-Income Populations. The order focuses federal attention on the environment and human health conditions of minority communities and directs agencies to achieve environmental justice as part of this mission. The Executive Order requires the US Environmental Protection Agency (EPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this situation. Agencies are required to identify and address any disproportionately high and/or adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations. The Energy Commission receives federal funds and is thus subject to this Executive Order.

STATE

CALIFORNIA GOVERNMENT CODE, SECTIONS 65995-65997

As amended by SB 50 (Stats. 1998, ch. 407, sec. 23), states that public agencies may not impose fees, charges or other financial requirements to offset the cost for school facilities. The relevant provisions restrict fee for the development of commercial and industrial space to a maximum of $0.31 per square foot of chargeable covered and enclosed space .

LOCAL

California State Planning Law, Government Code Section 65302 et seq., calls for each city and county to adopt a General Plan consisting of seven mandatory elements to guide its physical development. Most communities do not have laws, ordinances, or regulations that specifically govern the socioeconomics impact of projects. Instead many communities assess impact fees such as school impact fees as part of the building permit requirement.

SOIL AND WATER RESOURCES

FEDERAL

CLEAN WATER ACT

The Clean Water Act (33 USC section 1257 et seq.) requires states to set standards to protect water quality. Point source discharges to surface water are regulated by this act through requirements set forth in a National Pollutant Discharge Elimination System (NPDES) Permit. Storm water discharges during construction and operation of a facility also fall under this act and must be addressed through either a project specific or general NPDES permit. In California, the nine Regional Water Quality Control Boards (RWQCB) administer the requirements of the Clean Water Act, which includes Section 401 and 402 requirements for activities which involve water quality. Section 404 of the act regulates the discharge of dredged or fill material into waters of the United States, including rivers, streams and wetlands. The Army Corp of Engineers (ACOE) issues site-specific or general (nationwide) permits for such discharges.

RIVERS AND HARBORS ACT OF 1899

The Rivers and Harbors Act (33 USC 403) contains requirements for construction in navigable waters or activities within a floodplain. It restricts the placement of structures, excavation or deposition of materials into and any other work that could affect the course, location, condition, or capacity of navigable waters of the United States , without a permit from the ACOE.

COLORADO RIVER WATER

> Water from the Colorado River is fully allocated, with the flow shared by the upper and lower basin States, and Mexico. The 1928 Supreme Court Decree appointed the Secretary of the Interior as the Water Master over the Lower Colorado River Basin. The United States Bureau of Reclamation (USBR) performs the actual Water Master functions (BEP 1999).

The use of Colorado River water is accomplished through a complex series of laws, court decrees, compacts, an international treaty, agreements, and regulations identified collectively as the Law of the River (BEP 1999):

The Colorado River Compact, 1922,

The Boulder Canyon Project Act, 1920,

The Seven Party Agreement, 1931,

Treaty with Mexico, 1944,

US Supreme Court Decree, 1928,

Arizona v. California, 1964,

The Colorado River Basin Act, 1968.

The United States uses the Laws of the River to assign three principal priorities in the operation of the Colorado River:

River regulations, navigational improvement, and flood control.

Irrigation and domestic use and present water rights.

Power generation.

> Water is released when there is a beneficial use for the water. Other uses are also considered, such as recreation, wildlife, water quality, and species conservation.

The Bureau of Reclamation considers groundwater in excess of certain depths in the Mesa area to be, due to the direct hydrologic connection between groundwater and the river, to be Colorado River water. To manage the surface water and groundwater linkage for the Colorado River, over which the USBR has jurisdiction, the USBR has also developed a model in cooperation with the US Geological Survey. The USBR will likely begin applying the accounting surface model to groundwater withdrawals of the Colorado River within the next several years (USBR 2000c).

The California Energy Commission (CEC) requested that the USBR state their jurisdiction over groundwater in the area of the BEP project site, and how this jurisdiction, if any, would be exercised with regard to the BEP (CEC 2000). In response, the USBR has indicated that it will assert jurisdiction over this proposed groundwater use. USBR stated that an entitlement consistent with the existing Law of the River is required for any water pumped from wells that would be replaced by Colorado River water. (USBR, 2000c) .

STATE

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act of 1967, Water Code section 13000 et seq., requires the State Water Resources Control Board and the nine regional RWQCBs to adopt water quality criteria to protect state waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards and implementation procedures. The criteria for the project area are contained in the Colorado River Region Water Quality Control Plan. This plan sets numerical and/or narrative water quality standards controlling the discharge of wastes with elevated temperature to the state s waters. These standards are applied to the proposed project through the Waste Discharge Requirements (WDRs) permit, which are addressed in Division 7, Section 13260 of the California Water Code.

Section 13552.6 of the Water Code specifically identifies that the use of potable domestic water for cooling towers, if suitable recycled water is available, is an unreasonable use of water. The availability of recycled water is based upon a number of criteria, which must be taken into account by the SWRCB. These criteria are that: the quality and quantity of the reclaimed water are suitable for the use; the cost is reasonable, the use is not detrimental to public health, will not impact downstream users or biological resources, and will not degrade water quality.

Section 13552.8 of the Water Code states that any public agency may require the use of recycled water in cooling towers if certain criteria are met. These criteria include that recycled water is available and meets the requirements set forth in section 13550; the use does not adversely affect any existing water right; and if there is public exposure to cooling tower mist using recycled water, appropriate mitigation or control is necessary.

The SWRCB has also adopted a number of policies that provide guidelines for water quality protection. The principle policy of the State Board which addresses the specific siting of energy facilities is the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling (adopted by the Board on June 19, 1976 by Resolution 75-58). This policy states that use of fresh inland waters should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. This SWRCB policy recommends that power plant cooling water should, in order of priority come from wastewater being discharged to the ocean, ocean water, brackish water from natural sources or irrigation return flow, inland waste waters of low total dissolved solids, and other inland waters. This policy goes on to address cooling water discharge prohibitions.

Sections 401 of the Clean Water Act provides for state certification of federal permits allowing discharge of dredged or fill material into waters of the United States. These certifications are issued by the RWQCBs. For this project, any 401 certification will be handled with the Waste Discharge Requirements (WDR) permit.

LOCAL

The City of Blythe and County of Riverside adhere to Federal and State water law, and have jurisdiction to issue grading permits with erosion and sediment control measures, and sanitation permits for installation of septic tanks and leach fields. The project will comply with all local requirements.

TRAFFIC AND TRANSPORTATION

FEDERAL

Title 49, Code of Federal Regulations, Sections 171-177, governs the transportation of hazardous materials, the type of materials defined as hazardous, and the marking of the transportation vehicles.

Title 49, Code of Federal Regulations, Sections 350-399, and Appendices A-G, Federal Motor Carrier Regulations, addresses safety considerations for the transport of goods, materials, and substances over public highways.

Title 49, Code of Federal Regulations, Section 44718 and Title 14, Code of Federal Regulations, part 77, addresses hazards to air navigation.

STATE

California Vehicle Code, section 353 defines hazardous materials.

California Vehicle Code, sections 31303-31309 regulate the highway transportation of hazardous materials, the routes used, and restrictions thereon.

California Vehicle Code, sections 31600-31620 regulate the transportation of explosive materials.

California Vehicle Code, Sections 32000-32053, regulates the licensing of carriers of hazardous materials and includes noticing requirements.

California Vehicle Code, Sections 32100-32109, establishes special requirements for the transportation of inhalation hazards and poisonous gases.

California Vehicle Code, Sections 34000-34121, establishes special requirements for the transportation of flammable and combustible liquids over public roads and highways.

California Vehicle Code, Sections 34500 et seq., regulate the safe operation of vehicles, including those that are used for the transportation of hazardous materials.

California Vehicle Code, Sections 2500-2505, authorizes the issuance of licenses by the Commissioner of the California Highway Patrol for the transportation of hazardous materials including explosives.

California Vehicle Code, Sections 13369, 15275, and 15278, address the licensing of drivers and the classifications of licenses required for the operation of particular types of vehicles. In addition, these sections require the possession of certificates permitting the operation of vehicles transporting hazardous materials.

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 county roads.

California Streets and Highways Code, Sections 660, 670, 1450, 1460 et seq., and 1480 et seq., regulate right-of-way encroachment and the granting of permits for encroachment on state and county roads.

California Health and Safety Code, Section 25160 et seq., addresses the safe transport of hazardous materials.

LOCAL

RIVERSIDE COUNTY

The General Plan establishes local goals and policies regarding transportation improvements. The circulation element of the plan outlines the following objectives:

1. Monitor land use and economic trends so that the Riverside County Highway Plan can be amended to reflect these changes.
2. Maintain the existing highway network, while providing for future expansion and improvement based on travel demand, and the development of alternative travel modes.
3. Encourage the use of road improvement financing mechanisms which equitably distribute the cost of road improvements among those who benefit from the road improvements.
4. Provide bike routes and related bicycle facilities which will form a network interconnecting the various communities of Riverside County and forming a continuous link in the overall bikeway system of the State of California.

RIVERSIDE COUNTY CONGESTION MANAGEMENT PLAN

The Riverside County Transportation Commission (RCTC) has been designated as the Congestion Management Agency (CMA) for Riverside County.

RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

The Riverside County Transportation Airport Land Use Commission was established in 1970 by the County Board of Supervisors in accordance with Public Utilities Code (PUC) of the State of California, Section 21675. The seven member commission has the responsibility for formulating a comprehensive land use plan for the areas surrounding each public use airport in the county.

BLYTHE AIRPORT COMPREHENSIVE LAND USE PLAN (ACLUP)

The ACLUP is prepared for the Airport Land Use Commission (ALUC) and is intended to protect and promote the safety and welfare of residents in the airport vicinity and users of the airport while ensuring continued operation of the airport. The Public Utilities Code of the State of California, Section 21675 requires the

ALUC to formulate a comprehensive land use plan for the area surrounding each public use airport.

BLYTHE AIRPORT DRAFT MASTER PLAN UPDATE

The Blythe Airport Master Plan Update project is currently being prepared through a joint effort by the City, County and FAA. The Master Plan will address goals and policies about future development for the airport and the surrounding area.

CITY OF BLYTHE GENERAL PLAN

The BEP site and adjacent properties have recently been annexed by the City of Blythe. The City is updating its General Plan and proposes that the BEP site and surrounding area be designated Industrial rather than the current Agricultural Open Space zoning designation.

LA PAZ COUNTY - ARIZONA

There is currently no General Plan Document. County operates under existing zoning regulations.

TRANSMISSION LINE SAFETY AND NUISANCE

Discussed below by subject area are design-related LORS applicable to the physical impacts of transmission lines as proposed for the Blythe Energy Project. The impacts of concern are addressed through specific federal or state regulations or through established industry standards and practices. There presently are no local laws or regulations specifically aimed at the physical structure or dimensions of electric power lines to limit the impacts noted above.

AVIATION SAFETY

Any hazard to area aircraft relates to the potential for collision with the line in the navigable air space. The applicable federal LORS as discussed below are intended to ensure the distance and visibility necessary to avoid such collisions.

FEDERAL

Title 14, Part 77 of the Federal Code of Regulations (CFR), Objects Affecting the Navigation Space . Provisions of these regulations specify the criteria used by the Federal Aviation Administration (FAA) for determining whether a Notice of Proposed Construction or Alteration is required for potential obstruction hazards. 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. Such notification allows the FAA to ensure that the structure is located to avoid any significant hazards to area aviation.

FAA Advisory Circular (AC) No. 70/460-2H, Proposed Construction and or Alteration of Objects that may Affect the Navigation Space This circular informs each proponent of a project that could pose an aviation hazard of the need to file the Notice of Proposed Construction or Alteration (Form 7640) with the FAA.

FAA AC No. 70/460-1G, Obstruction Marking and Lighting . This circular 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

Transmission line-related radio-frequency interference is one of the indirect effects of line operation produced by the physical interactions of line electric fields. The level of such interference usually depends on the magnitude of the electric fields involved. Because of this, the potential for such impacts could be assessed from field strength estimates obtained for the line. The following regulations are intended to ensure that such lines are located away from areas of potential interference and that any interference is mitigated whenever it occurs.

FEDERAL

Federal Communications Commission (FCC) regulations in Title 47 CFR, Section 15.25. Provisions of these regulations prohibit operation of any devices producing force fields, which interfere with radio communications, even if (as with transmission lines) such devices are not intentionally designed to produce radio-frequency energy. Such interference is due to the radio noise produced by 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 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 FCC requires each line operator to mitigate all complaints about interference on a case-specific basis. Staff usually recommends specific conditions of certification to ensure compliance with this FCC requirement.

STATE

General Order 52 (GO-52), California Public Utilities Commission (CPUC). Provisions of this order govern the construction and operation of power and communications lines and specifically deal with measures to prevent or mitigate inductive interference. Such interference is produced by the electric field induced by the line in the antenna of a radio signal receiver.

Several design and maintenance options are available for minimizing these electric field-related impacts. When incorporated in the line design and operation, such measures also serve to reduce the line-related audible noise discussed below.

AUDIBLE NOISE

INDUSTRY STANDARDS

There are no design-specific federal regulations to limit the audible noise from transmission lines. As with radio noise, such noise is limited instead through design and maintenance standards established from industry research and experience as effective without significant impacts on line safety, efficiency maintainability and reliability. All high-voltage lines are designed to assure compliance. Such 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. Since (as with communications interference), the noise level depends on the strength of the

line electric field, the potential for occurrence can be assessed from estimates of the field strengths expected during operation. Such noise is usually generated during wet weather and from lines of 345 kV or higher. It is, therefore, not generally expected at significant levels from lines of less than 345 kV such as the one proposed for BEP. Research by the Electric Power Research Institute (EPRI 1982) has validated this 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.

NUISANCE SHOCKS

INDUSTRY STANDARDS

There are no design-specific federal regulations to limit nuisance shocks in the transmission line environment. For modern high-voltage lines, such shocks are effectively minimized through grounding procedures specified in the National Electrical Safety Code and the joint guidelines of the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). 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 the energized line. Such electric charges are induced in different ways by the line electric and magnetic fields.

As with lines of the type proposed, the applicant will be responsible in all cases for ensuring compliance with these grounding-related practices within the right-of-way. Staff usually recommends specific conditions of certification to ensure that such grounding is made within the right-of-way by both the applicant and property owners.

FIRE HAZARDS

The fire hazards addressed through the following regulations 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.

STATE

General Order 95 (GO-95), CPUC, Rules for Overhead Electric Line Construction specifies tree-trimming criteria to minimize the potential for power line-related fires.

Title 14, California Code of Regulations (CCR), Section 1250, Fire Prevention Standards for Electric Utilities specifies utility-related measures for fire prevention.

HAZARDOUS SHOCKS

The hazardous shocks that are addressed by the following regulations and standards 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.

STATE

GO-95, CPUC, Rules for Overhead Line Construction . These rules specify uniform statewide requirements for overhead line construction regarding ground clearance, grounding, maintenance and inspection. Implementing these requirements ensures the safety of the general public and line workers.

Title 8, CCR, Section 2700 et seq., High Voltage Electric Safety Orders . These safety orders establish essential requirements and minimum standards for safely installing, operating, and maintaining electrical installations and equipment.

INDUSTRIAL STANDARDS

There are no design-specific federal regulations to prevent hazardous shocks from power lines. Safety is assured through compliance with the requirements in the National Electrical Safety Code, Part 2: Safety Rules for Overhead Lines. These provisions specify the minimum national safe operating clearances applicable in areas where the line might be accessible to the public. They are intended to minimize the potential for direct or indirect contact with the energized line.

ELECTRIC AND MAGNETIC FIELD (EMF) EXPOSURE

The possibility of deleterious health effects from electric and magnetic field 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 considering exposure to both as EMF exposure. As noted by the applicant, (BEP 1999a, pages 7.17-3), the available evidence has not established that such fields pose a significant health hazard to exposed humans. However, 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 reduce such fields to some degree, where feasible, until the issue is better understood. The challenge has been to establish how far to reduce them without affecting line safety, and reliability.

While there is considerable uncertainty about the EMF/health effects issue, 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

In California, 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 required each utility within its jurisdiction to establish EMF-reducing design guidelines 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. Utilities not within the jurisdiction of the CPUC voluntarily comply with these CPUC requirements. This PUC policy resulted from assessments made to implement CPUC Decision 93-11-013 of 1989.

In keeping with this CPUC policy, staff requires evidence that each proposed line will 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 issues bearing on safety, reliability, efficiency and maintainability. It is, therefore, up to each applicant to ensure that such measures are applied in ways that do not create significant impacts on line operation. The extent of such applications will be reflected by the ground-level field strengths as measured during operation. When estimated or measured for the line, such field strengths can be used by staff and other regulatory agencies for comparison with fields of lines of similar voltage and current-carrying capacity. Such field strengths can be estimated for any given design using established procedures. 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 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 to be designed according to the EMF-reducing guidelines of the utility in the service area involved, their fields are required under existing CPUC policies to be similar to fields from similar lines in that service area. A condition of certification is usually proposed

by staff to ensure implementation of the reduction measures necessary. The applicable condition for this project is TLSN-1.

INDUSTRIAL STANDARDS

No federal regulations have been established specifying environmental limits on the strengths of fields from power lines. However, the federal government continues to conduct and encourage research necessary for an appropriate policy on the EMF issue.

In the face of the present uncertainty, several states have opted for design-driven regulations ensuring that fields from new lines are generally similar to those from existing lines. Some states (Florida, Minnesota, New Jersey, New York, Montana) have set specific environmental limits on one or both fields in this regard. These limits are, however, not based on any specific health effects. 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.

Before the present health-based concern developed, measures to reduce field effects from power line operations were mostly aimed at the electric field component, whose effects can manifest as the previously noted radio noise, audible noise and nuisance shocks. The present focus is on the magnetic field because only it can penetrate building materials to potentially produce the types of health impacts at the root of the present concern. As one focuses on the strong magnetic fields from the more visible transmission and other high-voltage power lines, staff considers it important for perspective, to note that an individual in a home could be exposed for short periods to much stronger fields while using some common household appliances (National Institute of Environmental Health Services and the U.S Department of Energy, 1995). Scientists have not established which of these types of exposures would be more 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 the power line environment.

TRANSMISSION SYSTEM ENGINEERING

Title 8, California Code of Regulations, section 2700 et seq., High-Voltage Electrical Safety Orders apply to all electrical installations and electrical equipment operating or intended to operate on systems more than 600 volts and to all work performed on, or in proximity to, such electrical installations. These orders apply in all places of employment in California with certain exceptions for facilities under California Public Utilities Commission (CPUC) jurisdiction (Title 8, California Code of Regulations, section 2706 (a) (2)). Compliance will ensure application of essential requirements and minimum standards for the installation, operation, and maintenance of electrical equipment to provide practical safety and freedom from danger to personnel. These orders are not a design specification.

Western s interconnection guidelines prescribing the technical requirements for generators connected to the Western electrical system. Western interconnection guidelines address standards related to design, construction, operation and maintenance for wholesale generators and/or loads. (Western s equivalent to CPUC rule 21)

CPUC General Order 95 (GO-95) or National Electric Safety Code standards for construction of overhead transmission voltage facilities. Compliance will ensure adequate service and safety to persons engaged in the construction, maintenance, operation or use of overhead electric lines and to the public in general.

Western Systems Coordinating Council (WSCC) Reliability Criteria provides the performance standards used in assessing the reliability of the interconnected system. These Reliability Criteria require the continuity of service to loads as the first priority and preservation of interconnected operation as a secondary priority. The WSCC Reliability Criteria includes the Reliability Criteria for Transmission System Planning, Power Supply Design Criteria, and Minimum Operating Reliability Criteria. Analysis of the WSCC system is based to a large degree on WSCC Section 4 Criteria for Transmission System Contingency Performance which requires that the results of power flow and stability simulations verify established performance levels. Performance levels are defined by specifying the allowable variations in voltage, frequency and loading that may occur on systems other than the one in which a disturbance originated. Levels of performance range from no significant adverse effect outside a system area during a minor disturbance (loss of load or facility loading outside emergency limits) to a performance level that only seeks to prevent system cascading and the subsequent blackout of islanded areas. While controlled loss of generation, load, or system separation is permitted in extreme circumstances, their uncontrolled loss is not permitted. (WSCC 1998).

North American Electric Reliability Council (NERC) Planning Standards provides policies, standards, principles and guides to assure the adequacy and security of

the electric transmission system. With regard to power flow and stability simulations, these Planning Standards are similar to WSCC s Criteria for Transmission System Contingency Performance. The NERC planning standards provide for acceptable system performance under normal and contingency conditions, however the NERC planning standards apply not only to interconnected system operation but also to individual service areas (NERC 1998).

Cal-ISO Scheduling Protocols and Dispatch Protocols require conformance with NERC, WSCC, and Local Area Reliability and Planning Criteria. These standards may be applied in staff s assessment of the system reliability implications of the BEP. Also of major importance to BEP, and other privately funded projects which may sell through the California Power Exchange (Cal-PX), are the Cal-ISO Day/Hour Ahead Inter-zonal Congestion Management Scheduling Protocol (SP 10), the Transmission System Loss Management Scheduling Protocol (SP 4), and the Creation of the Real Time Merit Order Stack (SP 11). The Congestion Management Scheduling Protocol provides that the operation of power plants not violate system criteria when market participants request generation dispatch or the use of major interties. The Real Time Merit Order Stack is developed based on increasing energy bid prices so that the least cost bids are accepted early on and if congestion is anticipated the highest bids are not selected. The Transmission System Loss Management Scheduling Protocol uses the Cal-ISO power flow model to identify total transmission losses at each generating unit and scheduling point. Additional calculations are performed to determine the generating units net power output to meet their scheduled obligations (Cal-ISO 1998a, Cal-ISO 1998b).

VISUAL RESOURCES

FEDERAL AND STATE

The proposed project, including the electric transmission interconnection lines, and the optional SoCal Gas interconnection route, are located on private lands. The optional El Paso Natural Gas Company interconnection pipeline route is located on county and municipal land within a municipal right of way. Also, there is no roadway in the project vicinity that is a designated or eligible State Scenic Highway. Therefore, no federal or state regulations pertaining to scenic resources are applicable to the project.

LOCAL

The proposed power plant and linear facilities would be located in Riverside County, California and La Paz County, Arizona.

RIVERSIDE COUNTY

The Land Use Element of the Riverside County Comprehensive General Plan states that future industrial development should occur within the designated City of Blythe sphere of influence, which includes the project site adjacent to Blythe Airport. The Land Use Planning goals of the General Plan Land Use Element also include: The retention as open space of those lands containing important natural resources such as scenic beauty, sensitive vegetation, wildlife habitats and historic or prehistoric sites or which are subject to environmental hazards, such as seismic hazards, flooding, hazardous slopes and high fire risks. Interstate 10 is identified as eligible for designation as a County Scenic Highway under Program 2 — County Scenic Highways, of the Scenic Highways portion of the Comprehensive General Plan.

LA PAZ COUNTY

La Paz County has no specific policies on visual or aesthetic resources that apply to the BEP (Dahl 2000).

CITY OF BLYTHE

The City of Blythe has no specific policies on visual or aesthetic resources that apply to the BEP (Wellman 2000b).

WASTE MANAGEMENT

FEDERAL

RESOURCE CONSERVATION AND RECOVERY ACT - RCRA (42 U.S.C. / 6922)

RCRA establishes requirements for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal. RCRA requires generators of hazardous waste 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 EPA or authorized state.

TITLE 40, CODE OF FEDERAL REGULATIONS, PART 260

These sections contain regulations promulgated by the 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, 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 waste must only be handled by registered hazardous waste transporters. Generator requirements for record keeping, reporting, packaging, and labeling are also established.

WORKER SAFETY AND FIRE PROTECTION

FEDERAL

In December 1970 Congress enacted the Federal Occupational Safety and Health Act of 1970 (the OSH Act). The OSH Act mandates safety requirements in the workplace and is found in Title 29 of the United States Code,/651 (29 U.S.C.//651 through 678). Regulations enacted pursuant to the OSH Act can be found at Title 29 of the Code of Federal Regulations, under General Industry Standards, Parts 1910.1 through 1910.1450. The OSH Act clearly defines the procedures for promulgating regulations and conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector. Most of the safety and health standards now in force under the Act for general industry represent a compilation of materials authorized by the OSH Act 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.

The congressional purpose of the Act is to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources, (29 USC/651). The Federal Department of Labor promulgates and enforces safety and health standards that are applicable to all businesses affecting interstate commerce. The Department of Labor established the Occupational Safety and Health Administration (OSHA) in 1971 to discharge the responsibilities assigned by the Act.

Applicable Federal requirements include:

29 United States Code/651 et seq. (Occupational Safety and Health Act of 1970)

29 Code of Federal Regulations Part 1910.1 - 1910.1450 (Occupational Safety and Health Administration Safety and Health Regulations)

29 Code of Federal Regulations Part 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 CFR Part 1910.1 — 1910.1450)

STATE

California passed the Occupational Safety and Health Act of 1973 (Cal/OSHA). California Labor Code/6300. Regulations promulgated as a result of the Act are codified at Title 8 of the California Code of Regulations, beginning with Part 450 et seq. The California Labor Code requires that the State Standards Board adopt standards at least as effective as the federal standards that have been

promulgated (Calif. Labor Code/142.3(a)). Health and safety laws promulgated by California meet or exceed the Federal requirements. Hence, California obtained federal approval of its State health and safety regulations in lieu of the federal requirements published at 29 CFR Parts 1910.1 - 1910.1450. The Federal Secretary of Labor, however, continually oversees California s program and will enforce any federal standard for which the State has not adopted a Cal/OSHA counterpart.

The State of California Department of Industrial Relations is charged with the responsibility for administering the Cal/OSHA plan. The Department of Industrial Relations is further split into six divisions to oversee, among other activities: industrial accidents, occupational safety and health, labor standards enforcement, statistics and research, and the State Compensation Insurance Fund (workers compensation).

Employers are responsible to insure that their employees are informed about workplace hazards and potential exposure in the work environment (Calif. Labor Code/6408). Cal/OSHA s principal tool in ensuring that workers and the public are informed is the Material Safety Data Sheet (MSDS) (Title 8, California Code of Regulations., Section 5194). This regulation was promulgated in response to California s Hazardous Substances Information and Training Act of 1990 (1980 Calif./874 and Calif. Labor Code//6360-6399.7). It mirrored the Federal Hazard Communication Standard (29 CFR Part 1910.1200) which established an employee s right to know about chemical hazards in the workplace, but added the provision of applicability to public sector employers.

Finally, Title 8, California Code of Regulations, Section 3203 requires that employers establish and maintain a written Injury and Illness Prevent Program to identify workplace hazards and communicate those hazards to its employees through a formal employee training program (8 CCR 3203).

Applicable State requirements include:

Title 8, California Code of Regulations, Section 339 - List of hazardous chemicals relating to the Hazardous Substance Information and Training Act

Title 8, California Code of Regulations, Section 450 et seq. Cal / OSHA regulations

Title 24, California Code of Regulations, Section 3 et seq. - incorporates the current edition of the Uniform Building Code

Health and Safety Code Section 25500 et seq. - Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at the facility

Health and Safety Code Section 25500- 25541 - Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at the facility

LOCAL

The California Building Standards Code Title 24, California Code of Regulations, Section 3 is comprised of eleven parts containing the building design and construction requirements relating to fire and life safety and structural safety. The Building Standards Code includes the electrical, mechanical, energy, and fire codes applicable to the project. Local planning /building & safety departments enforce the California Uniform Building Code.

National Fire Protection Association (NFPA) standards are published in the California Fire Code. The fire code contains general provisions for fire safety, including but not restricted to: 1) required road and building access; 2) water supplies; 3) installation of fire protection and life safety systems; 4) fire-resistive construction; 5) general fire safety precautions; 6) storage of combustible materials; 7) exits and emergency escapes; and 8) fire alarm systems. The California Fire Code is published at Part 9 of Title 24 of the California Code of Regulations.

Similarly the Uniform Fire Code Standards, a companion publication to the California Fire Code, contains standards of the American Society for Testing and Materials and the NFPA. It is the United State s premier model fire code. It is updated annually as a supplement and published every third year by the International Fire Code Institute to include all approved code changes in a new edition.

Applicable local requirements include:

1998 Edition of California Fire Code and all applicable NFPA standards (Title 24, California Code of Regulations, Sections 901-907)

Uniform Fire Code Standards

California Building Code Title 24, California Code of Regulations, Section 3 et seq.

Appendix B

Proof of Service List

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	**Docket No. 99-AFC-8**
	)	
Application for Certification for the	)	PROOF OF SERVICE
Blythe Energy Project	)	***[*REVISED 12/7/2000]***

I, _____, declare that on _____, I deposited copies of the attached _____, in the United States mail at Sacramento, CA with first class postage thereon fully prepaid and addressed to the following:

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-8
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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Ms. Marcelle Surovik
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I declare under penalty of perjury that the foregoing is true and correct.

_____
[signature]

Appendix C

Exhibit List

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	**Docket No. 99-AFC-8**
	)	
Application for Certification for the	)	
BLYTHE ENERGY PROJECT (BEP)	)	
	)	

Exhibit List

Exhibit 1: Application for Certification for the Blythe Energy Project, and Errata. Sections 1.0, 2.0, Section 4, 5, 6, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, Appendix 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.14, 7.15, Appendix 7.15, 7.16, 7.17, 8.0, 8.2, Appendix 8.1, dated September 9, 1999. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 2: Testimony and Declarations of Witnesses, Joint Testimony of Witnesses, dated November 16, 2000. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 3: Gas Pipeline Supplement. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 4: Response to CEC Staff Data Requests Nos. 131, 132. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 5: Line Classification Study. Sponsored by Applicant, received into evidence on November 28, 2000.

Exhibit 6: Applicant's response to CEC Staff data requests No. 66. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 7: Applicant's response to CEC Staff data requests Nos. 68-82. Sponsored by Applicant; received into evidence on December 13, 2000.

Exhibit 8: Applicant's response to CEC Staff data requests Nos. 1-8, 201, 202. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 9: Offset package for Blythe Energy LLC, dated June 14, 2000. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 10: Letter from J. Harvey to L. Shaw, dated October 24, 2000. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 11: City of Blythe Application for PM_{10} ERCs to the MDAQMD, dated August 25, 2000. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 12: Supplemental Air Quality Construction Equipment Emissions Modeling. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 13: Supplemental Air Quality SO_2 Fumigation Calculations. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 14: Record of Decision re Transfer of ERCs from SCAQMD. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 15: Applicant s response to CEC Staff data requests 60-65. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 16: Applicant s response to CEC Staff data requests 158-160. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 17: Applicant s response to CEC Staff data request No. 202. Sponsored by Staff; received into evidence on November 28, 2000.

Exhibit 18: Applicant s response to CEC Staff data requests 45-49. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 19: Applicant s response to CEC Staff data requests 129-130. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 20: Applicant s response to CEC Staff data requests 9-26, 135-139. Sponsored by Staff; received into evidence on November 28, 2000.

Exhibit 21: Applicant s Biological Issues Status Update Report. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 22: Draft Biological Assessment. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 23: Applicant s Response to CEC Staff data requests 215-227. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 24: Applicant s response to CEC Staff data request No. 120 . Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 25: Applicant s responses to CEC Staff data request, dated May 26, 2000. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 26: Applicant s response to CEC data request dated June 26, 2000. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 27: Report of Wastewater Discharge, dated April 6, 2000. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 28: Final Water Conservation Offset Program for the Blythe Energy Project. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 29: Applicant s comments on the CEC Preliminary Staff Assessment, dated September 14, 2000. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 30: Information on Calculations for Response to the Soil and Water Resources Section in the September 18, 2000, Workshop in Blythe. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 31: Projection of Drawdowns Associated with the Proposed Groundwater Extractions for the Blythe Energy project, dated September 27, 2000. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 32: Long Term Irrigation Rights Agreement. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 33: Letter to B. Hudson at Riverside County regarding Long term Irrigation Rights Agreement. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 34: Letter from N. Krull to Greystone, regarding Blythe Energy Project, dated May 16, 2000. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 35: NPDES Permit Application for Stormwater Pollution Prevention Plan — Industrial Operations. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 36: NPDES Permit Application for Stormwater Pollution Prevention Plan — Construction. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 37: Geotechnical Engineering Evaluation. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 38: Letter from W. Rinne regarding CEC Staff Data Requests regarding water supply issues for the Blythe Energy Project. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 39: Water Resources Investigations Report 94-4005 Methods to Identify Wells that Yield Water that will be replaced by Colorado River Water in Arizona, California, Nevada, and Utah, dated July 7, 2000. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 40: Letter from R. Johnson to B. Therkelsen regarding Water Conservation Offset program, dated August 9, 2000. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 41: Geohydrology of the Parker-Blythe-Cibola Area, Arizona, and California Professional Paper 486-G. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 42: Applicant s response to CEC Staff data requests, Nos. 112, 113. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 43: Applicant s response to CEC Staff data requests 50-58. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 44: Applicant s response to CEC Staff data request No. 59. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 45: Applicant s response to CEC Staff data request No. 161. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 46: Applicant s response to CEC Staff data request No. 67. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 47: ALUC Record of Decisions, dated October 19, 2000. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 48: Applicant s response to CEC Staff data requests, No. 162-196. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 49: Twenty-two (22) Declarations, dated November 16, 2000. Sponsored by Intervenor Garnica; received into evidence on November 27, 2000.

Exhibit 50: City of Blythe Resolution Approving Annexation. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 51: Soil and Water 12 as amended. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 52: Supplemental Testimony of Mark Siglar. Sponsored by Applicant; received into evidence on November 27, 2000.

Exhibit 53: Final Staff Assessment (FSA). Sponsored by Staff; received into evidence on November 28, 2000.

Exhibit 54: Supplements to the FSA. Sponsored by Staff; received into evidence on November 28, 2000.

Exhibit 55: Department of Health Services letter dated January 3, 1996 entitled Annual Inspection on September 29, 1995, System Number 3310028. Sponsored by Applicant; received into evidence on November 28, 2000.

Exhibit 56: Public Petitions. Sponsored by Intervenor Garnica; received into evidence on November 28, 2000.

Exhibit 57: Final Determination of Compliance. Sponsored by Staff; received into evidence on November 28, 2000.

Appendix D

Glossary of Terms and Acronyms

GLOSSARY OF TERMS AND ACRONYMS

	A
A	Ampere
AAL	all aluminum (electricity conductor)
AAQS	Ambient Air Quality Standards
ABAG	Association of Bay Area Governments
AC	alternating current
ACE	Argus Cogeneration Expansion Project Army Corps of Engineers
ACSR	aluminum covered steel reinforced (electricity conductor)
AFC	Application for Certification
AFY	acre-feet per year
AHM	Acutely Hazardous Materials
ANSI	American National Standards Institute
APCD	Air Pollution Control District
APCO	Air Pollution Control Officer
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ARCO	Atlantic Richfield Company
ASAE	American Society of Architectural Engineers
ASHRAE	American Society of Heating Refrigeration & Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ATC	Authority to Construct
	B
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BAF	Basic American Foods
BARCT	Best Available Retrofit Control Technology
bbl	barrel
BCDC	Bay Conservation and Development Commission
BCF	billion cubic feet
Bcfd	billion cubic feet per day
b/d	barrels per day
BLM	Bureau of Land Management
BPA	U.S. Bonneville Power Administration
BR	Biennial Report
Btu	British thermal unit
	C
CAA	U.S. Clean Air Act
CAAQS	California Ambient Air Quality Standards
CALEPA	California Environmental Protection Agency
CALTRANS	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CBC	California Building Code
CCAA	California Clean Air Act
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CEERT	Coalition for Energy Efficiency and Renewable Technologies
CEM	continuous emissions monitoring
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFB	circulating fluidized bed
CFCs	chloro-fluorocarbons
cfm	cubic feet per minute

CFR	Code of Federal Regulations
cfs	cubic feet per second
CLUP	Comprehensive Land Use Plan
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
COI	California Oregon Intertie
CPCN	Certificate of Public Convenience & Necessity
CPM	Compliance Project Manager
CPUC	California Public Utilities Commission
CT	combustion turbine current transformer
CTG	combustion turbine generator
CURE	California Unions for Reliable Energy
	D
dB	decibel
dB(A)	decibel on the A scale
DC	direct current
DCTL	Double Circuit Transmission Line
DEIR	Draft Environmental Impact Report
DEIS	Draft Environmental Impact Statement
DFG	California Department of Fish and Game
DHS	California Department of Health Services
DISCO	Distribution Company
DOC	Determination of Compliance
DOE	U.S. Department of Energy
DSM	demand side management
DTC	Desert Tortoise Council
DWR	California Department of Water Resources
	E
EDF	Environmental Defense Fund
Edison	Southern California Edison Company
EDR	Energy Development Report
EFS&EPD	Energy Facilities Siting and Environmental Protection Division
EIA	U.S. Energy Information Agency
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ELFIN	Electric Utility Financial and Production Simulation Model
EMF	electric and magnetic fields
EOR	East of River (Colorado River)
EPA	U.S. Environmental Protection Agency
EPRI	Electric Power Research Institute
ER	Electricity Report
ERC	emission reduction credit {offset}
ESA	Endangered Species Act (Federal) Environmental Site Assessment
ETSR	Energy Technologies Status Report
	F
FAA	Federal Aviation Administration
FBE	Functional Basis Earthquake
FCAA	Federal Clean Air Act
FCC	Federal Communications Commission
FEIR	Final Environmental Impact Report
FIP	Federal Implementation Plan
FONSI	Finding of No-Significant Impact
FERC	Federal Energy Regulatory Commission
FSA	Final Staff Assessment G

GEP	good engineering practice
GIS	gas insulated switchgear geographic information system
gpd	gallons per day
gpm	gallons per minute
GW	gigawatt
GWh	gigawatt hour
	H
H_2S	hydrogen sulfide
HCP	habitat conservation plan
HHV	higher heating value
HRA	Health Risk Assessment
HRSG	heat recovery steam generator
HV	high voltage
HVAC	heating, ventilating and air conditioning
	I
IAR	Issues and Alternatives Report
IEA	International Energy Agency
IEEE	Institute of Electrical & Electronics Engineers
IID	Imperial Irrigation District
IIR	Issues Identification Report
IOU	Investor-Owned Utility
IS	Initial Study
ISO	Independent System Operator
	J
JES	Joint Environmental Statement
	K
KCAPCD	Kern County Air Pollution Control District
KCM	thousand circular mils (also KCmil) (electricity conductor)
KGRA	known geothermal resource area
km	kilometer
KOP	key observation point
KRCC	Kern River Cogeneration Company
kV	kilovolt
KVAR	kilovolt-ampere reactive
kW	kilowatt
kWe	kilowatt, electric
kWh	kilowatt hour
kWp	peak kilowatt
	L
LADWP	Los Angeles Department of Water and Power
LAER	Lowest Achievable Emission Rate
lbs	pounds
lbs/hr	pounds per hour
lbs/MMBtu	pounds per million British thermal units
LCAQMD	Lake County Air Quality Management District
LMUD	Lassen Municipal Utility District
LORS	laws, ordinances, regulations and standards
	M
m (M)	meter, million, mega, milli or thousand
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCE	maximum credible earthquake
MCF	thousand cubic feet
MCL	Maximum Containment Level
MCM	thousand circular mil (electricity conductor)
$\mu g/m^3$	micro grams (10^{-6} grams) per cubic meter

MEID	Merced Irrigation District
MG	milli gauss
mgd	million gallons per day
MID	Modesto Irrigation District
MOU	Memorandum of Understanding
MPE	maximum probable earthquake
m/s	meters per second
MS	Mail Station
MVAR	megavolt-ampere reactive
MW	megawatt (million watts)
MWA	Mojave Water Agency
MWD	Metropolitan Water District
MWh	megawatt hour
MWp	peak megawatt
	N
N-1	one transmission circuit out
N-2	two transmission circuits out
NAAQS	National Ambient Air Quality Standards
NCPA	Northern California Power Agency
NEPA	National Energy Policy Act National Environmental Policy Act
NERC	National Electric Reliability Council
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NMHC	nonmethane hydrocarbons
NO	nitrogen oxide
NOI	Notice of Intention
NOL	North of Lugo
NO_x	nitrogen oxides
NO_2	nitrogen dioxide
NOP	Notice of Preparation (of EIR)
NOV	Notice of Violation
NRDC	Natural Resources Defense Council
NSCAPCD	Northern Sonoma County Air Pollution Control District
NSPS	New Source Performance Standards
NSR	New Source Review
	O
O_3	Ozone
OASIS	Open Access Same-Time Information System
OCB	oil circuit breaker
OCSG	Operating Capability Study Group
O&M	operation and maintenance
OSHA	Occupational Safety and Health Administration (or Act)
	P
PG&E	Pacific Gas & Electric Company
PDCI	Pacific DC Intertie
PHC(S)	Prehearing Conference (Statement)
PIFUA	Federal Powerplant & Industrial Fuel Use Act of 1978
PM	Project Manager particulate matter
PM_{10}	particulate matter 10 microns and smaller in diameter
$PM_{2.5}$	particulate matter 2.5 microns and smaller in diameter
ppb	parts per billion
ppm	parts per million
ppmvd	parts per million by volume, dry
ppt	parts per thousand
PRC	California Public Resources Code

PSD	Prevention of Significant Deterioration
PSRC	Plumas Sierra Rural Electric Cooperative
PT	potential transformer
PTO	Permit to Operate
PU	per unit
PURPA	Federal Public Utilities Regulatory Policy Act of 1978
PV	Palo Verde photovoltaic
PX	Power Exchange
	Q
QA/QC	Quality Assurance/Quality Control
QF	Qualifying Facility
	R
RACT	Reasonably Available Control Technology
RDF	refuse derived fuel
ROC	Report of Conversation reactive organic compounds
ROG	reactive organic gas
ROW	right of way
RWQCB	Regional Water Quality Control Board
	S
SACOG	Sacramento Area Council of Governments
SANBAG	San Bernardino Association of Governments
SANDAG	San Diego Association of Governments
SANDER	San Diego Energy Recovery Project
SB	Senate Bill
SCAB	South Coast Air Basin
SEGS	Solar Electric Generating Station
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison Company
SCFM	standard cubic feet per minute
SCH	State Clearing House
SCIT	Southern California Import Transmission
SCR	Selective Catalytic Reduction
SCTL	single circuit transmission line
SDCAPCD	San Diego County Air Pollution Control District
SDG&E	San Diego Gas & Electric Company
SEPCO	Sacramento Ethanol and Power Cogeneration Project
SIC	Standard industrial classification
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAQMD	San Joaquin Valley Air Quality Management District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utility District
SMUDGEO	SMUD Geothermal
SNCR	Selective Noncatalytic Reduction
SNG	Synthetic Natural Gas
SO_2	sulfur dioxide
SO_x	sulfur oxides
SO_4	sulfates
SoCAL	Southern California Gas Company
SONGS	San Onofre Nuclear Generating Station
SPP	Sierra Pacific Power
STIG	steam injected gas turbine

SWP	State Water Project
SWRCB	State Water Resources Control Board
	T
TAC	Toxic Air Contaminant
TBtu	trillion Btu
TCF	trillion cubic feet
TCM	transportation control measure
TDS	total dissolved solids
TE	transmission engineering
TEOR	Thermally Enhanced Oil Recovery
TID	Turlock Irrigation District
TL	transmission line or lines
T-Line	transmission line
TOG	total organic gases
TPD	tons per day
TPY	tons per year
TS&N	Transmission Safety and Nuisance
TSE	Transmission System Engineering
TSIN	Transmission Services Information Network
TSP	total suspended particulate matter
	U
UBC	Uniform Building Code
UDC	Utility Displacement Credits
UDF	Utility Displacement Factor
UEG	Utility Electric Generator
USC(A)	United States Code (Annotated)
USCOE	U.S. Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
	V
VCAPCD	Ventura County Air Pollution Control District
VOC	volatile organic compounds
	W
W	Watt
WAA	Warren-Alquist Act
WEPEX	Western Energy Power Exchange
WICF	Western Interconnection Forum
WIEB	Western Interstate Energy Board
WOR	West of River (Colorado River)
WRTA	Western Region Transmission Association
WSCC	Western System Coordination Council
WSPP	Western System Power Pool