STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	**Docket No. 98-AFC-2**
	)	
Application for Certification for the LA PALOMA GENERATING PROJECT	)	**COMMISSION ADOPTION ORDER**
	)	

This Commission Order adopts the Commission Decision on the La Paloma Generating Project. It incorporates the Presiding Member's Proposed Decision (PMPD) in the above-captioned matter and the Committee Errata (September 30, 1999) thereto. The Commission Decision is based upon the evidentiary record of these proceedings (Docket No. 98-AFC-2) and considers the comments received at the October 6, 1999 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 Commission Decision 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 La Paloma Generating 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 establishes that no feasible alternatives to the project, as described during these proceedings, exist.

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

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 the La Paloma Generating Project 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 Applicant 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: October 6, 1999

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

WILLIAM J. KEESE
Chairman

DAVID A. ROHY, Ph.D.
Vice Chair

MICHAL C. MOORE
Commissioner

ROBERT A. LAURIE
Commissioner

ROBERT PERNELL
Commissioner

COMMISSION DECISION

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on the

LA PALOMA GENERATING PROJECT

Application for Certification

Docket No. 98-AFC-2

October 1999

CALIFORNIA ENERGY COMMISSION

Gray Davis, ***Governor***

P800-99-014

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Appendix A: *Laws, Ordinances, Regulations and Standards*
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Appendix D: *Glossary of Terms and Acronyms*

INTRODUCTION

A. Summary

This Decision contains our rationale for determining that the La Paloma Generating Project (LPGP) complies with all applicable laws, ordinances, regulations, and standards, and may therefore be licensed. Our Decision 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 supporting our findings and conclusions, and specified measures required to ensure that the LPGP is designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

The LPGP will be located in western Kern County, near the town of McKittrick. The project is essentially a 1,048 megawatt (MW) natural gas-fired, combined-cycle power plant. Associated facilities include a new 230 kilovolt transmission intertie to the existing Midway Substation near the community of Buttonwillow, approximately 14 miles away; a natural gas fuel supply line about 370 feet long; an eight mile long water supply pipeline and 700,000 gallon storage tank; a communications tower; and a new two mile long pipeline for potable water needs.

The LPGP is the third, and largest, merchant power plant to be licensed by the Energy Commission. Its electrical output will be sold into the newly created California Power Exchange, as well as to wholesale power consumers pursuant to bilateral sales agreements. Project construction is expected to commence later this year; capital costs are estimated at $500 million. The project will create a peak of 727 (and average of 451) construction jobs, as well as 35 permanent operational jobs. Commercial operation is anticipated to begin late in the year 2001.

As certified, the La Paloma project has the ability to use the SCONOx technology, on one of the four units, to reduce emissions of oxides of nitrogen. This would be the first use of this technology on a project of this size.

Finally, we believe several factors enabled us to proceed quickly with this licensing process. First, Applicant filed a document which was very detailed and provided sufficient information and data to allow Staff and the other parties to immediately begin their respective reviews, without the necessity of engaging in an extensive and time-consuming discovery period. Applicant presented items such as its biological surveys, habitat compensation package, and transmission studies early in the process. Moreover, from the outset, it had identified and had obtained, or was well along in obtaining, specific emission reduction credits and water supplies for the project. This, and its continued responsiveness, allowed sister agencies such as the United States Fish & Wildlife Service, the Bureau of Land Management, the California Department of Fish and Game, the San Joaquin Valley Unified Air Pollution Control District, and the California Independent System Operator to perform their respective reviews. In turn, the ability of Commission staff to coordinate its analysis with these other entities was greatly enhanced.

Next, the project as certified is much the same as the one proposed. Although modifications have been made through the course of this proceeding, each change has been accompanied by detailed information and none has been so substantial an amendment as to necessitate a significantly expanded, time-consuming review.

Finally, Applicant has chosen to place the project in a community which welcomes it. The only public input which we received during this proceeding has favored construction of the La Paloma Generating Project and the economic development it will bring to the western Kern County area.

B. Site Certification Process

The LPGP and its related facilities fall within Energy Commission licensing jurisdiction. (Pub. Resources Code, ∥ 25500 et seq.). During its licensing proceedings, the Commission acts as lead state agency under the California Environmental Quality Act (Pub. Resources Code, ∥ 25519 (c), 21000 et seq.), and its 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 allow the review of a project to be completed within a limited period of time; a license issued by the Commission is in lieu of other state and local permits.

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.

Significantly, 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 developers. 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 or not it is adequate to permit review to commence. 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 holding public conferences and

evidentiary hearings, as well as providing a recommendation to the full Commission concerning a project's ultimate acceptability.

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 is 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 "Staff Assessment".

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 gleaned from this event forms the basis for a Hearing Order organizing and scheduling formal evidentiary hearings. At these hearings, all who have become formal parties are able to present testimony, under oath or affirmation, which is subject to cross-examination by other parties and questioning by the Committee. The public may also comment on a proposed project at these hearings. Evidence adduced during these hearings provides the basis for the decision-makers' analysis.

This analysis appears in a Committee recommendation to the full Commission in the form of a Presiding Member's Proposed Decision, which is available for a public review period of at least 30 days. Depending upon the extent of revisions necessary in reaction to comments received during this period, the Committee may then elect to publish a revised version. If so, this latter document 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, the 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 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 occurring during the present case are summarized below.

On June 11, 1998, the La Paloma Generating Company filed a "Petition for Jurisdictional Determination" under Public Resources Code section 25540.6. In this Petition, Applicant asked the Commission to decide whether the LPGP should be exempt from the Notice of Intention (NOI) requirements of Public Resources Code section 25502. After due consideration of the matter the Commission determined, on August 12, 1998, that the proposed power plant project was the "result of competitive solicitation or negotiation" for the sale of its power and thus, under Public Resources Code section 25540.6 (a) (1), qualified for an exemption from the NOI.

Applicant had previously submitted its Application for Certification (AFC) on July 10, 1998. Staff had contemporaneously sent a "request for agency participation" to those governmental agencies likely to have an interest in the project. On

August 26, 1998, the full Commission accepted the AFC as sufficiently informative to commence the review process.

The Committee scheduled its initial event, an "Informational Hearing and Site Visit", by notice dated August 28, 1998 . This notice was sent to all known to be interested in the proposed project, including the owners of land adjacent to, or in the near vicinity of, the LPGP; it was also published in local general circulation newspapers.

The Committee conducted the Informational Hearing in McKittrick on September 16, 1998. At this event, the Committee and other participants discussed the proposed LPGP, described the Energy Commission's review process, and identified the opportunities for public participation. The next day, Commission staff held the first in a series of informal post-acceptance public workshops in the local area to further discuss project details. The Committee issued its required Scheduling Order on October 1, 1998.

Pursuant to this Order, and following additional case development, Commission staff released its Preliminary Staff Assessment on February 5, 1999. Thereafter, on March 16, 1999, 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 scheduled issuance of the Final Staff Assessment for April 7, 1999, and the commencement of formal evidentiary hearings for April 21 and 22, 1999.

At the April 21, 1999 evidentiary hearing, Applicant specifically requested an extension of the 12-month certification process because of unanticipated delays in obtaining the results of project review by certain governmental entities, including federal agencies. (4/21/99 RT 181-182,186). The Committee granted this request, conducted the previously scheduled hearings, and later scheduled

additional evidentiary hearings for June 29 and, if necessary, June 30, 1999. The final hearing was held in McKittrick, and emphasized the topic areas most likely to be of local concern, i.e. Air Quality, Biological Resources, Land Use, Socioeconomics, Soil and Water Resources, Traffic and Transportation, and Visual Resources.

The Committee, after thus establishing the evidentiary record, published its Presiding Member's Proposed Decision (PMPD) on July 20, 1999. The public comment period closed on August 20, 1999. At Applicant s request, the Committee held this document in abeyance pending submission of a revised Final Determination of Compliance (FDOC). The Committee reopened the evidentiary record to receive the FDOC in its Order of September 30, 1999. That Order was accompanied by Errata to the PMPD. At the October 6, 1999 full Commission hearing, Staff also proposed one further clarification. These changes are incorporated in this Final Decision.

Those who formally intervened and participated as parties in this process include: the California Unions for Reliable Energy (CURE); Sunrise Cogeneration and Power Company; High Desert Power Project; the West Kern Water District ; and Elk Hills Power, LLC.

I. PROJECT PURPOSE AND DESCRIPTION

Summary and Discussion of the Evidence

The La Paloma Generating Company, LLC (La Paloma; Applicant) is a limited liability corporation formed by PG&E Generating Company (formerly known as U. S. Generating Company). PG&E Generating is an unregulated subsidiary of PG&E Corporation. La Paloma proposes to "... construct and operate an electrical generating facility that supplies economic, reliable, and environmentally sound electrical energy and capacity to the restructured California energy market." (Exs. 1, section 2; 35, p. 5). The La Paloma Generating Project (LPGP) is a 1,048 megawatt (MW) natural gas-fired, combined-cycle power plant. Electrical energy from this merchant power plant [1] will be sold into the California Power Exchange (PX), as well as to wholesale power consumers pursuant to bilateral sales agreements. (Exs. 1, section 3; 35, p. 5).

The LPGP will be located in western Kern County, approximately 40 miles west of Bakersfield and 1.9 miles east of McKittrick, in section 27, near the intersection of Reserve and Skyline Roads. The power plant site is approximately 23 acres in size, and is located within an area of declining oil production. (4/21/99 RT 25, 32).[2]

The power generating facility will consist of four power islands. Each island will be comprised of a combustion turbine generator (CTG), a heat recovery steam generator (HRSG) and exhaust stack, and wet surface cooling condenser. (Exs. 1, section 3; 35, p. 5). Natural gas supplied by a new pipeline will fuel the project. This pipeline will tap into the existing interstate natural gas pipeline located approximately 370 feet west of the plant site; the existing pipeline is jointly owned and operated by Kern River Natural Gas Transmission Company and the Mojave Pipeline Company.

[1] A merchant power plant is one which is privately owned, and whose costs are not borne by utility ratepayers.

[2] "RT" refers to the official reporter's transcript for the date indicated.

The La Paloma Generating Project will use approximately 5,500 acre-feet of water annually. Monthly water requirements will vary, ranging from about 610 acre-feet during February to about 680 acre-feet in August. The West Kern Water District (WKWD) will supply the project with California Aqueduct water via a new eight-mile long pipeline; a turnout from the Aqueduct, a pump station, and a 700,000 galllon storage tank will also be constructed. The water pipeline will largely follow the corridor of state Highway 58. [3] Potable water for domestic needs will be supplied from the WKWD's existing municipal system via a new two-mile pipeline to McKittrick. (Ex. 1, section 3).

Blowdown water from the cooling tower will constitute the primary source of wastewater. This will be disposed either by direct injection or by treatment in a zero discharge system.[4] Sanitary waste will be disposed in an on-site leach field. Storm water run off will be collected by storm drains and directed to a retention basin. (Ex. 35, p. 7).

Applicant also proposes to construct a new bundled 230 kilovolt (kV) double circuit electric transmission line to interconnect the project with PG&E's Midway Substation, located northeast of the project site near the community of Buttonwillow. This transmission tie-line would be from 13.6 to 14.2 miles long,[5] and would parallel the existing Midway-Sunset 230 kV and PG&E Diablo-Midway #2 500 kV transmission line. From the Midway Substation, electrical production from the LPGP will be transmitted to users through the existing utility transmission and distribution network (Exs. 1, section 3; 35, p. 5). The project's general features are shown on Figure 1.

[3] Applicant initially proposed two possible routes for the water supply pipeline, either along the right-of-way of the transmission tie line, or along the corridor of state Highway 58. The testimony of record establishes that Applicant is seeking certification for only the route that follows Highway 58 (Route No. 2; see 4/21/99 RT 21:8-11; see also Ex. 26).

[4] Applicant is seeking the option of using either groundwater injection or zero discharge. (4/21/99 RT 34:12-13). Applicant intends to return to the Commission within 60 days following licensing to indicate which wastewater discharge system it will in fact use (4/21/99 RT 34: 24-26 to 35: 1-5).

[5] There are two possible transmission line routes. Route 1 crosses an ecological reserve managed by the California Department of Fish and Game; Route 1B essentially jogs around this reserve. (4/21/99 RT 32-33; see also Ex.s 26 and 28). The routes are similar in other respects. Though Applicant has requested licensing of both routes, it prefers Route 1 and, as discussed in the "Biological Resources" portion of this Decision (*infra*), is negotiating with CDFG to use this route.

Applicant desires to commence project construction late in 1999; capital costs are estimated at $500 million. The project is expected to create a peak of 727 (and average of 451) construction jobs, as well as 35 permanent operational jobs. Commercial operation is anticipated to begin late in the year 2001.

FINDINGS

Based upon the evidence of record, we find as follows:

1. The project objective is to construct and operate a nominally rated 1,048 MW natural gas-fired combined-cycle merchant power plant.

2. The project consists of the power generation equipment, the transmission interconnection, the raw and potable water supply pipelines, turnout and water storage tank, the natural gas supply pipeline, a communications tower, and appurtenant facilities.

PROJECT DESCRIPTION - NOT AVAILABLE IN PDF VERSION
Figure 1

Source: Exhibit 35, p. 5

II. DEMAND COMFORMANCE CRITERIA

Summary and Discussion of the Evidence

State law provides that the Commission cannot certify an electric generating facility unless it finds that the project conforms with the 12-year forecast for electrical energy demand and the Integrated Assessment of Need contained in the Commission's most recently adopted Electricity Report (**ER**).[6] The criteria governing this determination are currently contained in the 1996 **ER**, and are succinctly described on page 72 of that document:

> In sum, the **ER 96** Need criterion is this: during the period when **ER 96** is applicable, proposed power plants shall be found in conformance with the Integrated Assessment of Need (IAN) as long as the total number of megawatts permitted does not exceed 6,737.

The evidence of record establishes that **ER 96** is applicable and that certification of the La Paloma Generating Project would not cause the number of megawatts thus far permitted to exceed the 6,737 limit.[7] (4/21/99 RT 70-72; Ex. 1, section 2).

FINDINGS AND CONCLUSIONS

The evidence of record establishes:

1. The 1996 Electricity Report is that most recently adopted by the Commission.

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[6] These provisions are contained in sections 25305, 25308, 25308.5, 25309(b), 25523(f), and 25524 of the Warren-Alquist Act [Pub. Resources Code, §§ 25000 et seq.].

[7] As of the April 21, 1999 Evidentiary Hearing, the Commission had certified only the Sutter Power Project (500 MW; see Commission Decision, April 1999, Publication No. P800-99-010.) The Commission has since essentially removed the numerical limitation referred to as the "need cap" (see Commission Order No. 99-0428-12), and the Commission has approved (on August 17, 1999) certification of the Pittsburg District Energy Facility (500 MW; Docket No. 98-AFC-1). These events do not alter the contents of the present Decision.

2. The demand conformance criteria contained in the 1996 Electricity Report are those which apply to the La Paloma Generating Project.

3. The La Paloma Generating Project meets the demand conformance criteria contained in the 1996 Electricity Report.

We therefore conclude that the La Paloma Generating Project satisfies the demand conformance criteria referred to in the pertinent portions of the Public Resources Code.

III. ALTERNATIVES

In cases such as the present, where the proposed project has been exempted from the Notice of Intention requirements pursuant to Public Resources Code section 25540.6, the Commission is required during the AFC to examine the "... feasibility of available site and facility alternatives... which substantially lessen the significant adverse impacts of the proposal on the environment." (20 Cal. Code of Regs.,/1765). This inquiry must also comply with the guidelines implementing the California Environmental Quality Act (CEQA) which require an evaluation of the comparative merits of "... a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...", as well as an evaluation of the "no project" alternative. [14 Cal. Code of Regs.,/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 only 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. [14 Cal. Code of Regs.,/15126 (d) (5)]. [8]

[8] Public Resources Code, section 25305 (c) limits the scope of an alternatives analysis during a power plant siting case. This provision states that conservation, load management, or other demand reducing measures reasonably expected to occur shall be examined the in the Electricity Report, and shall not be considered as alternatives to a proposed facility during the siting process.

Summary and Discussion of the Evidence

The evidence of record addresses alternatives to the major components of the La Paloma Generating Project. This includes generation technology, site selection, and linear facility routing. (4/21/99 RT 43, 50; Ex. 35, pp. 391 -- 408).

The methodology used to prepare the alternatives analysis included :

- identifying the basic objectives of the project;
- identifying and evaluating alternatives to the project;
- identifying and evaluating alternative locations or sites; and
- evaluating the impacts of not constructing the proposed project. (Ex. 35, p. 389).

a. Project Objectives

The evidence indicates that the project objectives include constructing and operating a merchant power plant in the western San Joaquin Valley to supply economic, reliable, and environmentally sound electrical energy and capacity in California's deregulated power market. To achieve this end, the project proponents desire to construct the La Paloma Generating Project near key infrastructure such as transmission lines and supplies of process water and natural gas . (Ex. 35, p. 390). In the Applicant's view, economic factors and the existence of the deregulated electricity market confirm both the desirability and the feasibility of the proposed project. (4/21/99 RT 44-45).

b. Technological Alternatives

Commission staff examined electrical generation alternatives which do not burn fossil fuels. The generation technologies which could conceivably serve as alternatives to the proposed project are geothermal, solar, hydroelectricity, and wind. The evidence establishes, however, that these technologies are either not

available in the western San Joaquin Valley or would require vastly larger land areas than the proposed project. The use of any of these alternative technologies thus possesses the potential for significant land use, biological, and visual impacts. The evidence establishes that these technologies do not comprise feasible project alternatives. (Ex. 35, p. 391).

c. Alternative Locations

The evidence indicates that eight alternative locations for the project were evaluated. These sites were Elk Hills Road, Cymric and Belridge in western Kern County, Kettleman City East and Kettleman City West in Kings County, Gates and Panoche Road in Fresno County, and Santa Nella in Merced County. (4/21/99 RT 50; see Alternatives Figure 2).

The analysis of each of these alternative sites is detailed in the evidence of record, and indicates that industrial development at these sites is either infeasible or possesses the potential to create significant adverse environmental impacts. (See Ex. 35, pp. 397 - 407). [9]

[9] On balance, Staff concluded that with the imposition of mitigation measures, the Cymric site would be a feasible locational alternative. (Ex. 35, p. 408; 04/21/99 RT 55). Other evidence indicates, however, that use of the Cymric site may potentially conflict with oil development and that Staff s conclusion regarding this location did not include project economics. (4/21/99 RT 57).

ALTERNATIVES - NOT AVAILABLE IN PDF VERSION

Figure 2

Source: Exhibit 35, p. 395

The evidence also includes an evaluation of alternative routings for the project's linear facilities including the water supply pipeline, the transmission tie-line, the natural gas pipeline, and the potable water supply pipeline. (Exs. 1,28, 35 pp. 391-393). In each instance, the evidence indicates that the routings proposed by the Applicant are acceptable since they create no significant adverse impacts.

d. No Project

Applicant s witness testified that operation of the La Paloma Generating Project will result in environmental improvements by displacing older power plants that run less efficiently and emit a higher level of air pollution. (4/21/99 RT 47-48). According to the witness this benefit, along with the socioeconomic aspects of the project, would not occur were the project not built.

Staff concluded that overall the no project alternative was not superior to the proposed project . This conclusion is based largely on Staff s complete analysis indicating that appropriate mitigation measures, if imposed, will reduce any project impacts to less than significant levels. (4/21/99 RT 50, 51; Ex. 35, p. 408). [10]

FINDING AND CONCLUSIONS

Based upon the totality of the evidence of record, including that relating to each topic area contained in other portions of this Decision, we find and conclude as follows:

[10] Staff did determine that the "No Project" Alternative would be environmentally superior to the proposed project in an unmitigated condition. (Ex. 35, p. 408).

1. The evidence of record contains an acceptable analysis of a reasonable range of alternatives to the project as proposed .

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

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

4. The "no project" alternative would not avoid or lessen the creation of any direct, or indirect, or cumulative significant adverse environmental impacts.

We therefore conclude that the evidence of record contains an analysis of possible alternatives to the La Paloma Generating Project, including its appurtenant facilities, which satisfies the requirements of both the Warren-Alquist Act and the California Environmental Quality Act and 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, standards and the specific Conditions of Certification adopted as part of 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 La Paloma Generating 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 the Decision. Compliance with the Conditions of Certification contained in this Decision is verified through means such as periodic reports and site visits. (4/ 21/99 RT 61).

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

- set forth of 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;
- establish procedures for settling the disputes and making post-certification changes;

- establish requirements for periodic compliance reports and other administrative procedures necessary to verify compliance status for all Conditions of Certification; and

- establish requirements for closure of the facility. (Ex. 35, p. 415). The closure requirements cover the eventualities of planned closure (in which the facility would be closed in an anticipated and orderly manner), temporary closure (short-term sudden or unexpected closure), and unexpected permanent closure. (4/21/99 RT 62 -63).

The second general element is the specific Conditions of Certification. These are found following the summary and discussion of each individual topic area in this Decision. The specific Conditions contain the measures required to mitigate potentially adverse project impacts to insignificant levels. Each Condition also includes a "verification" provision that describes 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. (4/21/99 RT 63, 64). Applicant has acknowledged this necessity (4/21/99 RT 59: 19-23).

FINDINGS AND CONCLUSIONS

The evidence of record establishes:

1. The Compliance Plan and the specific Conditions of Certification contained in this Decision will assure that the La Paloma Generating Project is 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. We also adopt the following Compliance Plan as part of this Decision.

COMPLIANCE PLAN

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 staff when handling disputes, complaints, and amendments.

All project compliance filings are submitted to the CPM for processing. Where a submittal required by a Condition of Certification requires CPM approval, it is to be understood that the approval would involve all appropriate staff and management.

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.

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 has the responsibility to ensure that the project is designed, constructed, operated, and closed in compliance with the terms and conditions of the Commission Decision. Without access to the facility, it is virtually impossible to determine whether or not the project owner is complying with the Conditions of Certification. Therefore, the CPM, designated staff, and delegated agencies or consultants shall be guaranteed and granted 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.

Compliance Record

The compliance record serves as verification that the project was designed, constructed, and operated in compliance with the terms and conditions of the Commission Decision. The documents contained in the compliance record demonstrate that the project owner, or its designated agents, complied with the Conditions of Certification. 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 access to the files.

Compliance Verifications

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, in most cases without Energy Commission approval.

Verification of compliance with the Conditions of Certification can be accomplished by:

1. 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;

2. appropriate letters from delegate agencies verifying compliance;

3. Energy Commission staff audit of project records; and/or

4. Energy Commission staff inspection of mitigation and/or other evidence of mitigation.

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
La Paloma Generating Project (Docket No. 98-AFC-2C)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

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

Compliance Reporting

The project owner shall provide compliance reports to keep the CPM apprised of what is occurring on the power plant site during both the construction and operation phases. 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 filings be submitted to the CPM in the monthly or annual compliance reports.

Compliance Matrix

A compliance matrix is to be submitted by the project owner to the CPM along with each monthly and annual compliance report. The compliance matrix will provide the CPM with the current status of 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. an indication of 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.

Monthly Compliance Report

During construction of the project, the project owner or authorized agent shall submit Monthly Compliance Reports within 10 working days after the end of each reporting month. The Monthly Compliance Report allows the CPM to keep track of the progress being made by the project owner during the construction phase. The CPM uses the Monthly Compliance Report to schedule site visits and to maintain a database of the project owner's compliance with the Conditions of Certification.

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;

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.

The first Monthly Compliance Report is due the month following the Energy Commission business meeting date that the project was approved, unless the project owner notifies the CPM in writing that a delay is warranted. 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.

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 CPM uses the Annual Compliance Report along with periodic site visits to ensure that the project owner is complying with on-going or operational Conditions of Certification.

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].

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, sections 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 must remit to the California Department of Fish and Game (CDFG) a filing fee in the amount of eight hundred and fifty dollars ($850). The fee must be paid on or before the tenth day following the Energy Commission Business Meeting at which the project was approved. No construction may commence until the fees have been paid in full and proof of payment is submitted to the CPM.

The project owner shall submit a copy of the CDFG receipt to the CPM within 30 days of the Energy Commission Business Meeting in which the project was approved. The receipt shall identify the project, indicate the date paid, and specify the amount paid.

FACILITY CLOSURE

Introduction

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 which will exist at the time of closure. Laws, ordinances, regulations and standards (LORS) pertaining to facility closure are identified in the appropriate portion of Appendix A of the Decision dealing with each technical area. Facility closure must 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

This 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

This unplanned 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

This unplanned closure occurs if the project owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes both when an owner is implementing the on-site contingency plan, and when the project owner has abandoned the project.

General Conditions for Facility Closure

Planned Closure

In order that a planned facility closure does not create adverse impacts, a closure process that will provide 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 125 copies (or other number

of copies agreed upon by the CPM) of its proposed facility closure plan with the Energy Commission.

The plan shall: a) identify and discuss impacts associated with the proposed facility closure activities and 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; b) identify any facilities or equipment intended to remain on site after closure, the reason therefor, and any future use; and c) 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.

The project owner shall not commence facility closure activities, with the exception of measures to eliminate any immediate threats to health and safety or the environment, 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 protect public health and safety, and mitigate 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 on 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 recommend 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 immediate steps to secure the facility from trespassing or encroachment. In addition, for temporary 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, Transmission Line Engineering, Facility Design and Geology, Biological Resources, Paleontologic Resources, and Waste Management).

In the event of an unexpected temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, 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 circumstances and expected duration of the closure.

If it is determined 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 submitted to the CPM within 90 days of the determination (or other period of time agreed to by the CPM).

Unexpected Permanent Closure

In order to ensure that public health and safety and the environment are protected in the event of an unexpected permanent 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 protect public health and safety, and mitigate environmental impacts, are taken in a timely manner (even in an abandonment scenario).

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 recommend 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 immediate steps to secure the facility from trespassing or encroachment. In addition, 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, Transmission Engineering, Facility Design and Geology, Biological Resources, Paleontologic Resources, and Waste Management).

Furthermore, the plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the 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, or e-mail, 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.

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.

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. While such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1230 et. seq., in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure are described below.

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 the 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, the CPM shall promptly prepare and distribute copies to all in attendance, and to the project file, a summary memorandum that 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 Chief 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, sections 1232 - 1236).

POST CERTIFICATION CHANGES TO THE COMMISSION DECISION: AMENDMENTS, STAFF 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; 3) transfer ownership or operational control of the facility; or 4) change a condition verification requirement.

A petition is required for **amendments** and for **insignificant (staff) 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 Staff Change

The proposed change will be processed as an insignificant staff change if it does not require changing the language in a Condition of Certification, does not have a potential significant environmental impact, and will not 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	
Complete Water Supply Line Construction	
Start Implementing Erosion Control Measures	
Complete Implementing Erosion Control Measures	

V. ENGINEERING ASSESSMENT

The broad engineering assessment conducted for the La Paloma Generating Project is comprised of individual analyses affecting the facility design, as well as the efficiency and the reliability of the proposed power plant. The subjects of this assessment include not only the power generating equipment, but also other project-related elements such as the associated linear facilities (transmission line, the natural gas supply pipeline, the raw water supply pipeline, and the potable water line).

A. FACILITY DESIGN

Summary and Discussion of the Evidence

The facility design portion of the engineering assessment combines five technical topic areas: geologic hazards; civil engineering; structural engineering; mechanical engineering; and electrical engineering. (4/21/99 RT 83; see also Ex. 1, section 13.5, and Appendices A-G and I). Even though the final design[11] of the project has not yet been determined, sufficient detail nevertheless exists to permit an analysis of whether the project can be designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety. As part of this analysis, the necessity for special design features to address unique site conditions is also considered. Finally, Conditions of Certification are established to ensure that the project is in fact designed and constructed in an acceptable manner. (4/21/99 RT 83-84).

[11] One of the Applicant's witnesses explained the various engineering design phases . The first phase is essentially a feasibility and development analysis in which the general project technologies and economics are assessed. The next step is more detailed and contains a preliminary engineering design. At approximately the time of project certification, Applicant will commence the final detailed engineering phase and detailed procurement of equipment. (4/21/99 RT 79--80).

The project site is located approximately 12.5 miles from the San Andreas Fault. It is in Seismic Zone 4, a designation indicating the highest level of potential earthquake related shaking in California. (4/21/99 RT 84). To address this potentiality, major structures and components (including the combustion turbine generator pedestal and foundation, steam turbine generator pedestal and foundation, heat recovery steam generator structure and foundation, exhaust stack foundation, and cooling tower) will be designed and constructed in conformance with the dynamic analysis requirements of the most recent edition of the California Building Code. [12] (4/21/99 RT 85; Ex. 1, p. 318). Additional studies will also be conducted prior to final facility design in order to identify and mitigate any expansive soils that may be present in the areas of structure foundations. [13]

Mechanical features of the La Paloma project include four combustion turbine generators burning natural gas, with a dry-low NOx combustor used to control NOx; four heat recovery steam generators, dual pressure, unfired, reheat type; four steam turbine generators, condensing reheat type; feed water system; two wet cooling towers; turbine inlet air cooling systems, evaporative type; water and wastewater treatment equipment; pressure vessels, piping systems and pumps; aqueous ammonia storage, handling and piping system; air compressors; fire protection systems; and heating, ventilating, air conditioning, potable water, plumbing and sanitary sewage systems.[14] (Ex.1, p.318). The mechanical systems will be designed in accordance with applicable codes and standards.

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[12] The 1998 edition of the California Building Code is currently in effect. Should this version be superseded by the time that the final plans for the LPGP are submitted, however, the successor version will be used . (4/21/99 RT 90, 91:4- 18). Equipment items and components subjected to dynamic analysis requirements will be described in detail prior to the start of that increment of construction of which they are a part. (4/21/99 RT 94).

[13] At the time of the April evidentiary hearings, Applicant was in the process of taking and analyzing additional soil borings. (4/21/99 RT 74 - 77; see also Ex. 35, p. 322).

[14] The La Paloma Generating Project will consist of four power trains, each composed of one ASEA Brown Boveri (ABB) KA-24 172 MW gas turbine, one heat recovery steam generator, and one 96 MW steam turbine driving an electric generator. (Exs. 1, section 3; 35, p. 365).

The major electrical equipment associated with the project includes: the 13.6 to 14.2 mile long 230 kV double-circuit transmission line (discussed in detail later in this Decision), four high voltage switchyard breakers with disconnect switches, four generator step-up transformers, two unit auxiliary transformers, two generator circuit breakers, and power control wiring, protective relaying, grounding system, site lighting, and cathodic protection system. (Ex. 35, p. 319).

The evidence of record concerning design of the facility also includes the ancillary linear facilities. The transmission line will be routed to avoid impacting existing oil field facilities and associated maintenance activities. (4/21/99 RT 90). The eight-mile long raw water supply pipeline will be 24 inches in diameter and sized to deliver the anticipated peak flow of 5,000 gallons per minute; a pumping station will also be constructed as part of the project . The natural gas supply line will be approximately 370 feet long and 20 inches in diameter; it will be buried at least 36 inches and will be suitably coated and cathodically protected against corrosion. The potable water supply line will be six inches in diameter, approximately 9,000 feet long, and designed to withstand a pressure of 150 pounds per square inch. (Ex. 35, p. 320).

The testimony of record indicates the Conditions of Certification will ensure that the final design and construction of the project complies with applicable standards . Contained in these Conditions are requirements specifying the roles, qualifications, and responsibilities of engineers overseeing project design and construction. The Conditions also require that no element of construction proceed without approval from the local building official and that qualified special inspectors perform appropriate inspections required by the California Building Code.[15] (4/21/99 RT 86 -87).

[15] In this instance, the local Chief Building Official serves as the delegatee of the Commission.

The environmental impacts of the project are discussed elsewhere in this Decision (for example, under topics such as Biological Resources and Noise). The testimony indicates that Facility Design considerations do not pose the potential for creating cumulative impacts.

Finally, the testimony addresses potential project closure under three scenarios: planned closure, unexpected temporary closure, and unexpected permanent closure. The testimony of record indicates that the general closure provisions contained in the Compliance Plan (*ante*) and supplemented by Condition of Certification GEN-9 are sufficient to adequately address and minimize any potential adverse impacts associated with project closure. (4/21/99 RT 92; Ex. 35, pp. 323-324).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The La Paloma Generating 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 Facility Design aspects of the proposed project do not create potential cumulative impacts.

5. 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 the planned, or the unexpected temporary, or the unexpected permanent closure of the facility.

We therefore conclude that with the implementation of the Conditions of Certification listed below, the La Paloma Generating Project is likely to be designed and constructed in conformity with applicable law pertinent to its geologic, and its civil, structural, mechanical, and electrical engineering, aspects.

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct and inspect the project in accordance with the California Building Code (CBC)[16] and all other applicable laws, ordinances, regulations, and standards (LORS) in effect at the time initial design plans are submitted to the Chief Building Official (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.

In the event the LPGP is designed to a successor edition to the 1998 CBC, 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 thirty (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 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 Commission's Decision have been met for facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy in the next Monthly Compliance Report after

[16] All the Sections, Chapters, Appendices and Tables in these Conditions, unless otherwise stated, refer to Sections, Chapters, Appendices and Tables of the 1998 California Building Code (CBC).

receipt of the permit 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 and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see list of major structures and equipment below). To facilitate audits by Commission staff, the project owner shall provide designated packages to the CPM when requested.

FACILITY DESIGN Table 1

Major Equipment List

Quantity	Description	Size/Capacity	Remarks
4	Combustion Turbine (CT)	172 MW	Dry low ox combustion control and starter package.
4	Steam Turbine	96 MW	Condensing reheat type.
4	Generator	300 MVA	Hydrogen cooling system.
4	CT inlet filter	640,000 CFM	
4	Heat Recovery Steam Generator (HRSG)	480,587 lb./hr.	HP and LP.
4	HRSG Stack	18'-6" dia.X100' high	Steel stack.
1	Aqueous ammonia	45,000 gal.	Ammonia storage tank.
1	Fire/service	600,000 gal.	Water storage tank.
1	Demineralized water	180,000 gal.	Demineralized water storage tank.
4	Circulating water pumps	55,000 gpm	
1	Water storage reservoir tank	700,000 gal.	Welded steel storage reservoir.
2	Wet cooling towers	590 mm Btu/hr.	
4	Step-up transformers	18 kV to 230 kV	To electrical grid.

FACILITY DESIGN Table 2

Major Structures, Equipment and Associated Foundations

Quantity	Description	Dimensions (ft)*		
		Length	Width	Height
4	Combustion gas turbine generator and starter package (CT)	50	45	20
4	CT air inlet filter with air cooling system	100	20	35
4	Generator with enclosure	40	20	25
4	Heat Recovery Steam Generator (HRSG)	130	45	65
4	HRSG stack		18.5 dia.	100
4	Selective catalytic reduction skid (SCR)	20	15	10
4	Steam turbine pedestal w/turbine and condenser	45	50	30
4	Auxiliary transformer	45	45	25
4	Step-up transformer	45	30	25
1	Demineralized water storage tank		40 dia.	20
1	Fire/Service water storage tank		60 dia.	30
1	Aqueous ammonia storage tank		26 dia.	12
2	Wet cooling tower	230	65	40
1	Water storage reservoir		74 dia.	24
1	Free-standing communication tower			30
1	Switchyard buses and towers	700	230	35
1	Electrical/administrative/control building	60	80	20
4	Gas compressors	41	57	23

*Dimensions are approximate

Verification: At least sixty (60) 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 Kern 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 fee has 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 of Regs., Tit. 24, § 4-209 – Designation of Responsibilities).]

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.

Protocol: 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, 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 approval(s) of the RE and other delegated engineer(s) within five (5) days of the approval(s).

If the RE or the delegated engineer(s) are subsequently reassigned or replaced, the project owner has five (5) 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 (5) 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 who is fully competent and proficient in the design of power plant 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.]

The tasks performed by the civil, mechanical, electrical, or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g. proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

The 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 for the 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 Commission 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 approval(s) of the engineers within five (5) days of the approval(s).

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five (5) 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 (5) days of the approval.

GEN-6 Prior to the start of an activity requiring special inspection, the project owner shall assign to the project 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 and Section – 1701.5 Type of Work (requiring special inspection), Section 106.3.5 – Inspection and observation program.

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; 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 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 fifteen (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 (5) 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 (5) days of the approval.

GEN-7 The project owner shall keep the CBO informed regarding the status of construction. If any discrepancy between design and construction is discovered during construction, the project owner shall prepare and submit a non-conformance report (NCR) describing the nature of the discrepancy to the CBO. The NCRs shall reference this Condition of Certification, and applicable sections of the applicable edition of the CBC.

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 fifteen (15) days. If disapproved, the project owner shall advise the CPM, within five (5) days, of 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 fifteen (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 the CPM and Kern County for review and approval at least twelve (12) months (or other mutually agreed to time) prior to commencing the closure activities.

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 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 twelve (12) months prior to closure or decommissioning activities, the project owner shall file a copy of the closure/decommissioning plan with Kern County and the CPM for review and approval.

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 CBC, Appendix Chapter 33, Section 3309.4. The certified engineering geologist(s) assigned must be approved by the 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 CBO) prior to the start of construction, the project owner shall submit to the CBO for approval the name(s) and license number(s) of the certified engineering geologist(s) assigned to the project. The submittal shall include a statement that CBO approval is needed. The CBO will approve or disapprove of the engineering geologist(s) and will notify the project owner and CPM of its findings within fifteen (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 to the CBO and CPM. The CBO will approve or disapprove of the engineering geologist(s) and will notify the project owner and the CPM of the findings within fifteen (15) days of receipt of the notice of personnel change.

GEO-2 The assigned engineering geologist 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 Geologic 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, for the intended use, of the site as affected by geologic factors.

The Final Geologic Report to be completed after completion of grading, as required by the 1998 CBC, Appendix Chapter 33, Section 3318.1, shall contain a final description of the geology of the site and any new information disclosed during the grading and the effect of same on recommendations incorporated in the approved grading plan. Engineering geologists shall submit a statement that, to the best of their 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 fifteen (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 ninety (90) days following completion of the final grading, the project owner shall submit copies of the Final Geologic Report required by the 1998 CBC, Appendix Chapter 33, Section 3318 Completion of Work, to the CPM and the CBO.

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 fifteen (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 (5) days, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within five (5) 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, 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.

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 (5) 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 (5) 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 thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) of the completion of the erosion and sedimentation 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.

STRUC-1 Prior to the start of any increment of construction, the project owner shall submit to the CBO for review and approval the applicable designs, plans, and drawings, and a list of those project structures, components, and major equipment items that will undergo dynamic structural analysis. Designs, plans, and drawings shall be those for:

1. major project structures;

2. major foundations, equipment supports, and anchorages;

3. large field fabricated tanks;

4. turbine/generator pedestals; and

5. switchyard structures.

Protocol: The project owner shall:

1. obtain agreement with the CBO on the list of those structures, components, and major equipment items to undergo dynamic structural analysis;

2. meet the pile design requirements of the 1998 CBC. Specifically, Section 1807 – General Requirements, Section 1808 – Specific Pile Requirements, and Section 1809 – Foundation Construction (in seismic zones 3 and 4);

3. 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];

4. 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 ninety (90) days 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

5. 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 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 twenty (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 (5) 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 applicable CBC chapter and section. Within five (5) 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 fifteen (15) days. If disapproved, the project owner shall advise the CPM, within five (5) days, of the reason for disapproval and the revised corrective action necessary to obtain 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 California Building Code (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 (exclude: domestic water, refrigeration systems, and small bore piping, i.e., piping and tubing with a diameter equal to or less than two and one-half inches). The submittal shall also include the applicable Quality Assurance/Quality Control (QA/QC) procedures. The project owner shall design and install all piping, other than domestic water, refrigeration, and small bore piping to 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 Commission 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, as necessary, 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 proposed final design plans, specifications, calculations, and quality control procedures for that increment of construction of piping systems, including a copy of the signed and stamped engineer's certification of conformance with the Commission 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.

Verification: 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.]

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.]

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 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 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 approvals to the CPM in the next Monthly Compliance Report following completion of that increment of construction.

ELEC-1 For the 13.8 kV and lower 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.]

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, 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.]

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.

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.

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 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 the items 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 RELIABILITY

Applicable law does not establish specific criteria for power plant reliability or procedures for ensuring reliable operation. Nevertheless, the Commission is required to make findings concerning whether the project is likely to be operated in a safe and reliable manner. [20 Cal. Code of Regs., §1752 (c)]. Generally, a project is considered acceptable if it does not degrade the reliability of the utility system to which it is connected. In this regard, it is necessary to examine whether the La Paloma project is likely to achieve a level of reliability similar to that of other power plants on the system.

Summary and Discussion of the Evidence

The La Paloma Generating Project is intended to operate as a baseload unit, providing maximum electrical output during the summer and winter peak demand periods. (Ex. 35, p. 358).[17] Baseload power plants are typically expected to provide uninterrupted service for very long durations and thus must be able to operate for extended periods without shutting down for maintenance or repairs. The basic factors influencing a power plant's reliability are the availability and redundancy of critical equipment, the availability of fuel and water, and the project's resistance to natural hazards. (Ex. 35, pp. 358 - 359).

Applicant will use power generating equipment with a history of established reliability. (4/21/99 RT 96). In addition, the Applicant has designed the project to use four parallel trains of gas turbine generators/HRSGs/steam turbine generators; this design is inherently reliable since a failure of one power train would not likely affect operation of the other power trains. Specified critical equipment will also be redundant. Similarly, Applicant's proposed maintenance,

[17] Applicant has not asserted that the La Paloma Generating Project is intended to provide voltage support, spinning reserve, or other reliability related services.

quality assurance, and quality control programs will meet industry standards. (Exs. 1, section 4; 35, pp. 359-360,362; see also 4/21/99 RT 101).

Applicant's witness testified that, even considering overhaul time, maintenance time, and a planned 2-1/2 percent forced outage rate, the La Paloma Generating Project will be capable of providing its full electrical output approximately 93 percent of the time. (4/21/99 RT 98). Staff agreed with this availability estimate. (Ex. 35, p. 362).

The evidence further indicates that there are and will continue to be adequate natural gas supplies and pipeline capacity to meet projects needs.[18] The project's water consumption represents approximately 22 percent of the WKWD's aqueduct allotment and approximately 2.5 percent of its banked groundwater reserves. (Exs. 1, sections 1,4; 35, p. 361). As discussed in greater detail in the "Soil and Water Resources" portion of this Decision, these levels of water requirements should not jeopardize the project's reliability. Moreover, the criteria specified in the preceeding "Facility Design" portion of this Decision will ensure that the La Paloma Generating Project will be reasonably resistant to natural hazards such as flooding and seismic shaking.

Overall, witnesses for both the Applicant and the Staff agreed that the La Paloma project would be built to typical industry norms of reliability and create no adverse impacts to the electrical system. (4/21/99 RT 102). Similarly, the project does not pose the potential for cumulative adverse impacts to the electrical system. (Ex. 35, p. 363).

[18] The Elk Hills project (Docket No. 99-AFC-1) and the Sunrise project (Docket No. 98-AFC-4), currently undergoing Commission review, were also considered in assessing the adequacy of gas supplies. (4/21/99 RT 99, 102 -103).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. There are no established specific criteria governing power plant reliability or procedures for ensuring reliable operation.

2. It is reasonable to use industry standards in assessing the reliability of the proposed project.

3. The estimated availability factor for the La Paloma Generating Project is 93 percent, somewhat above industry norms.

4. The equipment availability, redundancy, maintenance, quality assurance, quality control, and facility design factors described in the evidence of record make it likely that the La Paloma Generating Project will meet industry norms for reliability.

5. Water and fuel supplies for the proposed project are available in quantities sufficient to ensure reliable project operation.

6. The project will not degrade the overall reliability of the electrical system nor contribute to a cumulative adverse impact to such system.

We therefore conclude that the project will operate in an acceptably reliable manner and will not have an adverse effect on the reliability of the electrical system.

C. POWER PLANT EFFICIENCY

The California Environmental Quality Act and its implementing regulations require us to consider a proposed power plant's energy requirements and energy use efficiency, effects on local and regional energy supplies and resources, requirements for additional energy supply capacity, compliance with existing energy standards, and whether there are any feasible alternatives that could reduce a wasteful, inefficient, and unnecessary consumption of energy. (Pub. Resources Code, § 21002. 1; 14 Cal. Code Regs., Appendix F).

Summary and Discussion of the Evidence

The evidence of record addresses whether the LPGP will likely present any adverse impacts to energy resources, whether any adverse impacts would likely be significant and, if so, whether feasible mitigation measures exist to adequately reduce or eliminate them. In this context, the energy resource of concern is natural gas, the fuel supply for the project.

The LPGP will burn natural gas at a maximum rate exceeding 52 trillion Btu per year. (Exs. 1; 35, p. 366). This fuel will be purchased on the open market and is available from California and the Southwest, as well as from the Rocky Mountains and Canada. (*Id.*). Available sources can supply far more natural gas than the project will require and the testimony of record indicates that the LPGP will not create any adverse impacts upon energy supplies or resources. (4/21/99 RT 107). Since efficiency relates only to an individual project, it is not a topic which can contribute to cumulative impact concerns. (Ex. 35, pp. 369-70).

Moreover, the evidence establishes that the La Paloma project represents the current state–of-the art in electric generation efficiency. It is configured as a

compound train combined cycle power plant, in which electricity is generated by four gas turbines and additionally by four steam turbines that operate on heat energy recaptured from the gas turbines' exhaust. By recovering this heat which would otherwise be lost up the exhaust stacks, the efficiency of a combined cycle power plant is increased when compared to either gas turbines or steam turbines operating alone. This configuration is well-suited to the large, steady loads intended to be met by a base load plant.

Multiple turbines further contribute to the efficiency of the LPGP at part load. Gas turbine generators typically operate most efficiently at full load. Whenever desired output is at less than full load, the unit must be throttled back. In the present instance , however, the power plant operator will have the option of shutting off one or more gas turbine trains rather than being forced to throttle back one large turbine. This allows the power plant to generate at less than full load while maintaining optimum efficiency. (Ex. 35, p. 367; 4/21/99 RT 108-109).

The evidence further establishes that the "F-class" gas turbines which will be used in the La Paloma project represent some of the most modern and efficient machines of their type presently available.[19] (*Id*.). The project is calculated to operate at an efficiency of approximately 52-55 percent. The witnesses testified that this efficiency compares very favorably with existing steam boiler technology which has efficiencies in the 34-38 percent range. (4/21/99 RT 105, 109-110). The evidence also establishes that, in actual operation, the LPGP may displace power that would have been generated by other less efficient power plants. (Ex. 35, p. 370).

[19] The LPGP will use ABB KA-24 turbines. The evidence indicates that these machines compare favorably to other "F-class" machines currently available such as the General Electric S207FA and the Siemens-Westinghouse 2x1 501F. (Ex. 35, p. 369).

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we find and conclude as follows:

1. The La Paloma Generating Project will employ gas turbines that are among the most fuel-efficient currently available.

2. The project will not create a substantial increase in demand for natural gas.

3. Available gas supplies far exceed the fuel requirements of the proposed project.

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

5. The operational efficiency of the proposed project substantially exceeds that of steam boiler technology.

6. The La Paloma Generating Project will not consume natural gas in a wasteful, inefficient, or unnecessary manner.

We therefore conclude that the proposed project will cause no significant direct or indirect adverse impacts upon energy resources.

D. TRANSMISSION SYSTEM ENGINEERING

In addition to the power plant portion of the La Paloma Generating Project, Applicant will construct a transmission tie-line as an appurtenant facility. (See Pub. Resources Code, §§ 25120, 25110). The Commission's jurisdiction includes "... any electric power line carrying electric power from a thermal power plant... to a point of junction with any interconnected transmission system." (Pub. Resources Code, § 25107). The 13.6 to 14.2 mile long generation tie-line between the La Paloma Generating Project and the Midway Substation is not part of the electric system grid controlled by the California Independent System Operator (Cal ISO; Ex. 38, p. 2). Accordingly, the Commission's examination of the "Transmission System Engineering" factors includes determining whether or not the transmission intertie facilities are likely to conform with all applicable laws, ordinances, regulations, and standards intended to ensure safe and reliable electric power transmission and, if not, what mitigation is needed . (4/22/99 RT 73-74). As explained below, this examination has been coordinated with the evaluation performed by the Cal ISO in order to also determine the project's effects upon the interconnected electrical grid.

Summary and Discussion of The Evidence

Description. Though nominally rated at 1048 MW, the La Paloma Generating Project will deliver, under certain assumed conditions, about 940 MW for sale to the California electricity market.[20] (Ex. 38, pp. 1-2). The project switchyard is located on the project site. The project site is, in turn, located near a 500 kV transmission line owned by PG&E and a 230 kV line owned by the Midway-Sunset Cogeneration Project. The La Paloma Generating Project's line will parallel the Midway-Sunset line for about three miles, and then largely follow PG&E's #2 500 kV Diablo-Midway line to the Midway substation. (Ex. 35, p. 375).

[20] This difference is due to a variety of factors such as parasitic loads, line losses, and ambient temperature which reduce the plant's output. (4/22/99 RT 80-81).

It will terminate using two existing, vacant positions on the 230 kV bus. The positions use a single-breaker, double-bus configuration. (Ex. 38, p. 2).

This outlet line will be a double circuit line. It will consist of a total of 12 wires, two separate three-phase circuits with each phase consisting of two subconductors. Each conductor will have a minimum capacity consistent with that of 1590 kcmil ACSR "Falcon." The normal rating of both lines together is large enough to carry the plant's output and, in the event of an outage of one circuit, the emergency rating over each circuit will be able to carry the project's entire electrical output.[21] (Exs. 35, p. 376; 38, p. 2). The transmission line is designed to be carried on tubular steel poles, approximately 118 feet high, placed an average of 800 to 1000 feet apart. If final design warrants , however, steel towers may be used where necessary.[22] (Ex. 35, p. 376).

Role of the Cal ISO. The interconnection of a new generator (and any associated modifications to the transmission system), if not properly designed and operated, could adversely impact the reliable operation of the state's electrical power system. The primary roles of the Cal ISO, as they pertain to the interconnection of new generation, are to ensure and to coordinate the reliable operation of the Cal ISO controlled electrical grid. To achieve these goals, the Cal ISO coordinates the planning of modifications to the grid to ensure they meet the Cal ISO's Grid Planning Criteria. (Ex. 35, p. 373). These criteria essentially incorporate all Western Systems Coordinating Council (WSCC) Reliability

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[21] Applicant's witness testified that the choice of conductors is based on an economic sizing analysis; this basically means that while the transmission line has the physical capacity to accommodate extra generation, operation above the rated design capacity may not be desirable from an economic standpoint. (4/22/99 RT 65-66).

[22] Applicant's witness testified that project design called for tubular steel poles. (4/22/99 RT 66). The Staff's FSA (Ex. 35) indicates that steel towers may be used where appropriate; at the evidentiary hearing, Staff's witness clarified that this matter would be decided at the final design stage. (4/22/99 RT 78-79).

Criteria, the North American Electric Reliability Council (NERC) Planning Standards, and local area reliability criteria. (Ex. 38, p. 1).

The Cal ISO's criteria apply to all existing and proposed facilities interconnecting with the Cal ISO controlled grid. (Ex. 35, p. 374). Commission staff relies on the Cal ISO's determinations in formulating recommendations to the Commission concerning conformance with applicable reliability standards, as well as the need for additional transmission facilities and any attendant environmental review which may be caused by a particular project. (Ex. 35, p. 373).

To fulfill its primary role, the Cal ISO reviews a preliminary interconnection study. This study is performed, at the request of a power plant developer, by the Participating Transmission Owner (PTO). In the present case, the PTO is PG&E. (Ex. 38, p. 1). The Cal ISO may also perform independent analyses to determine a proposed project's impacts upon system reliability.[23]

The Cal ISO assesses a proposed project to determine whether the new project would cause thermal overloads, voltages which are to high or too low, and/or electrical system instability. In addition, the reliability evaluation considers credible emergency conditions including the loss of a single or double circuit line, the loss of a transformer or generator, or the loss of a combination of these facilities. (Exs. 35, p. 377; 38, p. 4).

Results of Analysis. The evidence clearly establishes that, after performing its review and analysis, the Cal ISO has determined that interconnection of the La Paloma Generating Project at the Midway Substation will cause no adverse impacts to the electrical system. Furthermore, connection of the La Paloma Generating Project will not necessitate the construction of additional facilities

[23] The Cal ISO performed an independent power flow analysis for the La Paloma project. (Ex. 38, page 1).

downstream of the Midway Substation. (4/22/99 RT 62, 74, 84; Exs. 27, 35, p. 377, 38, pp. 4-5). The Cal ISO has therefore given its preliminary approval of the project's transmission interconnection. (4/22/99 RT 62-63;Ex. 27).

This approval is contingent, however, on participation by La Paloma in "remedial action schemes"[24] since, under some of operating conditions, the project could result in reliability criteria violations. (4/22/99 RT 74). The specifics of any necessary remedial action schemes will be determined when the Cal ISO prepares its Detailed Facilities Study. Although this document was not available at the time of the April evidentiary hearings, the evidence of record establishes that its contents are not expected to alter the conclusions reached thus far. (4/22/99 RT 63, 79-80, 81-82, 84). A Condition of Certification (TSE-1), below, requires that the study be provided to the Commission prior to construction of the transmission facilities. (Exs. 35, p. 377; 38, p. 7).

Alternatives. The evidence relating to the topic of "Transmission System Engineering" also contains an examination of potential routing and termination alternatives. In each instance, however, substantial deviation from the proposed routing and termination at the Midway Substation would either possess the potential for greater environmental impacts or be substantially more expensive.[25] (Ex. 35, pp. 379-380).

Cumulative Impacts. The testimony indicates that analysis of cumulative impacts is somewhat speculative at this time due to insufficient data. (4/22/99 RT 76, 84 -85). While it is clear that the La Paloma project alone will not create adverse impacts to either the Midway Substation or the electrical grid, the effects of other

[24] A remedial action scheme is an automatic control provision which can, for example, decrease the La Paloma Generating Project's output to maintain system reliability. (4/22/99 RT 75).

[25] The general topic of alternative routings is discussed in greater detail in other portions of this Decision.

potential power plants are uncertain. Two additional power plants in the area, the Sunrise Cogeneration Project (Docket No. 98 -AFC- 4) and the Elk Hills Project (Docket No. 99-AFC-1), both have AFCs before the Commission. Three other projects which could impact the electrical system in the same general area also have been identified: the Pastoria Power Project, the Midway-Sunset Cogeneration Project, and the Morro Bay Power Project. (4/22/99 RT 76).

The specific impacts of these additional projects are presently unknown. Additional interconnection at the Midway Substation may require modification or replacement of existing circuit breakers and the existing 230 kV bus and the transmission towers. (Ex. 35, p. 380). Since the Cal ISO has decided to assign responsibility for congestion on transmission facilities caused by new generators to the new generator, projects connecting to the system after La Paloma may be required to bear the economic costs of providing advanced system mitigation such as upgrading overloaded facilities, constructing new transmission facilities, or absorbing congestion costs. (Ex. 35, p. 377).

Commission staff has recently initiated a discussion process with the Cal ISO and other project developers to address these matters. (4/22/99 RT 77). Applicant has also indicated its willingness to enter into good faith negotiations with other parties to share capacity on the project's transmission line.[26] (4/22/99 RT 68-69).

Closure. Before generating facilities are permitted to provide power to the California Power Exchange, generator standards must be met and power plant operators must commit to comply with instructions of the Cal ISO dispatchers.

[26] The Applicant stated that sharing transmission capacity could be a way to reduce environmental impacts associated with later projects. (4/22/99 RT 68). If this were to happen, however, the conductor size and the transmission structure size would need it to be redesigned. (4/22/99 RT 67, 69). Applicant also indicated that it was presently unwilling to delay the project's schedule. (4/22/99 RT 68). The Conditions of Certification, specifically TSE-1(d), allow Applicant the flexibility to increase conductor and structure size. (See Ex. 55).

Participating generators must sign a Participating Generator Agreement. The evidence indicates that procedures for planned, unexpected temporary, and unexpected permanent closure are developed as part of this process to establish coordination between the generator, the PTO, and the Cal ISO. Furthermore, rules promulgated by the California Public Utilities Commission also govern project closure. In addition, the Compliance Plan incorporated as part of this Decision contains additional provisions ensuring that project closure will comply with applicable laws, ordinances, regulations, and standards, and that system safety and reliability will not be jeopardized. (4/22/99 RT 80; Ex. 35, pp. 381-382).

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we find and conclude as follows:

1. The California Independent System Operator has determined that interconnecting the La Paloma Generating Project at the Midway Substation will not create adverse impacts to the reliability of the electrical system.

2. The California Independent System Operator has determined that interconnecting the La Paloma Generating Project will not require the construction of additional transmission facilities downstream of the Midway Substation.

3. The La Paloma Generating Project will operate according to remedial action schemes specified by the California Independent System Operator.

4. The California Independent System Operator's determinations are based on its review of the preliminary interconnection and facilities study.

5. A final Detailed Facilities Study is forthcoming and the testimony of record establishes that this document is not expected to alter conclusions reached concerning the acceptability of interconnecting the La Paloma Generating Project at the Midway Substation.

6. The outlet line from the project to the point of interconnection is designed to transport approximately 1048 MW in an acceptably economic manner.

7. The connection of other generating facilities to the Midway Substation in the future may necessitate advanced mitigation measures such as modifications to the substation, upgrading overloaded facilities, construction of new transmission facilities, or absorbing congestion costs.

8. Possible cumulative impacts will be addressed in future proceedings as more information becomes available.

9. This Decision does not address economic cost allocations of potential future transmission mitigation between or among project developers.

10. The Conditions of Certification below ensure that the transmission related aspects of the La Paloma Generating Project will be designed, constructed, and operated in conformance with the applicable laws, ordinances, regulations, and standards identified in the pertinent portion of Appendix A of this Decision.

We therefore conclude that interconnection of the project at the Midway Substation is acceptable, and that it will not result in the violation of any criteria pertinent to transmission engineering.

CONDITIONS OF CERTIFICATION

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

a) The project's 230 kV switchyard shall include a one-on-one, breaker and bus configuration.

b) Breakers and bus shall be sized to comply with a short circuit analysis.

c) The transmission facilities shall meet or exceed the requirements of CPUC General Order 95.

d) A 13.6 to 14.2 mile long double circuit 230 kV overhead line will be constructed in order to interconnect the La Paloma Generating Project to the Midway Substation. The line will use steel pole construction and have a minimum capacity consistent with 1590 kcmil ACSR cable with two or more conductors per phase. All increases in pole base

area shall be compensated in accordance with Biological Resources Conditions of Certification **BIO-9** and **BIO-10**.

e) Termination facilities at the Midway Substation shall comply with applicable Cal ISO and PG&E interconnection standards (CPUC Rule 21).

f) Outlet line crossings and line parallels shall be coordinated with the transmission line owner and comply with the owner's standards.

g) The project owner shall provide a Detailed Facilities Study and an executed facility Interconnection Agreement for the LPGP transmission interconnection with PG&E. The Detailed Facilities Study and Interconnection Agreement shall be coordinated with the Cal ISO.

h) The La Paloma Generating Project shall participate in the existing PG&E remedial action schemes and in any new remedial action schemes developed by PG&E and the Cal ISO to ensure compliance with the Cal ISO's reliability criteria.

Verification: At least sixty (60) days prior to start of construction of transmission facilities, the project owner shall submit for approval to the CPM electrical one-line diagrams signed and sealed by a registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements 1a through 1g above. 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 1a through 1f of **TSE-1**, 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 switchyard configurations shall not begin without prior written approval of the changes by the CPM.

Verification: At least sixty (60) days prior to 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 and CPUC Rule No. 21 and these Conditions. In case of non-conformance, the project owner shall inform the CPM in writing within ten (10) days of discovering such non-conformance and describe the corrective actions to be taken.

Verification: Within sixty (60) days after synchronization of the project, the project owner shall transmit to the CPM an engineering description(s), and one-line drawings of the "as-built" facilities signed and sealed by a registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95, CPUC Rule No. 21 and these Conditions shall be concurrently provided.

E. TRANSMISSION LINE SAFETY AND NUISANCE

Applicant will construct a transmission line 13.6 to 14.2 miles long as part of the La Paloma Generating Project. This double circuit 230 kV line will originate from the project switchyard and terminate at PGandE's Midway Substation near Buttonwillow. The transmission line has the potential to cause both safety hazards and nuisance impacts.

Summary and Discussion of The Evidence

Safety Hazards. The transmission line may pose a hazard to aviation, cause fires, and create electric and magnetic field exposures. Compliance with prescribed laws, ordinances, regulations, and standards, however, will reduce these potential hazards to acceptable levels.

The evidence shows that there are no major airports in the vicinity of the proposed facility, and that the transmission tower structures will not require visibility lighting. Moreover, the line will parallel existing transmission facilities for much of its length. Even though it will partially traverse agricultural lands, it will be positioned at least 30 feet above ground and will minimize any obstruction hazard to aerial applicators. (4/21/99 RT 139; Exs. 34,35, p. 73). The line's location in an existing right-of-way, and in an agricultural area, also minimizes the potential for fire-related hazards. (Ex. 35, p. 74).

Electric and magnetic fields occur whenever electricity flows. Exposure to them together is referred to as "EMF exposure." Although available scientific evidence does not indicate that EMF exposure causes a significant hazard to humans, the topic has become a matter of increased concern in recent years to those living near high voltage lines. The electric field component of EMF typically manifests itself as radio noise, audible noise, and nuisance shocks; the magnetic field component can penetrate most objects and cause prolonged exposure to

individuals. It is the magnetic field component which creates concerns about possible public health consequences. (Ex. 35, p. 71-72).

The strengths of the fields from the transmission line can be estimated using established procedures. Electric field strengths are specified in units of kilovolts per meter (kV/m), and magnetic field strengths in milligauss (mG). In the present case, field strength values were calculated for the existing transmission lines, as well as for the proposed line specific to the La Paloma Generating Project. The evidence indicates that electrical field strength values vary from 0.61 kV/m to 2.37 kV/m; these values are typical for the proposed transmission line configuration. The calculated magnetic field will vary from 38.77mG to 62.47mG; this level is considered acceptable (Ex. 35, pp. 73-74), and will not create a hazard to the only two residences within approximately 0.25 miles of the line's routing. (Ex. 35, p. 70) .

Nuisance impacts. The transmission line may also interfere with radio frequency communication or cause audible noise or nuisance shocks. Design measures will limit the potential for radio frequency interference; the project owner will also investigate and mitigate any complaints of this type. The maximum fair-weather noise at the edge of the transmission line right-of-way is predicted to be approximately 21.8 dBA. This is comparable to quiet nighttime residential conditions, and significantly below Kern County's allowable nighttime noise level of 40 dBA. (Ex. 35, pp. 73-74). The potential for nuisance shocks within the right-of-way will be minimized by the grounding of fences, metal buildings, and other objects. (*Id*.).

The evidence of record establishes that the proposed transmission line will be designed to meet applicable safety and nuisance related specifications and regulations, either along Route 1 or the alternative Route 1B. (4/21/99 RT 144). Finally, the Conditions of Certification ensure that appropriate design, operation,

and mitigation measures relating to potential safety hazards and nuisance impacts will be implemented.

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The proposed transmission line which will be constructed in conjunction with the La Paloma Generating Project is not likely to create safety hazards to aviation, nor to create fire hazards.

2. The electric and magnetic field strengths created by the project's transmission line will be within acceptable limits, and will not create significant adverse human health impacts.

3. The project's transmission line will not create an unacceptable interference with radio frequency communications, nor will it create a significant shock hazard to humans.

4. Audible noise from the proposed transmission line will be within acceptable limits.

5. The Conditions of Certification below will ensure that the transmission line is designed, constructed, and operated in compliance with the applicable laws, ordinances, regulations, and standards specified in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the transmission line associated with this project will not create any significant safety or nuisance hazards.

CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall construct the proposed transmission line according to the requirements of GO-95 and Title 8, California Code of Regulations, sections 2700 et seq..

Verification: At least thirty (30) days before start of transmission line construction, 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 transmission line will be constructed according the requirements of GO-95 and Title 8, California Code of Regulations, section 2700 et seq.

TLSN-2 The project owner shall make every reasonable effort to identify and correct, on a case-specific basis, all complaints of interference with radio or television signals from operation of the line and related facilities. In addition to any transmission repairs, the relevant corrective actions shall include, but not be limited to, adjusting or modifying receivers, adjusting or repairing, replacing or adding antennas, antenna signal amplifiers, filters, or lead-in cables.

The project owner shall maintain written records, for a period of five years, of all complaints of radio or television interference attributable to 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 shall 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 and included in the Annual Compliance Report to the CPM.

TLSN-3 The project owner shall engage a qualified consultant to measure the strengths of the line's electric and magnetic fields before beginning construction and after the line is energized. Measurements should be made at appropriate points along the route to allow verification of design assumptions relative to field strengths. The areas to be measured should include the facility switchyard and any residences near the right-of-way.

Verification: The project owner shall file a copy of the first set of pre-project measurements with the CPM at least thirty (30) days before the start of construction. The post-project measurements shall be filed within thirty (30) days after the day the line was energized.

TLSN-4 The project owner shall ensure that the transmission line right-of-way is kept free of combustible material as required under the provisions of Public Resources Code, section 4292 and California Code of Regulations, section 1250.

Verification: The project owner shall provide a summary of inspection results and any fire prevention activities along the right-of-way in the annual compliance report.

TLSN-5 The project owner shall send a letter to all owners of property within or adjacent to the right-of-way at least sixty (60) days prior to the first transmission of electricity.

Protocol: The letter shall include the following:

- a discussion of the nature and operation of a transmission line;
- a discussion of the project owner's responsibility for grounding existing fences, gates, and other large permanent chargeable objects within the right-of-way regardless of ownership;
- a discussion of the property owner's responsibility to notify the project whenever the property owner adds or installs a metallic object which would require grounding as noted above; and
- a statement recommending against fueling motor vehicles or other mechanical equipment underneath the line.

Verification: The project owner shall submit the proposed letter to the CPM for review and approval at least thirty (30) days prior to mailing to the property owners, and shall maintain a record of correspondence (notification and response) related to this requirement in a compliance file.

The project owner shall notify the CPM in the first Monthly Compliance Report that letters have been mailed and that copies are on file.

TLSN-6 The project owner shall ensure the grounding of any ungrounded permanent metallic objects within the right-of-way, regardless of ownership. Such objects shall include fences, gates, and other large objects. These objects shall be grounded according to procedures specified in the National Electrical Safety Code.

In the event of a refusal by the 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 ten (10) days before the line is 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 La Paloma Generating Project will create air emissions and could expose the general public and workers at the facility to these pollutants, as well as to the toxic chemicals associated with facility operations. These potential impacts are addressed in this portion of the Decision.

A. AIR QUALITY

This analysis evaluates the air quality impacts due to emissions of criteria air pollutants from the construction and operation of the proposed project. Criteria air pollutants are those for which state or federal ambient air quality standards have been established to protect public health. The criteria pollutants are nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), volatile organic compounds (VOC), and particulate matter less than 10 microns in diameter (PM_{10}).

On August 9, 1999, Applicant requested that the District incorporate certain corrections into its final Determination of Compliance (DOC). This necessitated the issuance of a revised preliminary DOC (dated August 12, 1999), a 30-day comment period, and the issuance of a revised final DOC on September 22, 1999. The changes affected the CO and VOC emission limits, but did not affect the BACT determination, the daily emissions limits, or the emissions offsets quantities. (Exs. 60, 62). Applicant formally accepted the revised conditions. (Letter from Roger Garratt; dated September 21, 1999).

Comments from the CARB on the revised FDOC appeared to indicate a potential concern regarding the District's BACT determination for CO (letter from CARB, dated September 15, 1999, pp. 2-3). Testimony from the Applicant submitted under declaration (Ex. 62) indicates, however, that the District's BACT

determination for CO is “within the range of recent CO BACT determinations for similar projects” (*Id.*, p.1) and is consistent with CARB’s guidance. Consequently, the evidence indicates that the District’s determination is acceptable. The Committee reopened the evidentiary record to receive the revised final DOC (Ex. 60) and supporting declarations (Exs. 61, 62).

Summary and Discussion of the Evidence

Both the federal Clean Air Act and the California Air Resources Board (CARB) have established standards for the maximum allowable concentrations of air pollutants; these are called "ambient air quality standards" (AAQS). The state AAQS are typically more protective (i.e. allow a lower concentration) than the federal standards established by the United States Environmental Protection Agency (EPA). The state and federal air quality standards are shown in Air Quality Table 1.

An area is generally designated as "attainment" for a specific pollutant if the concentration of that air contaminant does not exceed the established standard. Conversely, an area is designated as "non-attainment" for an air contaminant if the relevant standard is violated. If insufficient data exists, an area may also be designated as "unclassified".[27] An area can be attainment for one air pollutant 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 an air district is usually evaluated to determine the air district's attainment status. The La Paloma Generating Project is located in the Kern County portion of the San Joaquin Valley Air Basin (Basin), which is under the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District (District or SJVUAPCD). This area is in unclassified/attainment

[27] Unclassified areas are normally treated the same as attainment areas for regulatory purposes.

status for applicable AAQS except for the state and federal one-hour O_3 standard and the state 24-hour PM_{10} standard. (6/29/99 RT 239; Ex. 54, pp. 6-

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 µg/m^3)	0.09 ppm (180 µg/m^3)
	8 Hour	0.08 ppm (157 µg/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 µg/m^3)	---
	1 Hour	---	0.25 ppm (470 µg/m^3)
Sulfur Dioxide (SO2)	Annual Average	80 µg/m^3 (0.03 ppm)	---
	24 Hour	365 µg/m^3 (0.14 ppm)	0.04 ppm (105 µg/m^3)
	3 Hour	1300 µg/m^3 (0.5 ppm)	---
	1 Hour	---	0.25 ppm (655 µg/m^3)
Respirable Particulate Matter (PM10)	Annual Geometric Mean	---	30 µg/m^3
	24 Hour	150 µg/m^3	50 µg/m^3
	Annual Arithmetic Mean	50 µg/m^3	---
Fine Particulate Matter (PM2.5)	24 Hour	65 µg/m^3	---
	Annual Arithmetic Mean	15 µg/m^3	---
Sulfates (SO_4)	24 Hour	---	25 µg/m^3
Lead	30 Day Average	---	1.5 µg/m^3
	Calendar Quarter	1.5 µg/m^3	---
Hydrogen Sulfide (H_2S)	1 Hour	---	0.03 ppm (42µg/m^3)
Vinyl Chloride (chloroethene)	24 Hour	---	0.010 ppm (26 µg/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.

8). Sources of pollutants in the Basin contribute measurably to ambient ozone levels in other districts.[28]

Both construction and operation of the La Paloma Generating Project will create air emissions which, if not adequately mitigated, could contribute to or create an excedence of applicable AAQS. Since the area is already in non-attainment for PM_{10}, additional emissions will only exacerbate this problem. Emissions of compounds such as NO_x, SO_2, and VOC can contribute to the further formation of ozone and secondary PM_{10}. (6/29/99 RT 240).

Construction. The largest level of project construction emissions will occur from earth moving activities such as grading, site preparation, foundation and underground utility installation, and building erection. Similar activities for construction of the associated pipelines, water storage tank, and transmission intertie will also generate air emissions. These emissions will be primarily fugitive dust from the earth moving activities and combustion emissions from the construction equipment and vehicles. (Ex. 54, pp. 11-12).

The evidence indicates that La Paloma will employ appropriate fugitive dust mitigation measures to limit construction related PM_{10} emissions as required by the District's Final Determination of Compliance (FDOC; Ex. 53). NO_x, CO, and additional PM_{10} due to vehicle and equipment operation will be mitigated by proper maintenance to control exhaust emissions as required in the Conditions of Certification. (6/29/99 RT 241-242). Although construction activities will result in unavoidable short-term impacts, the project's isolated location in a heavily

[28] Data indicates that ozone sources in the San Joaquin Valley Air Basin contribute to ozone levels in Mountain County districts to the northeast, the South Central Air Basin to the south, the Mojave Desert to the east, the Sacramento area to the north, the Great Basin Valleys to the east, and to the North Central Coast Air Basin to the west. Emissions from districts such as the San Francisco Bay Area and the Sacramento area in turn contribute to ozone levels in the San Joaquin Valley. (Ex. 54, p. 8).

industrialized area will minimize exposure of the general public. (Ex. 54, pp. 22, 29,35).

Operation. The major operational equipment of the La Paloma Generating Project consists of:

- four combustion turbine generators (CTG), using the Asea Brown Boveri (ABB) Model GT 24, nominally rated at 171.1 MW. Each of the CTGs would be equipped with evaporative inlet air coolers;
- four unfired heat recovery steam generators (HRSG) and ancillary equipment;
- four steam turbines, each rated at 96 MW;
- two ten-cell cooling towers;
- one diesel fuel fired fire water pump; and
- four diesel fuel fired emergency power generators.

The evidence of record contains an explanation of, and the results achieved by, modeling analyses conducted under fumigation meteorological conditions,[29] as well as during combustion turbine start-up and steady-state operations. (Ex. 54, pp. 22-26). The modeling results indicate that the highest short-term impacts on ambient NO_2 and CO levels occur during start-up. The highest SO_2 and PM_{10} impacts, both short-term and long-term, occur during full load steady-state operation. (Ex. 54, p. 25).

Since operation of the LPGP will result in an emissions increase of more than two pounds per day for NO_x, SO_2, PM_{10}, VOC, and CO, it must employ the Best Available Control Technology (BACT) as determined by the District. (6/29/99 RT 213, 229; Ex. 54, p.2). The evidence indicates that a variety of strategies will be

[29] Fumigation" conditions refers to an early morning air pollution event, approximately 30 to 90 minutes in duration, during which stack emissions encounter vertical mixing. (Ex. 54, p. 22).

employed on the La Paloma project to mitigate its impacts. To reduce NO_x emissions, dry-low NO_x combustors will be used in the CTGs. In addition, on at least three of the HRSGs, an ammonia injection grid will be used in conjunction with a Selective Catalytic Reduction (SCR) system. On the fourth HRSG, either a similar ammonia injection/SCR system or the $SCONO_x$ emission control technology will be used. [30]

A combination of good combustion and maintenance practices, along with an oxidizing catalyst, will reduce CO and VOC emissions. The CTGs will burn only natural gas. This is an inherently clean fuel, and its use will limit PM_{10} and SO_2 emissions. (Ex. 54 pp. 14-15, 29). Flue gas controls will further reduce combustion turbine emissions before they are exhausted into the atmosphere; drift eliminators on the cooling towers will have a design efficiency of 0.0006 percent, which is state-of-the-art. (6/29/99 RT 242; Ex. 54, pp. 31-33).

As a result, the NO_x concentrations exiting the HRSG stacks will be 2.5 ppm, corrected to 15 percent excess oxygen averaged over a 1-hour period. When the turbine load is less than 73 percent, CO concentrations will be limited to 10 ppm, corrected to 15 percent excess oxygen and averaged over three hours. At loads above 73 percent, CO emissions will be limited to 6 ppm at 15 percent oxygen, with VOC emissions limited to 0.4 ppm. (Ex. 54, pp. 30-31). These levels of control are BACT, and consistent with EPA recommendations. (6/29/99 RT 231; Ex. 54, p.34).

Provisions of the FDOC (Ex. 53) incorporated into this Decision provide that the Applicant may use the $SCONO_x$ technology on one of the project's HRSGs to reduce NO_x emissions. If so, it will be the first use of that technology on a project of this size. Use at this time is, however, still undergoing evaluation and testing,

[30] The SCR systems result in ammonia emissions, known as “ammonia slip”. These levels are limited to 10 ppm, which is the lowest level currently being achieved and permitted in California. The $SCONO_x$ system does not use ammonia. (Ex. 54, pp. 18-19).

and will depend upon a determination as to the commercial availability of the technology. (6/29/99 RT 212, 221-222, 225-226; Ex. 54, p. 31). Applicant's witness testified that the decision whether or not to use SCONOx will follow the commerical availability determination. (6/29/99 RT 225-226).

While the measures mentioned above serve to reduce emissions from the La Paloma Generating Project, offsets are required to mitigate the increases of NO_x, SO_2, VOC, and PM_{10} emissions from the project. (6/29/99 RT 214; Ex. 54, p.2). Under the District's rules, offsets may be used from anywhere within the District. The only distinction is that offsets secured in the local area (such as McKittrick or any area less than 15 miles from the project site) would be discounted by a distance ratio of 1.2:1; credits from sources greater than 15 miles away would be discounted by ratio of about 1.5:1. (Ex. 54 pp. 32-33).

The evidence establishes that Applicant has obtained (i.e. by actual transfer or legally enforceable option) sufficient Emission Reduction Credits (ERCs) to fully offset the project's operational increase in emissions on an annual and a daily basis. (6/29/99 RT 226-227, 230, 232-233, 242-244; Ex.54, pp. 32-33). The District has also certified that these ERCs have been identified and obtained. The evidence further indicates that some of these credits are derived from an interpollutant trade of NO_x for PM_{10}. (6/29/99 RT 218-219). The District determined that the ratio of 2.22 pounds of NO_x for every one pound of PM_{10} was appropriate. The other evidence of record supports this calculation. (Ex. 54, p. 32). As a result, the LPGP will more than adequately offset the increase in PM_{10} emission which it will create. (Ex. 54, p.33).

<u>Other Considerations.</u> Project closure would result in a cessation of operational air emissions. Any dismantling which would occur as part of a permanent closure would result in fugitive dust emissions. District rules place limits on these emissions, and further measures will be developed through the Compliance Plan provisions contained in this Decision. A federal Prevention of Significant

Deterioration (PSD) permit from the EPA, which evaluates pollutants which do not violate AAQS, is also required. Applicant has requested that the PSD permit be amended to conform with the requirements of the revised final DOC (8/24/99 RT 12-13; letter of August 26, 1999). US EPA has preliminarily approved this request.

Finally , the evidence contains a cumulative air quality modeling assessment of the La Paloma, Sunrise Cogeneration, and Elk Hills projects. While this analysis indicates that each of the projects will be required to provide PM_{10} emission offsets, it also indicates that the combined effects of the three projects, when properly mitigated, would not cause any new violations of NO_2, CO, or SO_2 AAQS. (6/29/99 RT 240; Ex. 54, pp. 27-28, 60-64).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The La Paloma Generating Project is located in the San Joaquin Valley Air Basin, within the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District.

2. The project area is in unclassified/attainment status for applicable federal and state ambient air quality standards, except for the state and federal one-hour ozone standards and the state 24-hour PM_{10} standard.

3. Construction and operation of the La Paloma Generating Project will result in emissions of criteria pollutants.

4. The La Paloma Generating Project will use Best Available Control Technology as determined by the San Joaquin Valley Unified Air Pollution Control District to control emissions of NO_x, CO, SO_2, PM_{10}, and VOC.

5. The determination referred to in Finding 4 above is consistent with federal criteria promulgated by the United States Environmental Protection Agency.

6. The Applicant has obtained, by direct transfers or legally enforceable option contracts, Emissions Reduction Credits sufficient to fully offset the project's increased emissions of NO_x, SO_2, VOC, and PM_{10} on an annual and a daily basis.

7. A representative of the San Joaquin Valley Unified Air Pollution Control District has certified that complete emissions offsets for the project have been identified and obtained by the Applicant.

8. The La Paloma Generating Project, with the implementation of the measures contained in the Conditions of Certification below, will not, either alone or in combination with other identified projects in the area, cause or contribute to any new or existing violations of applicable ambient air quality standards.

9. With the implementation of the Conditions of Certification specified below, the La Paloma Generating Project will be constructed and operated in compliance with all applicable laws, ordinances, regulations, and standards identified in the pertinent portion of Appendix A of this Decision.

We therefore conclude that the La Paloma Generating Project will not create any significant direct, indirect, or cumulative adverse air quality impacts.

CONDITIONS OF CERTIFICATION

AQ-C1 Prior to the commencement of project construction, the project owner shall prepare a Construction Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for the construction of the La Paloma project and related facilities.

a) The Construction Fugitive Dust Mitigation Plan shall specifically identify measures to limit fugitive dust emissions from construction of the project site, the raw water pipeline, pump station and tank sites. Measures that shall be addressed include the following:

- The identification of the employee parking area(s) and surface of the parking area(s);
- the frequency of watering of unpaved roads and disturbed areas;
- the application of chemical dust suppressants;
- the stabilization of storage piles and disturbed areas;
- the use of gravel in high traffic areas;
- the use of paved access aprons;
- the use of posted speed limit signs;

- the use of wheel washing areas prior to large trucks leaving the project site; and
- the methods that will be used to clean tracked-out mud and dirt from the project site onto public roads.

b) The following measures should be addressed for the transportation of the borrow fill material to the La Paloma project site and the raw water pumping station: the use of covers on the vehicles, the wetting of the material, and insuring appropriate freeboard of material in the vehicles.

Verification: At least sixty (60) days prior to the start of construction, the project owner shall provide the CPM with a copy of the Construction Fugitive Dust Mitigation Plan for approval.

AQ-C2 The project owner shall ensure that all heavy earthmoving equipment, including bulldozers, backhoes, compactors, loaders, motor graders and trenchers, cranes, dump trucks, and other heavy duty construction related trucks, have been properly maintained and the engines tuned to the engine manufacturers' specifications.

Verification: The project owner shall submit to the CPM, via the Monthly Compliance Report, documentation which demonstrates that the contractor's heavy earthmoving equipment is properly maintained and the engines are tuned to the manufacturers' specifications. The project owner shall maintain all records on the site for six (6) months following the start of commercial operation.

Conditions of Certification AQ-1 through AQ-36 apply to the following equipment:

SJVUAPCD Permit No. S-3412-1-0 - ABB GT-24 NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRICAL GENERATOR #1 WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, OXIDIATION CATALYST, AND STEAM TURBINE (262 MW TOTAL NOMINAL RATING),

SJVUAPCD Permit No. S-3412-2-0 - ABB GT-24 NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRICAL GENERATOR #2 WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, OXIDIATION CATALYST, AND STEAM TURBINE (262 MW TOTAL NOMINAL RATING),

SJVUAPCD Permit No. S-3412-3-0 - ABB GT-24 NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRICAL GENERATOR #3

WITH DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION, OXIDIATION CATALYST, AND STEAM TURBINE (262 MW TOTAL NOMINAL RATING), and

SJVUAPCD Permit No. S-3412-4-0 - ABB GT-24 NATURAL GAS FIRED COMBINED CYCLE GAS TURBINE ENGINE/ELECTRICAL GENERATOR #4 WITH DRY LOW NOX COMBUSTORS, STEAM TURBINE, AND SCONOX SYSTEM OR SELECTIVE CATALYTIC REDUCTION AND OXIDATION CATALYST (262 MW TOTAL NOMINAL RATING).

AQ-1 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), and the Commission.

AQ-2 The project owner shall submit SCONOx (in the case of permit number S-3412-4-0 only) or selective catalytic reduction, oxidation catalyst, and continuous emission monitor design details to the District at least thirty (30) days prior to commencement of construction. [District Rule 2201]

Verification: The project owner shall provide copies of the as-built drawings of the catalyst system chosen and the continuous emission monitor design detail to the CPM and the District at least thirty (30) days prior to commencement of construction.

AQ-3 Gas turbine engine and generator lube oil vents shall be equipped with mist eliminators. Visible emissions from lube oil vents shall not exceed 5% opacity, except for three (3) minutes in any hour. [District Rule 2201]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-4 The gas turbine engine shall be equipped with continuously recording fuel gas flowmeter. [District Rule 2201]

Verification: The information above shall be included in the quarterly eports specified in Condition AQ-28.

AQ-5 Gas turbine engine exhaust shall be equipped with continuously recording emissions monitor for NOx (before and after the SCR unit, if installed), CO, and O2 dedicated to each permit unit. Continuous emission monitors shall meet the requirements of 40 CFR parts 60 and 75 and shall be capable of monitoring emissions during startups and shutdowns as well as normal operating conditions. [District Rule 2201]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-6 Exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods. [District Rule 1081]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-7 Gas turbine engine shall be fired exclusively on natural gas, consisting primarily of methane and ethane, with a sulfur content no greater than 0.75 grains of sulfur compounds (as S) per 100 dry standard cubic feet of natural gas. [District Rule 2201]

Please refer to Condition **AQ-27**.

AQ-8 Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmv emission limits in Condition AQ-12. Shutdown is defined as the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown durations shall not exceed three (3) hours and one (1) hour, respectively, per occurrence. [District Rule 2201 and 4001]

Please refer to Condition **AQ-28**.

AQ-9 Ammonia shall be injected when the selective catalytic reduction temperature exceeds 500 degrees Fahrenheit. The project owner shall monitor and record catalyst temperature during periods of startup. [District Rule 2201]

Verification: The project owner shall record the SCR temperatures and the commencement of ammonia injection times in the daily logs required under Condition AQ-28.

AQ-10 During startup of any gas turbine engine(s), combined emissions from the four gas turbine engines' (S-3412-1', '2, '3, and '4) heat recovery steam generator exhausts shall not exceed NOx (as NO2): 160 lbs, and CO: 2500 lbs in any one hour. [CEQA]

Verification: The project owner shall provide records of the emissions as part of the quarterly reports specified in Condition AQ-28.

AQ-11 By two (2) hours after turbine light-off, gas turbine engine heat recovery steam generator exhaust emissions shall not exceed the following: NOx (as NO2): 12.2 ppmv @ 15% O2 for the SCR-equipped units, and CO: 200 ppmv @ 15% O2. [District Rule 4703]

Verification: The project owner shall provide records of the emissions as part of the quarterly reports specified in Condition AQ-28.

AQ-12 Emission rates from each gas turbine engine heat recovery steam generator exhaust, except during startup and/or shutdown, shall not exceed the following:

PM10:	17.20 lb/hr
SOx (as SO2):	3.73 lb/hr
NOx (as NO2):	17.30 lb/hr and 2.5 ppmvd @ 15% O2
VOC:	as propane 2.80 lb/hr and 0.7 ppmvd @ 15% O2
CO:	31.40 lb/hr and either 10 ppmvd @ 15% O2 at operating loads less than or equal to 221 MW (gross three hour average), or 6 ppmvd @ 15% O2 at operating loads greater than 221 MW (gross three hour average)
ammonia:	10 ppmvd @ 15% O2 (except for the SCONOx equipped unit).

NOx (as NO2) emission limit is a one hour rolling average. Ammonia emission limit is a twenty four hour rolling average. All other emission limits are three hour rolling averages. [District Rules 2201, 4001, and 4703]

Verification: The project owner shall provide records of the emissions as part of the quarterly reports specified in Condition AQ-28.

AQ-13 Emission rates from each gas turbine engine heat recovery steam generator exhaust, on days when a startup or shutdown occurs, shall not exceed the following:

PM10:	412.8 lb/day
Sox (as SO2):	89.5 lb/day
NOx (as NO2):	511.4 lb/day
VOC:	139.8 lb/day
CO:	1,873.0 lb/day

[District Rule 2201]

Verification: The project owner shall provide records of the emissions as part of the quarterly reports specified in Condition AQ-28.

AQ-14 Twelve (12) month rolling average emissions from each gas turbine engine heat recovery steam generator exhaust shall not exceed the following:

PM10:	140,160 lb/year
SOx (as SO2):	29,959 lb/year
NOx (as NO2):	144,093 lb/year
VOC:	24,865 lb/year
CO:	209,029 lb/year

[District Rule 2201]

Verification: The project owner shall provide records of the emissions as part of the quarterly reports specified in Condition AQ-28.

AQ-15 Upon implementation of S-3412-1-0 through '6-0, emission offsets certificates shall be provided for all calendar quarters in the following amounts, at the offset ratio specified in Rule 2201 (6/15/95 version) Table 1:

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
PM10	140,256 lb	141,814 lb	143,373 lb	143,373 lb
SOx (as SO2)	29,549 lb	29,877 lb	30,205 lb	30,205 lb
NOx (as NO2)	137,188 lb	138,712 lb	140,236 lb	140,236 lb
VOC	19,593 lb	19,811 lb	20,028 lb	20,028 lb

[District Rule 2201]

Verification: The project owner shall provide copies of all the necessary ERC certificates to the CPM no later than thirty (30) days prior to the commencement of construction.

AQ-16 NOx and VOC emission reductions that occurred from April through November may be used to offset increases in NOx and VOC during any period of the year. [District Rule 2201]

Verification: The project owner shall provide copies of all the necessary ERC certificates to the CPM no later than thirty (30) days prior to the commencement of construction.

AQ-17 NOx ERCs may be used to offset PM10 emission increases at a ratio of 2.22 lb NOx : 1 lb PM10. [District Rule 2201]

Verification: The project owner shall provide copies of all the necessary ERC certificates to the CPM no later than thirty (30) days prior to the commencement of construction.

AQ-18 At least thirty (30) days prior to commencement of construction, the project owner shall provide the District with written documentation that all necessary offsets have been acquired or that binding contracts to secure such offsets have been entered into. [District Rule 2201]

Verification: The project owner shall provide copies of all the necessary ERC certificates to the CPM no later than thirty (30) days prior to the commencement of construction.

AQ-19 Compliance with the short term emission limits (lb/hr and ppmv @ 15% O2) shall be demonstrated within ninety (90) days of initial operation of each gas turbine engine and annually thereafter by District witnessed in situ sampling of exhaust gasses by a qualified independent source test firm at full load conditions as follows:

NOx:	ppmvd @ 15% O2 and lb/hr,
CO:	ppmvd @ 15% O2 and lb/hr,
VOC:	ppmvd @ 15% O2 and lb/hr,
PM10:	lb/hr, and
ammonia:	ppmvd @ 15% O2 (except for the SCONOx equipped unit)

Sample collection to demonstrate compliance with the ammonia emission limit shall be based on a two hour or longer average. [District Rule 1081]

Please refer to the information requirements of **Condition AQ-22.**

AQ-20 Compliance with the cold start NOx and CO mass emission limits shall be demonstrated, and measurement of cold start VOC emissions shall be performed, for one of the gas turbines engines (S-3412-1, ‘2, ‘3, or ‘4) upon initial operation and at least every seven (7)years thereafter

by District witnessed in situ sampling of exhaust gasses by a qualified independent source test firm. [District Rule 1081]

Please refer to the information requirements of Condition **AQ-22.**

AQ-21 Compliance with natural gas sulfur content limit shall be demonstrated within ninety (90) days of operation of each gas turbine engine and periodically as required by 40 CFR 60 Subpart GG and 40 CFR 75. [District Rules 1081, 2540, and 4001]

Please refer to the information requirements of Condition **AQ-27.**

AQ-22 The District must be notified thirty (30) days prior to any compliance source test, and a source test plan must be submitted for approval fifteen (15) days prior to testing. Official test results and field data collected by source tests required by conditions on this permit shall be submitted to the District within sixty (60) days of testing. [District Rule 1081]

Verification: The project owner shall notify the CPM and the District thirty (30) days prior to any compliance source test. The project owner shall provide a source test plan to the CPM and District for CPM and District approval fifteen (15) days prior to testing. The results and field data collected by the source tests shall be submitted to the CPM and the District within sixty (60) days of testing.

AQ-23 The source test plans for the initial and seven-year source test shall include a method for measuring the VOC/CO surrogate relationship that will be used to demonstrate compliance with VOC lb/hr, lb/day, and lb/twelve month rolling average emission limits. [District Rule 2201]

Verification: The project owner shall provide a source test plan to the CPM and District for the CPM and District approval fifteen (15) days prior to testing.

AQ-24 The following test methods shall be used:

PM10:	EPA method 5 (front half and back half),
NOx:	EPA method 7E or 20
CO:	EPA method 10 or 10B
O2:	EPA method 3, 3A, or 20
VOC:	EPA method 18

ammonia: BAAQMD ST-1B, (except for the SCONOx equipped unit)
fuel gas sulfur content: ASTM D3246.

Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703]

Verification: As part of the test plan to be submitted under Condition AQ-22, the project owner shall identify the test methods to be used in the annual compliance source testing.

AQ-25 The project owner shall notify the District of : a) the date of initiation of construction no later than thirty (30) days after such date; b) the date of anticipated startup not more than sixty (60) days nor less than thirty (30) days prior to such date; and c) the date of actual startup within fifteen (15) days after such date. [District Rule 4001]

Verification: The project owner shall notify the CPM and the District of the date of initiation of construction no later than thirty (30) days after such date. The project owner shall notify the CPM and the District of the date of anticipated startup not more than sixty (60) days nor less than thirty (30) days prior to such date, and the date of actual startup within fifteen (15) days after such date.

AQ-26 The project owner shall maintain hourly records of NOx, CO and ammonia (except for the SCONOx equipped unit) emission concentrations (ppmv @ 15% O2), and hourly, daily and twelve month rolling average records of NOx and CO emissions. Compliance with hourly, daily, and twelve month rolling average VOC emission limits shall be demonstrated by the CO CEM data and the VOC/CO relationship determined by annual CO and VOC source tests. [District Rule 2201]

Verification: The project owner shall compile the required data and submit the quarterly reports to the CPM within thirty (30) days of the end of the quarter.

AQ-27 The project owner shall maintain records of SOx lb/hr, lb/day, and lb/twelve month rolling average emissions. SOx emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District Rule 2201]

Verification: The project owner shall provide records of the information described above as part of the quarterly reports specified in Condition AQ-28.

AQ-28 The project owner shall maintain the following records: occurrence, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, maintenance of any continuous emission monitor; emission measurements, total daily and rolling twelve month average hours of operation, hourly quantity of fuel used, and gross three hour average operating load. [District Rules 2201 and 4703]

Verification: The project owner shall compile required data and submit the information to the CPM in quarterly reports submitted no later than sixty (60) days after the end of each calendar quarter.

AQ-29 All records required to be maintained by this permit shall be maintained for a period of five (5) years and shall be made readily available for District inspection upon request. [District Rule 2201]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-30 Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080]

Verification: The project owner shall compile the required data in the formats discussed above and submit the results to the CPM quarterly.

AQ-31 The project owner shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one (1) hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM as part of the quarterly reports specified in Condition AQ-28.

AQ-32 The District shall be notified in writing within ten (10) days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM as part of the quarterly reports specified in Condition AQ-28.

AQ-33 Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080]

Verification: The project owner shall submit the continuous emission monitor audit results with the quarterly reports required in Condition AQ-35.

AQ-34 The project owner shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080]

Verification: The project owner shall submit the continuous emission monitor results with the quarterly reports required in Condition AQ-35.

AQ-35 The project owner shall submit a written report to the APCO for each calendar quarter, within thirty (30) days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080]

Verification: The project owner shall compile the required data and submit the quarterly reports to the CPM and the APCO within thirty (30) days of the end of the quarter.

AQ-36 The project owner shall submit an application to the District to comply with Rule 2540 - Acid Rain Program, twenty-four (24) months before the unit commences operation. [District Rule 2540]

Verification: The project owner shall file its application with the District at least twenty-four (24) months prior to the commencement of operation of any of the combustion turbine generators.

The following conditions (AQ-37 through AQ-40) shall apply to permit units S-3412-1-0, 2-0, 3-0 and 4-0 for those permit units that use Selective Catalytic Reduction.

AQ-37 Except for the $SCONO_x$-equipped unit, the ammonia injection grid shall be equipped with an operational ammonia flowmeter and injection pressure indicator. [District Rule 2201]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-38 The heat recovery steam generator design shall provide space for additional selective catalytic reduction catalyst and oxidation catalyst if required to meet NOx and CO emission limits. [District Rule 2201]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-39 The project owner shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District Rule 2201]

Verification: The project owner shall compile the required temperature data and maintain the data for a period of five (5) years. The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-40 Except for the $SCONO_x$-equipped unit, compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O2 = (a-(bxc/1,000,000)) x

1,000,000/b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NOx concentration ppmv at 15% O2 across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, the project owner may utilize a continuous in-stack ammonia monitor, acceptable to the District, to monitor compliance. At least sixty (60) days prior to using a NH3 CEM, the project owner must submit a monitoring plan for District review and approval. [District Rule 4102]

Verification: Please refer to the requirements of Condition AQ-26. If the project owner chooses to use a NH3 CEM, the project owner shall submit a monitoring plan to the District for review and approval at least sixty (60) days prior to its use.

The following conditions (AQ-41 through AQ-46) shall apply to permit unit S-3412-4-0 if that permit unit uses the SCONOx system.

AQ-41 The project owner may install either SCONOx or selective catalytic reduction and an oxidation catalyst on this gas turbine engine. If selective catalytic reduction and an oxidation catalyst are installed, this gas turbine engine shall be subject to all the conditions listed in S-3412-1-0 (Conditions AQ-1 through AQ-40), and will not be subject to the conditions listed in S-3412-4-0 (Conditions AQ-42 through AQ-46). [District Rule 2201]

Verification: The project owner shall provide copies of the as-built drawings of the SCONOx catalyst system to the CPM when they become available. The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-42 If SCONOx is installed, the project owner may replace the SCONOx unit with selective catalytic reduction system and oxidation catalyst within two (2) years after final California Energy Commission certification of the project without receiving a separate approval from the District subject to all the conditions listed in S-3412-1-0 (Conditions AQ-1 through AQ-40). All emission limits in this approval must be satisfied during the replacement of the SCONOx unit. [District Rule 2201]

Verification: The project owner shall notify the CPM in writing if the SCONOX system is replaced by Selective Catalytic Reduction.

AQ-43 SCONOx unit shall be equipped with natural gas and steam injection system for regeneration of SCONOx catalyst. [District Rule 2201]

Verification: The project owner shall provide copies of the as-built drawings of the natural gas and steam injection regeneration SCONOx system to the CPM when they become available. The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-44 Heat recovery steam generator design shall provide space for installation of selective catalytic reduction catalyst and oxidation catalyst. [District Rule 2201]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-45 The project owner shall monitor and record exhaust gas temperature at the SCONOx inlet. [District Rule 2201]

Verification: The project owner shall compile the required temperature data and maintain the data for a period of five (5) years. The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-46 By two (2) hours after turbine light-off, gas turbine engine heat recovery steam generator exhaust emissions shall not exceed the following NOx (as NO2): 21.0 ppmv @ 15% O2 and CO: 200 ppmv @ 15% O2. [District Rule 4703]

Verification: The project owner shall provide the emissions information above to the CPM as part of the quarterly reports specified in Condition AQ-28.

The following conditions (Conditions AQ-47 through AQ-53) shall apply to permit units S-3412-5-0 and S-3412-6-0:

COOLING TOWER WITH 10 CELLS AND HIGH EFFICIENCY DRIFT ELIMINATOR

AQ-47 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-48 The project owner shall submit drift eliminator design details and vendor specific emission justification for the correction factor to be used to correlate blowdown TDS to drift TDS and the amount of drift that stays suspended in the atmosphere in the equation specified in Condition AQ-52 to the District at least thirty (30) days prior to commencement of construction. [District Rule 2201]

Verification: At least thirty (30) days prior to commencement of construction of the cooling towers, the project owner shall submit the information required above to the District and the CPM.

AQ-49 No hexavalent chromium containing compounds shall be added to cooling tower circulating water. [District Rule 7012]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-50 Drift eliminator drift rate shall not exceed 0.0006%. [District Rule 2201]

Verification: The project owner shall submit documentation from the selected cooling tower vendor that verifies the drift efficiency to the CPM thirty (30) days prior to commencement of construction of the cooling towers.

AQ-51 PM10 emission rate for each cooling tower shall not exceed 11.2 lb/day. [District Rule 2201]

Please refer to Condition AQ-52.

AQ-52 Compliance with PM10 daily emission limits shall be demonstrated as follows: PM10 lb/day = cooling water recirculation rate * total dissolved solids concentration in the blowdown water * design drift rate* correction factor. [District Rule 2201]

Verification: The project owner shall compile the required daily PM10 emissions data and maintain the data for a period of five (5) years. The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-53 Compliance with PM10 emission limit shall be determined by cooling water sample analysis within ninety (90) days of initial operation and weekly thereafter. [District Rule 1081]

Verification: The project owner shall compile the required daily PM10 emissions data and maintain the data for a period of five (5) years. The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

The following conditions (Conditions AQ-54 through AQ-61) shall apply to the following permit units:

S-3412-7-0 - 310 HP DETROIT DIESEL - ALLISON DDFP-L6FA DIESEL FIRED IC ENGINE POWERING EMERGENCY FIREWATER PUMP;

S-3412-8-0 - 475 HP CATERPILLAR MODEL 3406C DIESEL FIRED IC ENGINE POWERING EMERGENCY ELECTRICAL GENERATOR #1 USED FOR GAS TURBINE ENGINE LUBE OIL CIRCULATION DURING POWER OUTAGES;

S-3412-9-0 - 475 HP CATERPILLAR MODEL 3406C DIESEL FIRED IC ENGINE POWERING EMERGENCY ELECTRICAL GENERATOR #2 USED FOR GAS TURBINE ENGINE LUBE OIL CIRCULATION DURING POWER OUTAGES;

S-3412-10-0 - 475 HP CATERPILLAR MODEL 3406C DIESEL FIRED IC ENGINE POWERING EMERGENCY ELECTRICAL GENERATOR #3 USED FOR GAS TURBINE ENGINE LUBE OIL CIRCULATION DURING POWER OUTAGES; and

S-3412-9-11 - 475 HP CATERPILLAR MODEL 3406C DIESEL FIRED IC ENGINE POWERING EMERGENCY ELECTRICAL GENERATOR #4 USED FOR GAS TURBINE ENGINE LUBE OIL CIRCULATION DURING POWER OUTAGES.

AQ-54 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-55 The project owner shall submit IC engine design details to the District at least thirty (30) days prior to commencement of operation. [District Rule 2201]

Verification: The project owner shall submit the design details described above to the District and CPM at least thirty (30) days prior to commencement of operation of each IC engine unit.

AQ-56 No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-57 The engine shall be equipped with a positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least 90% control efficiency unless UL certification would be voided. [District Rule 2201]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-58 The sulfur content of the diesel fuel used shall not exceed 0.05% by weight. [District Rule 2201]

Please refer to Condition AQ-61.

AQ-59 Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

AQ-60 The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance and testing purposes shall not exceed 200 hours per year. [District Rules 2201 and 4701]

Verification: The project owner shall compile records of hours of operation of any of the IC engines and include those records as part of the quarterly reports submitted to the CPM under Condition AQ-28.

AQ-61 The project owner shall maintain records of hours of non-emergency operation and of the sulfur content of the diesel fuel used. Such records shall be made available for District inspection upon request for a period of five (5) years. [District Rules 2201 and 4701]

Verification: The project owner shall compile records of hours of operation of the IC engines and of the diesel fuel purchased that includes the sulfur content, and maintain the data for a period of five (5) years. The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

B. PUBLIC HEALTH

Analysis under this topic area supplements that performed under the "Air Quality" discussion above. This section focuses on exposure to pollutants for which no air quality standards have been established (noncriteria pollutants). The purpose of the public health analysis is to assess whether a significant health risk would result from exposure to the airborne emissions of noncriteria pollutants.

Summary and Discussion of the Evidence

Operational emissions from the gas turbines and cooling towers, as well as ammonia emissions from the SCR system, constitute the primary source of potential impacts from noncriteria pollutants. (4/21/99 RT 147-148; Ex. 35, p. 51). Exposure to these emissions creates the potential for cancer and noncancer health effects.

Health risks associated with a project can result from high-level exposure which creates immediate onset (acute) effects, or from prolonged low-level exposure which creates chronic effects. For projects of this type, acute effects could occur only during major accidents and are not expected from routine operations when emissions are much lower. Long-term, chronic exposures are therefore of greater concern in assessing possible public health impacts. (Ex. 35, pp. 51-52).

A health risk assessment process is used to evaluate the potential for these adverse health effects; it consists of the following steps:

- identifying each pollutant of concern and the types of health effects it can cause;
- assessing the relation between the magnitude of exposure and the probability of adverse effects;

- performing dispersion modeling to determine the potential extent of pollutant exposures; and
- determining the resultant risk for creating adverse health impacts.

The evidence indicates that a potential cancer risk of one in one million is regarded as the threshold of significance for sources of environmental carcinogens. For noncarcinogenic pollutants, significant health impacts are considered unlikely when the hazard index estimate is less than 1.0. These thresholds of significance apply for both acute and chronic effects, and are the thresholds accepted by governmental regulatory agencies. (Ex. 35, pp. 51-52). The evidence further establishes that acetaldehyde, benzene, 1,3 butadiene, formaldehyde, polycylic aromatic hydrocarbons (PAHs), and propylene oxide were analyzed for both potential carcinogenic and noncarcinogenic health effects. Ammonia, acrolein, napthalene, toluene, xylenes and manganese were considered to be noncarcinogenic pollutants. (Ex. 35, p. 53).

Even though calculated under maximum operating conditions (4/21/99 RT 148), the potential public health hazard risk due to both carcinogenic and noncarcinogenic pollutants is substantially below the 1.0 threshold level. (4/21/99 RT148-149; Exs. 1,section 5, 35 pp. 52-53). Testimony from both the Applicant's expert witness and the Staff's expert witness indicates that the project will not pose a significant adverse public health risk. (4/21/99 RT 149,153).

In addition to the La Paloma Generating Project, the Sunrise Cogeneration and the Elk Hills projects are proposed to be constructed and operated in western Kern County. These three projects, all of which will burn natural gas, are located about eight miles apart. When toxic pollutants are emitted from multiple sources within a relatively small area, the combined impacts of such emissions could conceptually create significant public health impacts, even though the impacts from an individual source is insignificant. In this regard, the evidence of record establishes that the peak impacts would localized within a relatively short

distance from the source and that potentially significant cumulative impacts are expected only in situations where new sources are located adjacent to one another. Thus, in the present situation and considering the distance between each of the proposed projects, the evidence establishes that the combined operation of these projects will not cause or contribute significantly to an adverse public health impact. (Ex. 35, pp. 53-54).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The primary potential adverse public health impact associated with the La Paloma Generating Project is due to combustion products from burning natural gas.

2. Combustion of natural gas results in the emission of criteria and noncriteria pollutants.

3. As discussed in the "Air Quality" portion of this Decision, emissions of criteria pollutants will be at levels consistent with those established to protect public health.

4. The accepted method used by state regulatory agencies in assessing the significance for both acute and chronic noncarcinogenic public health effects is known as the hazard index method. A similar method is used for assessing the significance of potential carcinogenic public health effects.

5. Emissions of noncriteria pollutants from the La Paloma Generating Project will not cause acute or chronic adverse public effects .

6. Potentially significant cumulative impacts from noncriteria pollutants are localized within relatively short distances from the source, especially in situations where new sources are located adjacent to one another.

7. Operations of the La Paloma Generating Project, in combination with that of the proposed Sunrise Cogeneration and the Elk Hills projects, will not cause or contribute significantly to an adverse public health impact from noncriteria pollutant emissions.

We therefore conclude that emissions of noncriteria pollutants from the project will not pose a significant direct, indirect, or cumulative adverse public health risk.

C. HAZARDOUS MATERIALS MANAGEMENT

Public safety concerns may arise from the construction and operation of a proposed project, especially insofar as the handling, transportation, and disposal of hazardous materials are concerned. Therefore, the Commission examines each power plant proposal to determine if the facility is designed to ensure the safe handling and storage of these materials. (Related issues are also 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 of any project to cause adverse public health and safety impacts. These include the local meteorological conditions, terrain characteristics, any special site factors, and the proximity of population centers and sensitive receptors. The evidence of record contains an examination of these factors in conjunction with the hazardous materials which will be utilized at the project. The results of this examination indicate that four hazardous materials – sodium hypochlorite, sulfuric acid, aqueous ammonia, and natural gas -- possess the potential to adversely impact the general public. The evidence further indicates that three major types of hazards are associated with the use of these materials:

- the accidental release of ammonia gas;
- a release of chlorine and hydrogen gas from the accidental mixing of sodium hypochlorite and sulfuric acid; or
- fire and explosion from natural gas.

Of these, the release of ammonia gas is the accident with the potential to create adverse impacts to the general public most likely to occur at the facility. (422/99 RT 33, 43; Ex. 46, pp. 26-27).

Ammonia Release. The facility will use aqueous ammonia, rather than anhydrous ammonia, for the SCR system. Initially, the Applicant intended to store the ammonia in a single 45,000 gallon tank; following discussions with Staff, however, Applicant amended its proposed storage design to consist of smaller multiple tanks enclosed in a building. These tanks would set in a containment basin large enough to hold the entire contents of a delivery truck or tank rupture. (4/22/99 RT 37-38; Exs. 22, 46 p. 32). Project personnel would typically not enter this building, which will be designed to automatically close its vents should an aqueous ammonia spill be detected. Staff also endorses this design (specified further in Attachment B to the Conditions of Certification following this section; 4/22/99 RT 44-45; see also Ex. 46, pp. 27-28).

The evidence of record also contains modeling results, under worst case meteorological assumptions, assessing potential exposure levels as a result of an ammonia spill. An exposure level of 2000 parts per million (ppm) is considered lethal; a level of 300 ppm is characterized as immediately dangerous to life and health. (4/22/99 RT 39). The modeling also addresses the significance threshold supported by Commission staff of 75 ppm; this is known as the "short-term public emergency limit" and exposure at this level would not result in any significant harm to human health. (*Id.*; see also Ex. 46, p. 41).

Under worst case assumptions, an ammonia release of 75 ppm would extend for approximately 823 meters from the facility. The residential receptor nearest the project is about 2500 meters away; at that location, the exposure would be approximately 16 ppm. The town of McKittrick and the McKittrick School are 3000 meters away. At that distance the exposure level would decrease to 13 ppm. (4/22/99 RT 39, 45; Ex. 46, pp. 28-30). The evidence indicates that these exposure levels would not create adverse public health or safety impacts. (*Id.*).

Chlorine and hydrogen gas release. Sodium hypochlorite will be used to treat water at the facility; this chemical poses much less risk than the use of anhydrous chlorine, which is more commonly used for this purpose. Sulfuric acid will also be used. Accidental mixing of these substances could result in a release of chlorine or hydrogen gas.

Several measures will be used at the La Paloma Generating Project to guard against this risk. The sodium hypochlorite and the sulfuric acid each will be stored in separate tanks surrounded by individual containment facilities capable of holding more than the contents of each of these tanks; the storage facilities will be separated by distance of about 100 feet. Delivery of these chemicals will not occur at the same time. The storage tanks will have unique loading connections and separate valves, pumps, and piping. Facility personnel will receive special training regarding the potential hazards associated with mixing these materials. The project owner will also prepare, and be required to implement, a detailed Safety Management Plan which will specify procedures and design elements to avoid accidental mixing. (Exs. 1,section 5; 46, p. 33).

Natural gas fire and explosion. The natural gas fuel is a very flammable and thus presents a risk of fire or explosion. The fuel will not, however, be stored on-site. Moreover, the risks of fire and explosion will be reduced to insignificant levels through adherence to applicable codes and the development and implementation of appropriate safety management practices. Gas shut-off valves will be installed, along with automated combustion controls and burner management systems. The start-up procedures will require air purging of the gas turbines and fire boxes to preclude the presence of an explosive mixture. Detailed procedures to address the potential of fire and explosion will be included in the Safety Management Plan which will be subjected to Staff review and approval prior to operation of the generating equipment. (4/22/99 RT 48-49; Exs. 1, section 7; 46, pp. 33-34).

Cumulative Impacts and Closure. The La Paloma Generating Project is located in an area which is heavily industrialized. Significant amounts of hazardous materials are presently transported, stored, and used in the western Kern County oilfields. Several additional power plants may also be located in this general area. Of these, two may use and store the more potentially hazardous anhydrous ammonia, rather than the aqueous ammonia which will be used at the La Paloma project. The impacts of the future projects will be assessed as those projects are analyzed. For present purposes, however, the evidence indicates that the La Paloma Generating Project will not create any potential off-site hazard to public health and safety, and therefore will not contribute to any cumulative hazard increase. (4/22/99 RT 46-47; Ex. 46, pp. 34-35).

Finally, the evidence indicates that the Compliance Plan's (*ante*) general conditions address the various closure scenarios that the project could face. In addition, a specific Condition of Certification (HAZ-5) provides further guidance for the handling of hazardous materials in the event of project closure. (Ex. 46, pp. 35-36). The evidence establishes that this combination of requirements is adequate to protect public health and safety. (Ex. 46, p. 36).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record concerning the topic area of Hazardous Materials Handling, we find and conclude as follows:

1. The La Paloma Generating Project will use hazardous materials at the facility.

2. Sodium hypochlorite, sulfuric acid, aqueous ammonia, and natural gas are hazardous materials which will be used by the project and which possess the potential to create public health and safety hazards.

3. The principal types of potential public health and safety hazards associated with the hazardous materials mentioned in Finding 2 above are the accidental release of ammonia gas, the release of chlorine and hydrogen gas, and fire and explosion from natural gas.

4. The mitigation measures proposed by the Applicant, and incorporated in the Conditions of Certification below, will ensure that risks to public health and safety from hazardous materials are reduced to an insignificant level.

5. The La Paloma Generating Project will not contribute to a cumulative risk to public health and safety.

6. Implementation of the Conditions of Certification below will ensure that the La Paloma Generating Project will comply with the laws, ordinances, regulations, and standards specified in the appropriate portion of Appendix A this Decision.

We therefore conclude that the hazardous materials used at the La Paloma Generating Project will not create or contribute to 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 that is not listed in Attachment A, following these Conditions, unless approved by the CPM.

Verification: The project owner shall provide in the Annual Compliance Report a list of hazardous materials used at the facility in reportable quantities.

HAZ-2 The project owner shall submit both the Business Plan and Risk Management Plan to the CPM for review and comment, and shall also submit these plans and/or procedures to the Kern County Fire Department for approval.

Verification: At least sixty (60) days prior to the initial delivery of any hazardous materials in reportable quantities to the facility, the project owner shall submit the Business Plan and Risk Management Plan to the CPM for review and comment. At the same time, the project owner shall submit these plans to the Kern County Fire Department for approval. The project owner shall also submit evidence to the CPM that the Kern County Fire Department approved of these plans, when available.

HAZ-3 The project owner shall provide a detailed Safety Management Plan (SMP) to the CPM for approval and review.

Protocol: The Safety Management Plan shall include the following: 1) a description of how each element of the SMP applies to the proposed facility; 2) an explicit chain of command (by job title on final organization chart) for each specific objective identified in the plan (for example, under "Accountability," list who will be responsible for the preparation of the specific statement of expectations, objectives and goals by senior management, daily shift logs and reports of abnormal conditions); 3) a description of how corporate management will ensure proper implementation of the SMP and ensure that production and safety are properly balanced; 4) methods that will be used to motivate employees to accomplish safety objectives; and 5) detailed procedures to address the hazards associated with human error during storage and transfer of hazardous materials.

Verification: At least sixty (60) days prior to the initial delivery of any hazardous materials in reportable quantities to the facility, the project owner shall provide a detailed Safety Management Plan as described in the Protocol section of this Condition of Certification to the CPM for review and approval.

HAZ-4 The project owner shall design and build the aqueous ammonia storage facility as described in Attachment B following these Conditions.

Verification: At least sixty (60) days prior to the delivery of aqueous ammonia, the project owner shall provide detailed designs for the aqueous ammonia storage facility to the CPM for review and comment.

HAZ-5 Prior to commencement of commercial operation, the project owner shall submit to the CPM for review and approval hazardous materials management plans as described below. These plans may be incorporated into the Facility Closure Plan and the On-site Contingency Plans (which are required under General Conditions of the Compliance Plan section of this Decision).

Protocol: For the event of a planned closure or an unexpected permanent closure of the facility, the On-site Contingency Plan (and the Facility Closure Plan, should one be submitted) shall address how all hazardous materials will be removed from the site in accordance with all applicable LORS.

Protocol: For the event of an unexpected temporary closure of the facility, the On-site Contingency Plan shall address how the site and the hazardous materials will be secured and maintained safely for the period of closure. For the event in which the temporary closure is declared permanent by the CPM, the On-site Contingency Plan shall address how all hazardous materials will be removed from the site in accordance with all applicable LORS.

Verification: At least sixty (60) days (or other time agreed to by the CPM) prior to commencement of commercial operation, the project owner shall submit the above plans to the CPM for review and approval.

ATTACHMENT A

ATTACHMENT B

FACILITY DESIGN

A combined delivery and storage facility will be constructed. The proposed facility consists of an adjoining truck delivery bay and enclosed aqueous ammonia storage building. The truck delivery bay will be open on three sides, and will have a roof that will limit rain (or solar radiation) on the bay floor. This sub-grade delivery bay floor will be sloped to contain and drain any accidental ammonia spill during delivery and offloading. A water sprinkler system above the bay will dilute and wash any spills. Spills will flow quickly through drain slots into a large sub-grade containment area in the ammonia storage building, which will have enough capacity to hold the entire contents of an 8,000-gallon truck tank, plus spray water.

La Paloma Generating Company, LLC, is considering two facility layout options. Both options utilize the same design and safety concepts and have nearly identical layouts; the key differences being the number of ammonia storage tanks and the length of the building and delivery pad. The two options for the enclosed ammonia storage building are:

- Four 13,280-gallon storage tanks with a sub-grade spill basin capacity of approximately 34,500 gallons (excluding the volume occupied by the four tanks). This is enough capacity to hold all plausible tank overfill, tank rupture and delivery truck spill scenarios. The four-tank option has a larger (longer) building and truck pad than the following three-tank option, and is therefore used as a worst-case scenario from the standpoint of ammonia vapor emissions for the off-site consequence analysis provided in this submittal.

- Three 13,280-gallon storage tanks. In this case, the storage building's basin will have an approximate capacity of 30,000 gallons (excluding the volume occupied by the three tanks), which would also be enough capacity to hold all plausible spill scenarios.

HAZARDOUS MATERIALS HANDLING Figure 1 shows the layout and dimensions of the four-tank option. The layout for a three-tank option would be essentially the same, with a shorter storage building and truck bay.

Source: *Exhibit 46*

D. WORKER SAFETY[31]

Industrial workers use process equipment and hazardous materials on a daily basis. Accidents involving relatively small amounts of material can result in serious injuries. This topical analysis assesses the completeness and adequacy of the measures proposed by the Applicant to comply with applicable worker health and safety requirements.

Summary and Discussion of the Evidence

The fundamental relevant inquiry under this topic area is whether the Applicant will establish adequate policies, procedures, training, and hazard recognition and control at the proposed facility to minimize the potential for injury to workers during construction and operation. The evidence of record indicates that this matter is governed by existing laws, ordinances, regulations, and standards, and that compliance with these will provide adequate assurance that worker safety will be maintained. (4/21/99 RT 130-131).

In order for Applicant to comply with worker safety requirements it must, in part, provide (post-certification) a "Project Construction Safety and Health Program" and a "Project Operation Safety and Health Program" to the Commission for review and approval. These general plans must. contain elements addressing more particularized aspects such as construction and operational injury and illness prevention, fire protection and prevention, and the provision and use of personal protective equipment. (Ex. 35, pp. 59-63). The evidence indicates that the Conditions of Certification require worker safety measures adequate to meet applicable requirements.

-31 This topic is entitled "Worker Safety and Fire Protection" in the FSA (Ex. 35). At the April 21, 1999 evidentiary hearing, however, the parties agreed that the fire protection aspects of this topic should be more appropriately treated under the topic of "Socioeconomics". (4/21/99 RT130-133). We follow this convention in the Decision. (See 'Socioeconomics' section, infra).

Finally, the evidence indicates that the project operator is responsible for maintaining adequate fire protection systems during any closure activities. This element is included in the general closure provisions of the Compliance Plan discussed earlier in this Decision. (4/21/99 RT 133-134).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record regarding the topic of Worker Safety, we find and conclude as follows:

1 Compliance with existing laws, ordinances, regulations, and standards will adequately assure protection of worker health and safety during the construction and operation phases of the La Paloma Generating Project.

2. In order to comply with applicable requirements, the Applicant must prepare and submit safety and, health programs for the project's construction and operation phases.

3. The Conditions of Certification below require the submission and review of safety and health programs for the construction and operation phases.

4. Assuming compliance with the Conditions of Certification contained in this Decision, the project will comply with the laws, ordinances, regulations, and standards intended to protect worker health and safety and identified in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the La Paloma Generating Project will adequately address worker safety and health matters during the construction and operation phases

CONDITIONS OF CERTIFICATION

SAFETY-1 The project owner shall submit to the CPM a Project Construction Safety and Health Program which shall include:

- Construction Injury and Illness Prevention Program
- Construction Fire Protection and Prevention Plan
- Personal Protective Equipment Program

Protocol: The Construction Injury and Illness Prevention Program and the Personal Protective Equipment Program shall be submitted to the Califomia 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 Kern County Fire Department (KCFD) 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, incorporating Cal/OSHA's Consultation Service, comments. The project owner shall provide a letter from the KCFD stating that they have reviewed and accept the Construction Fire Protection and Prevention Plan.

SAFETY- 2 The project owner shall submit to the CPM a Project Operation Safety and Health Program containing the following:

- Operation Injury and Illness Prevention Plan
- Emergency Action Plan
- Operation Fire Protection Plan
- 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 KCFD 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.

SAFETY-3 The project owner shall design and install all exterior lighting to meet the requirements contained in the Visual Resources Conditions of Certification and in accordance with the American National Standards Practice for Industrial Lighting, ANSI/ IES-RP-7.

Verification: Within sixty (60) days after construction is completed, the project owner shall submit a statement to the CPM that the illuminance contained in ANSI/IES RP-7 were used as a basis for the design and installation of the exterior lighting.

VII. ENVIRONMENTAL ASSESSMENT

As part of its statutory mandate, the Commission must analyze a project's potential effect upon various elements of the human and natural environments.

A. BIOLOGICAL RESOURCES

Our examination of biological resources focuses upon impacts to state and federally listed species, species of special concern, wetlands, and other areas of critical biological interest in the project vicinity. Here we summarize the potential biological resources impacts due to the project and its related facilities, and address the adequacy of mitigation measures necessary to reduce any identified impacts to less than significant levels. The detailed evidence of record submitted in this proceeding was developed in consultation and cooperation with the United States Fish & Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG).

Summary and Discussion of the Evidence

The region surrounding the proposed project is a mosaic of disturbed and undisturbed valley saltbush scrub and non-native annual grassland habitats. The undisturbed and disturbed habitats are dominated by native and non-native plant species that provide food and cover for various species, including several protected plant and wildlife species. The vegetation types found in the project vicinity include alkali sink, non-native grasslands, ruderal, valley saltbush scrub, and perennial and seasonal wetlands. Sensitive species such as the San Joaquin kit fox, giant kangaroo rat, San Joaquin antelope squirrel, blunt-nosed leopard lizard, Swainson's hawk, golden eagle, burrowing owl, California jewelflower, Kern mallow, and Hoover's eriastrum are found in western Kern County. (Ex. 54, p. 3).

The sensitive plant and animal species which could potentially be affected by the La Paloma Generating Project are shown on the table below.

BIOLOGICAL RESOURCES Table 1
Sensitive Species

Sensitive Plants	Status*
Lost Hills crownscale (*Atriplex vallicola*)	CNPS List 1B
Recurved larkspur (*Delphinium recurvatum*)	CNPS List 1B
Hoover's eriastrum (*Eriastrum hooveri*)	CNPS List 1B/FT
Tejon poppy (*Eschscholzia lemmonii* ssp. *kernensis*)	CNPS List 1B
Kern mallow (*Eremalche parryi* ssp. *kernensis*)	CNPS List 1B/FE

Sensitive Wildlife	Status
Tricolored blackbird (*Agelaius tricolor*)	SSC
LeConte's thrasher (*Toxostoma lecontei macmillanorum*)	SSC
California condor (*Gymnogyps californianus*)	SE/FE
Golden eagle (*Aquila chrysaetos*)	SC
Swainson's hawk (*Buteo swainsoni*)	ST
Long-eared owl (*Asio otus*)	SSC
Burrowing owl (*Athene cunicularia*)	SSC
Northern harrier (*Circus cyaneus*)	SSC
Yellow warbler (*Dendroica petechia*)	SSC
White-tailed kite (*Elanus caeruleus*)	FP
California horned lark (*Eremophila alpestris actia*)	SSC
Prairie falcon (*Falco mexicanus*)	SSC
Loggerhead shrike (*Lanius ludovicianus*)	SSC
Blunt-nosed leopard lizard (*Gambelia sila*)	SE/FE/FP
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	SSC
Western spadefoot toad (*Scaphiopus hammondii hammondii*)	SSC
Giant kangaroo rat (*Dipodomys ingens*)	SE/FE
Short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*)	SSC
Tulare grasshopper mouse (*Onychomys torridus tularensis*)	SSC
San Joaquin pocket mouse (*Perognathus inornatus inornatus*)	SSC
San Joaquin antelope squirrel (*Ammospermophilus nelsoni*)	ST
San Joaquin kit fox (*Vulpes macrotis mutica*)	ST/FE
American badger (*Taxidea taxus*)	SSC
Longhorn fairy shrimp (*Branchinecta longiantenna*)	FE
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FE
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FT

* **Status legend:** CNPS List 1B = Plants rare or endangered in California and elsewhere (California Native Plant Society 1994), SSC = Species of Special Concern (CDFG 1992), FE = Federally listed Endangered, FT = Federally listed Threatened, SE = State listed Endangered; ST = State listed Threatened and FP = State Fully Protected.

Construction of the power plant and its related facilities will require ground disturbing activities which, in turn, can negatively impact sensitive species directly or indirectly by reducing available habitat. More specifically, the power plant site consists of 20.7 acres of non-native grassland habitat and 2.3 acres of saltbush scrub habitat; the laydown area required during project construction will temporarily disturb 10 acres of non-native grassland habitat and 13.3 acres of valley saltbush scrub. These habitats are occupied by blunt-nosed leopard lizards, San Joaquin kit foxes, and San Joaquin antelope squirrels, each of which is a listed species. (6/29/99 RT 134; Ex. 54, p. 6).

Raw water will be supplied via an 8.7 mile long pipeline between the power plant and the California Aqueduct; a 700,000 gallon water storage tank will also be constructed. The pipeline route (Route 2) will parallel Highway 58,[32] and result in the permanent loss of 0.5 acres of valley saltbush scrub habitat at the California Aqueduct turnout site. The water storage tank will cause the permanent loss of a similar amount of habitat. In addition, construction of these facilities will temporarily disturb 62.6 acres of saltbush scrub and 2.9 acres of non-native grassland. Sensitive species such as the blunt-nosed leopard lizard, San Joaquin kit fox, San Joaquin antelope squirrel, recurved delphinium, and Hoover's eriastrum can be expected to occur in the Route 2 corridor. (Ex. 54, p. 10).

Construction of either the 1.5 mile long potable water supply pipeline or the 370 foot long natural gas supply pipeline will not cause permanent habitat loss. A total of about 11.5 acres of saltbush scrub and ruderal habitat will, however, be temporarily disturbed. (Ex. 54, p. 11).

Construction of the transmission intertie will occur in an area in which a variety of sensitive species, including the blunt-nosed leopard lizard, the giant kangaroo rat, the Tipton kangaroo rat, the San Joaquin kit fox, the San Joaquin antelope

[32]Route 2 is the only raw water supply pipeline route for which Applicant seeks certification. (4/21/99 RT 21: 8-11; Ex. 26).

squirrel, Kern mallow, recurved larkspur, and Hoover's eriastrum are found. Installation may also temporarily impact seasonally wet depressions which may contain federally listed vernal pool species such as the vernal pool fairy shrimp, the longhorn fairy shrimp , or the vernal pool tadpole shrimp. (Ex. 54, p. 7).

The intertie between the power plant and the Midway Substation will follow one of two routes.[33] The Applicant's preferred transmission line corridor (Route 1) is approximately 13.6 miles long and will follow an existing transmission line corridor. Short access roads will be needed during construction and maintenance activities. Access road development and tower installation along this route will permanently impact 2.32 acres of habitat and temporarily disturb 22.6 acres. Alternate Route 1B is about 14.2 miles long. Approximately 1 mile of this alignment contains no convenient access road and an upgraded access route will be used. The 1B route creates an increased net surface disturbance of 4.66 acres during construction and 1.0 acres during operation. (Ex. 54, p. 7).

The transmission routes traverse the Lokern Natural Area. This is a planning area established by public agencies and private landowners intended to protect sensitive species habitats. The Lokern Natural Area contains two protected areas, the Lokern Preserve managed by the Center for Natural Lands Management (CNLM) and the Lokern Ecological Reserve managed by CDFG. (Ex. 54, p. 4; see Biological Resources Figure 1, following).

Route 1 crosses the CDGF ecological reserve; Route 1B avoids it. (6/29/99 RT 129-130; Ex. 54, p. 9). The testimony of record indicates that Applicant desires to use Route 1 since it is biologically preferrable. (6/29/99 RT 129-130, 142). CDFG agrees, and is in the process of arranging a property transfer with Applicant in order to render this use permissible. (6/29/99 RT 129-130, see also Ex. 58). As a result, title to a portion of the ecological reserve (about 60 acres)

[33] The Applicant removed a third routing, Route 1A, from consideration. (Ex. 26).

will pass to the CNLM, Applicant will obtain the transmission line easement from CNLM allowing the use of Route 1, and Applicant will also provide CDFG with a replacement parcel of approximately 80 acres which will then be incorporated into the CDFG Lokern Ecological Reserve. (Ex. 58, p.3).

Biological Resources - FIGURE 1 - not available in PDF version

LOKERN NATURAL AREA AND OTHER SENSITIVE AREAS
(Source: Energy Commission Cartography Unit)

When all project components are considered together, the evidence of record indicates that construction and operation will permanently impact 27.4 acres of habitat and temporarily impact 125.8 acres. This is depicted on the following table. (Ex. 54, p.5).

BIOLOGICAL RESOURCES Table 2
Acreage Impacts

	Permanent Impacts (acres)	Temporary Impacts (acres)
Power plant	23	0
Laydown area	0	23.3
Transmission line (Route 1)	2.3	22.6
Transmission line (Route 1A)	2.3	22.6
Transmission line (Route 1B)	3.4	26.2
Raw water pipeline (Route 2)	0.5	65.0
Raw water pipeline (Route 3)	0.5	62.6
Water storage tank	0.5	0
Potable water pipeline	0	10.9
Natural gas pipeline	0	0.44

Since habitat will be lost and/or disturbed, it is necessary to mitigate attendant impacts to sensitive species. The evidence of record explains that the proposed mitigation strategy has been developed in cooperation and consultation with United States Fish & Wildlife Service and California Department of Fish and Game. It is one that maximizes the avoidance of impacts to sensitive species and their habitats. (Ex. 54, pp. 13,15). Since avoidance is not possible in all instances, however, the La Paloma Generating Project will provide compensatory habitat in the ratios shown below:

IMPACTS	COMPENSATION RATIO
Permanent impacts to natural lands	3.0:1
Temporary impacts to natural lands	1.1:1
Permanent impacts to protected lands	4.0:1
Temporary impacts to protected lands	2.1:1

"Natural lands" is privately-owned habitat that contains a variety of native and non-native plant species providing food and cover for the local wildlife. "Protected lands" refers to those areas that are currently managed by the Bureau of Land Management (BLM), CDFG, or the CNLM to benefit local wildlife. (Ex. 54, p. 14). As shown above, impacts to protected lands will be mitigated at a higher compensation ratio than impacts to natural lands. (6/29/99 RT 143; Ex. 54, p.9).

Based upon the expected habitat impacts described above, La Paloma Generating Project will purchase and transfer to the CNLM, for protection and management, a minimum of 255 acres of compensatory habitat in the immediate vicinity of the Lokern Preserve within the Lokern Natural Area of western Kern County. (6/29/99 RT 131; Ex. 54, p. 14). This will occur prior to commencing project construction. (6/29/99 RT 132).

Moreover, the testimony establishes that the mitigation required by the Conditions of Certification in this Decision provide a sufficient basis for CDFG to issue its required permit[34] and for USFWS to prepare its final "Biological Opinion". (6/29/99 RT 136-138; Ex. 54, p. 16; see also Conditions of Certification BIO-6 and BIO-7). USFWS has issued its Biological Opinion (Ex. 57) and CDFG has formally expressed its satisfaction with the mitigation measures contained in this Decision. (6/29/99 RT 139-140, 150-151; Exs. 57, 58).

The evidence of record characterizes the transmission line as the single element of the La Paloma Generating Project which could reasonably have the potential

[34] A recent amendment to section 2081 (b) of the California Fish and Game Code implementing the California Endangered Species Act [Fish and G. C., § 2081(b)] allows CDFG to issue incidental take authorizations. CDFG cannot, however, issue the take permits until review under the California Environmental Quality Act is completed. In the present instance, this review is not final until the Energy Commission Decision is adopted. (Exs. 39, 58). Therefore, to address this incompatibility with the Commission's exclusive siting authority, the mitigation measures were developed in cooperation and consultation with CDFG (and with USFWS); specific Conditions of Certification address permits from these other agencies.

to contribute to cumulatively adverse biological impacts. This potential arises from concerns that if Route 1 is used, the existing transmission corridor would expand and the impacts associated with the access roads would begin to diminish the value of the habitat and conflict with the protective goals of the Lokern Natural Area. While the evidence does not suggest that additional mitigation for biological resources is required for La Paloma project, it does infer that utilization of this transmission corridor by future projects could be minimized by utilizing existing transmission towers or by combining outlet lines. (Ex. 54, p. 12). The Conditions of Certification (TSE-1(d)) provide flexibility to accomodate this possibility.

Finally, the evidence notes that habitat restoration measures may be appropriate during future facility closure scenarios. (Ex. 54, pp. 12-13). A specific Condition of Certification (BIO-11) thus supplements the measures contained in the Compliance Plan portion of this Decision.

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Sensitive plants and animals exist in the project area.

2. Construction and operation of the La Paloma Generating Project, if not adequately mitigated, can create adverse impacts to the sensitive biological resources in the project area.

3. The mitigation measures contained in the Conditions of Certification set forth below were developed in cooperation and consultation with the United States Fish & Wildlife Service and with the California Department of Fish and Game.

4. The mitigation measures mentioned above are sufficient to allow the United States Fish & Wildlife Service to issue a formal "Biological Opinion", and for the California Department of Fish and Game to express its satisfaction and its intent to issue a “section 2081(b)” permit for the La Paloma Generating Project.

5. The Conditions of Certification assure that the La Paloma Generating Project will cause no significant unmitigated adverse impacts to biological resources in the project area.

6. The Conditions of Certification, if properly implemented, ensure that the La Paloma Generating Project will comply with the applicable laws, ordinances, regulations, and standards set forth in the pertinent portion of Appendix A of this Decision.

We therefore conclude that construction and operation of the La Paloma Generating Project will not create any significant direct, indirect, or cumulative adverse impacts to biological resources.

CONDITIONS OF CERTIFICATION

In addition to the following Conditions of Certification, other conditions may be necessary after La Paloma receives a CDFG Incidental Take Permit and the USFWS Biological Opinion. The CDFG Incidental Take Permit will outline the mitigation measures (e.g. sensitive species take avoidance measures and habitat compensation requirements) to be followed by La Paloma prior to and during project construction and operation. See Biological Resource Condition of Certification **BIO-6** and Exhibit 58 for more details about the CDFG permit. The USFWS Biological Opinion will, as will the Incidental Take Permit, provide mitigation requirements that must be followed prior to project construction, and during construction and operation. For more information about the USFWS Biological Opinion, see Biological Resource Condition of Certification **BIO-7** and Exhibit 57.

BIO-1 The project owner will implement the following mitigation measures identified in Section 5.6.3.1 found on pages 5.6-28 to 5.6-38 of the LPGP Application for Certification (Exhibit 1). The project owner's proposed mitigation measures will be incorporated into the final Biological Resources Mitigation Implementation and Monitoring Plan (see Condition of Certification **BIO-9**, below) unless the mitigation measures conflict with mitigation required by the U. S. Fish and Wildlife Service and the California Department of Fish and Game that is contained in their respective Biological Opinions and Incidental Take Permit. (Exhibits 57 and 58).

<u>Protocol:</u> The project owner will:

1. Site transmission line poles, access roads, pulling sites, and storage and parking areas to avoid sensitive resources whenever possible.

2. Avoid all wetlands.

3. Design and construct transmission lines and poles to reduce the likelihood of electrocutions of large birds.

4. Bury any pipelines that cross streams and dry creek beds below the scour depth for each waterway. Streambeds disturbed during construction will be recontoured so that drainage patterns are not changed from pre-construction conditions.

5. Implement a Worker Environmental Awareness Program.

6. Hire a qualified biologist, who is acceptable to Energy Commission, USFWS, and CDFG staff, to conduct pre-construction surveys no more than fourteen (14) days prior to initiation of construction in any portion of the project area.

7. Implement CDFG approved take avoidance measures for the blunt-nosed leopard lizard.

8. Clearly mark construction area boundaries with stakes, flagging, and/or rope or cord to minimize inadvertent degradation or loss of adjacent habitat during facility construction. All equipment storage will be restricted to designated construction zones or areas that are currently not considered sensitive species habitat.

9. Post signs and/or fence the power plant site and laydown areas to restrict vehicle access to designated areas.

10. Institute traffic restraints and signs to minimize temporary disturbances. A 20-mph speed limit will be implemented on the project site.

11. Designate a specific individual as a contact representative between La Paloma, USFWS, Energy Commission, and CDFG to oversee compliance with mitigation measures detailed in the Biological Opinion.

12. Provide a qualified wildlife biologist to monitor all activities that may result in incidental take of listed species or their habitat.

13. Conduct compliance inspections once per week and provide an annual compliance report to the Energy Commission, the USFWS Sacramento Field Office, and the CDFG Region 4 office.

14. Limit transmission line construction to daylight hours. For areas of high concentrations of nocturnal sensitive species (giant kangaroo rat, San Joaquin kit fox, Tipton kangaroo rat), work activities will be minimized during nighttime hours. Night lighting will be hooded.

15. Provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches.

16. Fence open holes or trenches within 50-feet of giant kangaroo rat burrows. Fence will be hardware cloth or similar materials that are approved by USFWS and CDFG.

17. Inspect trenches each morning for entrapped animals prior to the beginning of construction. Construction will be allowed to begin only after trapped animals are able to escape voluntarily.

18. Inspect all construction pipes, culverts, or similar structures with a diameter of 4-inches or greater for kit foxes prior to pipe burial. Pipes to be left in trenches overnight will be capped.

19. Provide a post-construction compliance report, within forty-five (45) calendar days of completion of the project, to the USFWS, CDFG, and the Energy Commission.

20. Complete, and institute, a habitat reclamation plan once temporarily disturbed habitat disturbance is completed. Annual inspections will occur for three (3) years to check for compliance with the reclamation plan goals.

21. Make certain that all food-related trash will be disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited.

22. Prohibit firearms except for those carried by security personnel.

23. Prohibit pets from the project site.

24. Minimize the use of rodenticides and herbicides in the project area.

25. Report all inadvertent deaths of San Joaquin kit fox, San Joaquin antelope squirrel, giant kangaroo rat, or blunt-nosed leopard lizard to the appropriate La Paloma representative. Injured animals will be reported to CDFG, and the project owner will follow instructions that are provided by CDFG.

26. Consult with USFWS, CDFG, and Energy Commission regarding appropriate protection measures for sensitive species following resolution of any emergency situation that takes place in sensitive habitat during clean-up activities.

27. Acquire compensation lands to satisfy the requirements of state and federal endangered species acts, consistent with standard USFWS and CDFG compensation requirements for impacts to listed species habitats.

Verification: At least sixty (60) days prior to 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 BRMIMP for this project, and the CPM will determine the plan's acceptability within fifteen (15) days of receipt of the final plans. Implementation of the above measures shall be included in the BRMIMP.

DESIGNATED BIOLOGIST

BIO-2 Construction site and/or ancillary facilities preparation (described as any ground disturbing activity other than allowed geotechnical work) shall not begin until an Energy Commission CPM approved Designated Biologist is available to be on-site.

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. three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;

3. 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.

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 Designated Biologist is on-site.

Verification: At least ninety (90) days prior to the start of any ground disturbance activities, 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:

Advise the project owner's supervising construction or operations engineer on the implementation of the biological resources Conditions of Certification;

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

Notify the project owner and the CPM of any 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 supervising construction and operations engineer shall act on the advice of the Designated Biologist to ensure conformance with the biological resources Conditions of Certification.

Protocol: The project owner's supervising construction and operating engineer shall halt, if necessary, all construction activities in areas specifically identified by the Designated Biologist as sensitive to assure that potential significant biological resources impacts are avoided.

The Designated Biologist shall:

1. Inform the project owner and the supervising construction and operating engineer when to resume construction; and

2. Advise the CPM if any corrective actions are needed or have been instituted.

Verification: Within two (2) working days of a Designated Biologist notification of non-compliance with a Biological Resources Condition or a halt of construction, the project owner shall notify the CPM by telephone of the circumstances and actions being taken to resolve the problem or the non-compliance with a Condition. For any necessary corrective action taken by the project owner, a determination of success or failure will be made by the CPM within five (5) working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

WORKER ENVIRONMENTAL AWARENESS PROGRAM

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 (including any access roads, storage areas, transmission lines, water and gas lines) during construction and operation, are informed about sensitive biological resources associated with the project.

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 meaning 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 a competent individual(s) acceptable to 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.

Verification: At least sixty (60) days prior to the start of rough grading, 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.

CALIFORNIA DEPARTMENT OF FISH & GAME INCIDENTAL TAKE PERMIT

BIO-6 Prior to start of any ground disturbance activities, the project owner shall acquire an Incidental Take Permit from the California Department of Fish and Game (CDFG) (per Section 2081(b) of the California Endangered Species Act) and implement the permit terms and conditions. (See also Exhibit 58).

Verification: No less than five (5) days prior to the start of any project related ground disturbance activities the project owner shall submit to the CPM a copy of the final CDFG Incidental Take Permit. Permit terms and conditions will be incorporated into the Biological Resources Mitigation Implementation and Monitoring Plan. (See also Condition of Certification **BIO-9**.)

U. S. FISH & WILDLIFE SERVICE SECTION 7 BIOLOGICAL OPINION

BIO-7 Prior to the start of any ground disturbance activities, the project owner shall provide final copies of the Biological Opinion per Section 7 of the federal endangered species act obtained from the U. S. Fish and Wildlife Service and incorporate the terms of the agreement into the Biological Resources Mitigation Implementation and Monitoring Plan. (See Exhibit 57). The project owner will

implement the terms and conditions contained in the Biological Opinion (See also Condition of Certification **BIO-9**.)

Verification: At least sixty (60) days prior to the start of any project related ground disturbance activities the project owner shall submit to the CPM a copy of the Biological Opinion. Permit terms and conditions will be incorporated into the Biological Resources Mitigation Implementation and Monitoring Plan. (See also Condition of Certification **BIO-9**.)

CALIFORNIA DEPARTMENT OF FISH & GAME STREAMBED ALTERATION AGREEMENT

BIO-8 The project owner shall implement the provisions of the California Department of Fish and Game Streambed Alteration Agreement contained in Notification #4-176-98. (Exhibit 10).

Protocol: California Department of Fish and Game Streambed Alteration Agreement provisions contained in Notification #4-176-98 will be included in the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) (See also Condition of Certification **BIO-9**.)

Provisions in the CDFG Streambed Alteration Agreement Notification #4-176-98 include:

1. Completion of all work in the streams when the work sites are dry;

2. Not removing or damaging woody perennial stream bank vegetation outside of the work area;

3. Not removing soil, vegetation, and vegetative debris from the streambed or stream banks;

4. Not exceeding the amount of fill placed within stream channels above that which naturally occurred in the stream channel prior to the start of work;

5. Not creating silty or turbid water when water returns to the stream, and not discharging silty water into the stream, nor creating turbid water within the stream;

6. Stabilizing slopes toward the stream to reduce erosion potential;

7. Locating equipment, material, fuel, lubricant and solvent staging and storage areas outside the stream, and using drip pans with

motors, pumps, generators, compressors, and welders that are located within or adjacent to a stream;

8. Moving all vehicles away from the stream prior to refueling and lubricating;

9. Preventing any substance that could be hazardous to aquatic life from contaminating the soil and/or entering the waters of the area;

10. Cleaning up all spills immediately; and

11. Returning stream low flow channel, bed, or banks to as nearly as possible to their original configuration and width.

Verification: Streambed Alteration Agreement terms and conditions will be incorporated into the Biological Resources Mitigation Implementation and Monitoring Plan. (See also Condition of Certification **BIO-9**)

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION & MONITORING PLAN

BIO-9 The project owner shall submit to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and shall implement the measures identified in the plan.

The final BRMIMP shall identify:

1. All mitigation, monitoring, and compliance measures recommended by the Applicant referred to, as well as those contained in, Condition of Certification **BIO-1;**

2. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;

3. All mitigation measures provided in the USFWS Biological Opinion and the CDFG Incidental Take Permit (Exs. 57 and 58);

4. All provisions specified in the CDFG Streambed Alteration Agreement Notification #4-176-98 (Ex. 10);

5. All required mitigation measures for each sensitive biological resource (including burrowing owl avoidance measures recommended by CDFG in its September 1995 staff report on burrowing owl mitigation; Ex. 59);

6. Required habitat compensation, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;

7. A detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities;

8. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;

9. Aerial photographs of all areas to be disturbed during project construction activities - one set prior to site disturbance and one set subsequent to completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;

10. Monitoring duration for each type of monitoring and a description of monitoring methodologies and frequency;

11. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;

12. All performance standards and remedial measures to be implemented if performance standards are not met;

13. A discussion of biological resources related facility closure measures; and

14. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

Verification: At least sixty (60) days prior to start of any project related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP for this project, and the CPM will determine the plan's acceptability within fifteen (15) days of receipt of the final plan. The project owner shall notify the CPM five (5) working days before implementing any modifications to the BRMIMP.

Within thirty (30) days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which mitigation and monitoring plan items are still outstanding.

HABITAT COMPENSATION

BIO-10 To compensate for temporary and permanent impacts to sensitive wildlife habitat, the project owner will purchase no less than 246.5-acres of suitable compensation habitat. Title for compensation habitat will be transferred to the Center for Natural Lands Management (CNLM) to be managed as part of the Lokern Preserve. The project owner will also provide a CNLM approved endowment, including land purchase administrative costs and habitat enhancement funds, to CNLM to ensure the perpetual management of the compensation habitat.

Verification: No later than sixty (60) days prior to the start of any project related ground disturbance, the project owner must provide written verification to the CEC CPM that all compensation habitat purchases have been completed, and that title for all the parcels have been transferred to CNLM for management as part of the Lokern Preserve. At the same time, written verification must also be provided that shows that the associated endowment and any other required parcel transfer administrative funds have been deposited into an appropriate CNLM account for the perpetual maintenance of the Lokern Preserve parcels purchased by the project owner for this particular project. Also, a copy of the memorandum of understanding developed by the project owner and CNLM must be provided to the CEC CPM.

Within ninety (90) days after completion of project construction the project owner shall provide the CPM aerial photographs taken after construction and an analysis of the amount of any habitat disturbance that is in addition to that identified in the Energy Commission Final Staff Assessment. (Exhibit 35). The CPM will notify the project owner of any additional funds required to compensate for any additional habitat disturbances at the adjusted market value at the time of construction to acquire and manage habitat.

FACILITY CLOSURE

BIO-11 The project owner will incorporate into the planned permanent or unexpected permanent closure plan measures that address the local biological resources. The biological resources facility closure measures will also be incorporated into the La Paloma BRMIMP. (See Condition of Certification **BIO-9**, above)

The planned permanent or unexpected permanent closure plan will address the following biological resources related mitigation measures:

1. Removal of transmission conductors when they are no longer used and useful;

2. Removal of all power plant site facilities; and

3. Measures to restore wildlife habitat to promote the re-establishment of native plant and wildlife species.

Verification: At least twelve (12) months (or a mutually agreed upon time) prior to the commencement of closure activities, the project owner shall address all biological resources related issues associated with facility closure in a Biological Resources Element. The Biological Resources Element will be incorporated into the Facility Closure Plan and include a complete discussion of the local biological resources and proposed facility closure mitigation measures.

B. CULTURAL RESOURCES

This section discusses cultural resources, defined as including the structural and cultural evidence of the history of human development and life on earth. These resources assist in the understanding of our culture, our history, and our heritage. The spatial relationships between an undisturbed resource site and the surface environmental resources and features, and the analysis of the locational context of the resource materials within the site and beneath the surface, provide information that can be used to determine the sequence of human occupation and use of an area.

Cultural resources are typically placed in one of three categories: prehistoric archaeologic resources; historic archaeologic resources; and ethnographic resources. The first category refers to those resources relating to the prehistoric human occupation and use of an area; they typically include sites, deposits, structures, artifacts, rock art, trails, and other traces of human behavior. Historic archaeologic resources are those materials usually associated with Euro-American exploration and settlement of area, as well as the beginning of a written historical record; they may include deposits, sites, structures, traveled ways, artifacts, documents, or other indicia of human activity. Ethnographic resources, such as traditional collecting areas, ceremonial sites, topographic features, cemeteries, shrines, or ethnic neighborhoods and structures, are those materials important to the heritage of a particular ethnic or cultural group such as Native Americans, or African, European, or Asian immigrants.

Summary and Discussion of the Evidence

The La Paloma Generating Project is located in the McKittrick Valley. This area has been occupied for approximately 8,000 to 10,000 years, first by Native Americans such as the Yokuts and Chumash, later by European explorers and

holders of Mexican land grants, and most recently by those associated with oilfield development and agriculture. (4/22/99 RT 22; Ex. 44, pp. 6-8).

Although much of the area for the La Paloma Generating Project and its related facilities has already been disturbed, the new construction activities associated with the project present the potential for adverse impacts to cultural resources because of the additional surface and subsurface ground disturbance involved. (4/22/99 RT 30; Ex. 44, p. 14). To assess this potential, Applicant performed an archival search of the general project area to ascertain known cultural resource sites. This search included reviewing prior cultural resources survey data and was augmented by a search of records for lands considered sacred by Native Americans. (4/22/99 RT 18-19). This effort revealed that there are 31 cultural resource sites in the general project area. (4/22/99 RT 19; Exs. 3, 6).

The immediate project area, however, had not been completely surveyed. Applicant accordingly conducted field surveys on the project site and along the routes of the linear facilities (including the alternate transmission route 1B) in April and August, 1998 and in March 1999 to determine the current status and condition of the previously recorded resources and to identify any additional resources that might be present. (4/22/99 RT19; Exs. 31, 44, p. 8). The combination of the record search and field surveys of the area potentially affected by the project and its associated facilities indicate the presence of three previously recorded sites and two isolates; 14 isolates and 15 known resource sites were identified within one-quarter mile of the area potentially affected.
(Ex. 44, p. 12).

The evidence establishes that the preferred mitigation for impacts to cultural resources is avoidance of the resource. If previously unknown cultural resources are encountered during site clearance, preparation, or project construction and avoidance is infeasible, then other appropriate measures must be implemented. The evidence establishes that the Conditions of Certification, which incorporate

mitigation measures proposed both by Staff and Applicant,[35] will reduce the project's potential for adverse impacts on the region's cultural resources -- whether categorized as prehistoric, historic, or ethnographic -- to less than a significant level. (4/22/99 RT 20, 24; Ex. 44, pp. 15-17, 22).

A portion of the routes for the water supply line and the electric transmission line will traverse lands controlled by the Bureau of Land Management (BLM). Two known resource sites are located on BLM lands; this federal agency has reviewed, and agrees with, the conclusions and mitigation measures set forth in the evidence of record. (Ex. 44, pp. 12, 17, 22; see also 4/22/99 RT 24 -26). From a cumulative impacts perspective, the disturbance of increasing amounts of land in the project's vicinity can accelerate the potential for cultural resources impacts. Appropriate mitigation such as that contained herein is therefore necessary to protect these resources. (Ex. 44, pp. 17-18). Finally, the evidence indicates that impacts to cultural resources from any closure activities will be satisfactorily addressed pursuant to the provisions of the Compliance Plan, *ante*. (4/22/99 RT 30; Ex. 44, p. 18).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Cultural resources exist in the general project area.
2. Construction activities associated with the La Paloma Generating Project and its related facilities present the greatest potential for adverse impacts to cultural resources.
3. Adverse impacts may be satisfactorily mitigated by the implementation of appropriate mitigation measures.

[35] The evidence indicates that the substance of Applicant's mitigation measures are contained in the Conditions of Certification. (4/22/99 RT 27-30). These are also detailed in Exhibits 1 and 44.

4. The Conditions of Certification listed below contain measures that will ensure that construction of the La Paloma Generating Project and its related facilities will not create significant direct, indirect, or cumulative adverse impacts to cultural resources.

5. Implementation of the Conditions of Certification below will assure that the La Paloma Generating Project will comply with all applicable laws, ordinances, regulations, and standards pertaining to cultural resources set forth in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the La Paloma Generating Project will not create any significant direct, indirect, or cumulative adverse impacts to cultural resources.

A. CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of project construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities), the project owner shall provide the California Energy Commission (Commission) Compliance Project Manager (CPM) with the name and resume for the designated cultural resource specialist who will develop and implement the project's cultural resource monitoring and mitigation plan. Project construction shall not begin until the designated cultural resource specialist approved by the CPM is available to be on-site.

Protocol: 1) The resume for the designated cultural resource specialist shall include all information needed to demonstrate that the specialist meets the minimum qualifications specified in the US Secretary of Interior Guidelines, as published by the State Office of Historic Preservation (1983). These minimum qualifications shall include the following: a graduate degree in anthropology, archaeology, California history, cultural resource management, or other comparable fields; at least three years of archaeological resource mitigation and field experience in California; and at least one year's experience in each of the following areas: leading archaeological resource field surveys; leading site and artifact mapping, recording, and recovery operations; marshalling and using equipment necessary for cultural resource recovery and testing; preparing recovered materials for analysis and identification; determining the need for appropriate sampling and/or testing in the field and in the lab; directing the analyses of mapped and recovered artifacts; completing the identification and inventory of recovered cultural resource materials; and the preparation of appropriate reports

to be filed with the receiving curation repository, the SHPO, all appropriate regional archaeological information center(s), and the CPM.

2) The resume for the designated cultural resource specialist 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.

Verification: At least ninety (90) days prior to the start of construction on the project, the project owner shall submit the names and resumes for its designated cultural resource specialist, and the specialist's team members, to the CPM for review and written approval.

At least ten (10) days prior to the start of construction, the project owner shall confirm to the CPM that the approved designated cultural resource specialist is available and prepared to implement the cultural resource Conditions of Certification at the start of construction.

At least ten (10) days prior to the termination or release of a designated cultural 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 cultural 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.

CUL-2 Prior to the start of project construction, the project owner shall provide the designated cultural resource specialist and the CPM with maps and drawings showing the final project design and site layout, and the final alignment of all linear facilities. The routes for the linear facilities shall be provided on 7.5 minute quad maps, showing post mile markers (including "tic marks" for tenths of a mile), final center lines and right-of-way boundaries, and the location of all the various areas where surface disturbance may be associated with project-related access roads, storage yards, laydown sites, pull sites, pump or pressure stations, switchyards, electrical tower or pole footings, and any other project components.

Protocol: The designated cultural resource specialist may request, and the project owner shall provide, enlargements of portions of the 7.5 minute maps presented as a sequence of strip maps for the linear facility routes. The strip maps shall include post mile and tenth of a mile markers and show the detailed locations of proposed access

roads, storage or laydown sites, tower or pole footings, and any other areas of disturbance associated with the construction and maintenance of project-related linear facilities. The project owner shall also provide copies of any such enlargements to the CPM at the same time as they are provided to the specialist.

Verification: At least seventy-five (75) days prior to the start of construction on the project, the project owner shall provide the designated cultural resource specialist and the CPM with final drawings and site layouts for all project facilities and maps at appropriate scale(s) for all areas potentially affected by project construction. If the designated cultural resource specialist requests enlargements or strip maps for linear facility routes, the project owner shall also provide a set of these maps to the CPM at the same time as they are provided to the specialist.

CUL-3 Prior to the start of project construction, the designated cultural resources specialist shall prepare, and the project owner shall submit to the CPM for review and written approval, a draft Cultural Resource Monitoring and Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive cultural resources. The Cultural Resources Monitoring and Mitigation Plan prepared for the Energy Commission per this Condition may also become part of the Archaeological Resources Treatment Plan required by the US Bureau of Land Management (BLM) permit process. [The BLM permit usually applies to archaeological resource surveys, testing, monitoring and mitigation, and data and resource recovery that takes place on lands managed by the BLM and/or other federal agencies.]

The CPM will review, and must approve in writing, the Cultural Resources Monitoring and Mitigation Plan. After CPM approval, the project owner's designated cultural resource specialist and designated cultural resource team shall be available to implement the Monitoring and Mitigation Plan as needed throughout project construction. After the project owner receives written CPM approval of the plan, the project owner shall make the designated cultural resource specialist and designated cultural resource team available to implement the Monitoring and Mitigation Plan as needed throughout project construction.

Protocol: The Cultural Resources Monitoring and Mitigation Plan shall include, but not be limited to, the following elements and measures:

a. A proposed research design that includes a discussion of questions that may be answered by the mapping data and artifact recovery conducted

during monitoring and mitigation activities, and by the post-construction analysis of recovered data and materials.

b. A discussion of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the pre-construction, construction, and post-construction analysis phases of the project.

c. A discussion of the mitigation team leadership and organizational structure, and the inter-relationship of team roles and responsibilities associated with completion of the tasks identified in (b), above.

d. A discussion of the need for Native American observers or monitors, the procedures to be used to select them, the areas or post-mile sections where they will be needed, and their role and responsibilities.

e. Incorporation of the Applicant's mitigation measures, as set forth in the Staff Assessment (Ex. 35) and in sections 5.7.3.1, 5.7.3.2, 5.7.3.3, and 5.7.4.2 of the AFC (Ex. 1).

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

g. A discussion of where monitoring of project construction activities is deemed necessary by the designated cultural resource specialist. The specialist will determine the size or extent of the areas where monitoring is to occur and will establish a schedule for the monitor(s) to be present. If the designated specialist determines that the likelihood of encountering cultural resources in certain areas is slight, the specialist may discontinue monitoring in that location.

h. A description of a set of reporting procedures, prepared in concert with the project owner, to be used by all project personnel to notify the designated cultural resource specialist of any unexpected finds of cultural resources during construction-related activities.

i. A description of the work curtailment procedures, prepared in concert with the project owner, to be followed if cultural resources are unexpectedly discovered during project construction.

i. A discussion of any additional pre-construction assessment, data recovery, and mitigation procedures to be implemented by the designated cultural resource specialist in the vicinity of known sites P-15-004014/CA-KER-4013 and P-15-006725/CA-KER-5356, if power pole or tower placement or other transmission line construction activity may extend closer to the known boundaries of these sites.

k. A discussion of the requirement that all cultural resources encountered will be recorded and mapped (may include photos) and all significant or diagnostic resources will be collected for analysis and eventual curation into a retrievable storage collection in a public repository or museum that meets the US Secretary of Interior standards and requirements for the curation of cultural resources.

l. A discussion of the availability and the designated specialist's access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during construction.

m. Identification of the public institution that has agreed to receive any data and cultural resources recovered during project-related monitoring and mitigation work. Discussion of any requirements, specifications, or funding needed for the materials to be delivered for curation and how they will be met. Also include the name and phone number of the contact person at the institution.

Verification: At least sixty (60) days prior to the start of construction on the project, the project owner shall provide the draft Cultural Resources Monitoring and Mitigation Plan prepared by the designated cultural resource specialist to the CPM for review and written approval. If the CPM does not approve the draft plan, the project owner, the designated cultural resources specialist, and the CPM shall meet to discuss comments and work out necessary changes.

CUL-4 Prior to the start of project construction, the designated cultural resources 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.

Protocol: The training program will 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 will be presented by the designated cultural resource specialist or another qualified person approved by the CPM and may be combined with other training programs prepared for biological resources, hazardous materials, or any other areas of interest or concern.

Verification: At least forty-five (45) days prior to the start of construction on the project, the project owner shall submit to the CPM (or designee) for review, comment, 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 CPM with the name and resume for the person proposed to conduct the training.

The CPM shall provide the project owner with written approval or disapproval of the proposed trainer, the proposed employee training program, the set of reporting procedures, and the work curtailment procedures. If the CPM does not approve of the proposed trainer, the draft employee training program, or the proposed procedures, the project owner, the designated cultural resources specialist, and the CPM shall meet to discuss comments and work out necessary changes.

CUL-5 Prior to the start of construction and throughout the project construction period as needed for all new employees, the project owner shall ensure that the designated cultural resource specialist provides the CPM-approved training to all project managers, construction supervisors, and workers. The project owner shall ensure that the designated specialist provides the workers with the CPM-approved set of procedures for reporting any sensitive resources that may be discovered during project-related ground disturbance.

Verification: The project owner shall provide the CPM with documentation, in the Monthly Compliance Report, that the designated cultural resource specialist has presented the employee training program and has provided the set of procedures to all project managers, construction supervisors, and all workers.

CUL-6 The designated cultural resource specialist or their delegated monitor shall have the authority to halt or redirect construction if potentially significant previously unknown cultural resource sites or materials are encountered during project-related ground disturbance including grading, augering, excavation and/or trenching. The

designated cultural resource specialist shall notify the CPM within 24 hours of the find and work stopage.

The halting or redirection of construction shall remain in effect until: a) the designated cultural resource specialist determines that the materials are not significant; or b) the specialist meets with the CPM, and any necessary data recovery and mitigation have been completed. After construction is halted or redirected, the designated cultural resource specialist shall act in accordance with the following procedures:

The designated cultural resource specialist, representatives of 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 data recovery and mitigation measures, as needed.

All necessary and required data recovery and mitigation shall be completed as expeditiously as possible after discovery of any previously unknown cultural resources, unless additional time is agreed to by all parties.

Verification: At least thirty (30) days prior to the start of construction, the project owner shall provide the CPM with a letter confirming that the designated cultural resource specialist has the authority to halt construction activities in the vicinity of a cultural resource find. The project owner shall also provide the CPM, for review and written approval, a set of work curtailment procedures to be followed if previously unknown cultural resources are discovered during construction.

CUL-7 Throughout the project construction period, the project owner shall provide the designated cultural resource specialist and the CPM with a current schedule of anticipated monthly project activity (presented on a week-by-week basis) and a map indicating the area(s) where construction activities will occur. The designated cultural resource specialist shall consult daily with the project superintendent or construction field manager to confirm the area(s) to be worked on the next day(s).

Verification: The project owner shall provide the designated cultural resource specialist and the CPM with a week-by-week schedule of the

upcoming construction activities, one month in advance, as well as maps showing where the construction activity is scheduled to take place. These advance schedules are to be provided to the CPM with the Monthly Compliance Report.

CUL-8 Throughout the pre-construction reconnaissance surveys and the construction monitoring and mitigation phases of the project, the designated cultural resource specialist shall keep a daily log of any resource finds and the progress or status of the resource monitoring, mitigation, preparation, identification, and analytical work being conducted for the project. The designated specialist shall prepare a weekly summary report on the progress or status of cultural resource-related activities. The weekly summary reports are to be filed with the project owner for inclusion in the Monthly Compliance Report to the CPM. The designated resource specialist may informally discuss the cultural resource monitoring and mitigation activities with Commission technical staff.

Verification: Throughout the project construction period, the project owner shall include in the Monthly Compliance Reports to the CPM copies of the weekly summary reports prepared by the designated cultural resource specialist on the progress or status of cultural resource monitoring and mitigation activities.

CUL-9 The designated cultural resource specialist or their delegated monitor shall be present to monitor construction-related ground disturbance, including grading, excavation, trenching, and/or augering in the vicinity of previously recorded archaeological sites, in areas where significant cultural resources have been identified during project construction, and at any other locations specified in the approved monitoring and mitigation plan.

Protocol: If the designated cultural 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 and the CPM of the changes. The designated cultural resource specialist shall use mile post markers and boundary stakes placed by the project owner to identify areas where monitoring is being reduced or is no longer deemed necessary.

The daily logs prepared by the designated cultural resource specialist shall indicate, by tenths of a post mile, where and when monitoring has taken place and where monitoring has been deemed unnecessary.

Verification: The project owner shall include in the Monthly Compliance Reports to the CPM copies of the weekly summary reports prepared by the designated cultural resource specialist on project-related cultural resource activities.

CUL-10 The project owner shall ensure that the designated cultural resource specialist obtains and maintains a current BLM Archaeological Resource Use Permit to gain access to lands managed by the BLM or other federal agencies, to conduct any surveys, monitoring, data and/or artifact recovery activities on these lands. This use permit is to be obtained from the Caliente Resource Area office of the BLM in Bakersfield, California, no less than ten (10) days prior to the start of cultural resource activities governed by the permit.

Verification: The project owner shall provide the CPM and the designated BLM representative(s) with a copy of the BLM archaeological resource use permit received by the designated cultural resource specialist in the next Monthly Compliance Report following its receipt or renewal.

CUL-11 The project owner shall ensure that the designated cultural resource specialist meets the professional qualifications specified by the BLM; that the Cultural Resources Monitoring and Mitigation Plan prepared per Energy Commission Condition **CUL-3** also reflects BLM requirements for a Archaeological Resource Treatment Plan; and that all surveys, monitoring, and data and/or artifact recovery activities implemented during the construction and operation of the La Paloma project meet the requirements of the BLM and the Energy Commission.

Verification: The project owner shall concurrently provide the designated BLM representative(s) with copies of all information submitted to the CPM in response to Energy Commission Conditions of Certification. The project owner shall provide the CPM with current copies of BLM permit conditions and requirements; the criteria and requirements for the designation of a cultural resource specialist; the contents of its Archaeological Resource Treatment Plan; and any other requirements pertinent to the protection of cultural resources potentially affected by the La Paloma project. In each Monthly Compliance Report, the project owner shall provide the CPM with a summary outlining the measures it has taken to ensure that it has met both BLM and Energy Commission requirements.

CUL-12 The project owner shall ensure the recovery, preparation for analysis, and preparation for curation of all cultural resource materials encountered and collected during pre-construction

surveys and 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 museum(s), university(ies), or other appropriate research specialists which will ensure the necessary recovery, preparation for analysis, and analysis of cultural resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of at least five (5) years after completion of the Final Cultural Resources Report and the files shall be kept available for periodic audit by the CPM.

CUL-13 The project owner shall ensure preparation of a Preliminary Cultural Resource Report following completion of data recovery and site mitigation work. The preliminary report is to be prepared by the designated cultural resource specialist and the project owner shall submit the preliminary report to the CPM for review, comment, and written approval.

Protocol: The preliminary report shall include (but not be limited to): preliminary information on the survey report(s), methodology, and recommendations; site records and maps; determinations of sensitivity and significance; data recovery and other mitigation activities; discussion of possible results and findings of any analysis to be conducted on recovered cultural resource materials and data; proposed research questions which may be answered or raised by the data recovered from the project; and an estimate of the time needed to complete the analysis of recovered cultural resource materials and prepare a final report.

If no cultural resource materials are recovered during project construction, the CPM-approved Preliminary Cultural Resource Report shall also serve as the final report and shall be filed with appropriate entities, as described in Condition **CUL-16** below.

Verification: The designated cultural resource specialist shall prepare a preliminary report on the cultural resources monitoring and mitigation activities conducted for the project. The report shall be prepared within ninety (90) days following completion of the data recovery and site mitigation work. Within seven (7) days after completion of the report, the project owner shall submit a copy of the Preliminary Cultural Resources Report to the CPM for review, comment, and written approval.

CUL-14 The project owner shall ensure the preparation of a Final Cultural Resources Report by the designated cultural resource specialist, if significant or diagnostic cultural resources are found. The Final

Cultural Resources Report shall be completed following completion of the analysis of the recovered cultural materials and related information.

Protocol: The Final Cultural Resources Report, shall include (but not be limited to): the survey report(s), methodology, and recommendations; site records and maps; description and inventory list of recovered cultural materials; determinations of significance and potential eligibility; data recovery and other mitigation activities; results and findings of any special analyses conducted on recovered cultural resource materials; research questions answered or raised by the data from the project; and the name and location of the public institution receiving the recovered cultural resources for curation.

Verification: The Final Cultural Resources Report shall be prepared by the designated cultural resource specialist for the project within ninety (90) days following completion of the analysis of the recovered cultural materials and preparation of related text, maps, tables, charts, photos, etc.. Within seven (7) days after completion of the report, the project owner shall submit a copy of the Final Cultural Resources Report to the CPM for review and approval.

CUL-15 The project owner shall submit an original, an original-quality copy, or a computer disc copy of the CPM-approved Final Cultural Resources Report to the public institution receiving the recovered data and materials for curation, to the SHPO, and to the appropriate regional archaeological information center(s). If the final report is submitted to these entities on a computer disc, the disc files must meet SHPO requirements for format and content. A legible copy of the approved final report shall be filed with the Commission CPM, with a request for confidentiality if needed to protect any sensitive resources or sites.

Protocol: The copies of the Final Cultural Resources Report to be sent to the curating institution, the SHPO, and the regional information center(s) shall include the following (as applicable to the project findings set forth in the final report): clean and reproducible original copies of all text; originals of any topographic maps showing site and resource locations; original or clear copies of drawings of significant or diagnostic cultural resource materials found during pre-construction surveys, during project-related monitoring, data recovery, and mitigation; and photographs of the site(s) and the various cultural resources materials recovered during project monitoring and mitigation and subjected to post-recovery analysis and evaluation. The project owner shall provide the curating institution with a set of negatives for all of these photographs.

Verification: The project owner shall maintain, in its compliance files, copies of all documentation related to the filing of the original materials and the Commission-approved Final Cultural Resources Report with the public institution receiving the recovered data and materials for curation, the SHPO, and the appropriate archaeological information center(s). If no significant cultural resources were recovered, then the preliminary report shall serve as the final report and copies of the preliminary report shall be filed with these same agencies.

CUL-16 Following the filing of the CPM-approved Final Cultural Resources Report with the appropriate entities, the project owner shall deliver for curation all cultural resources materials, maps and data collected during data recovery and mitigation for the project. The materials shall be delivered for curation into a public repository that meets the US Secretary of Interior requirements for the curation of cultural resources.

Verification: All recovered cultural resources materials shall be delivered for curation within thirty (30) days following the filing of the CPM-approved Final Cultural Resources Report. The project owner shall maintain, in its project history or compliance files, copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate public repository(ies) to which the project owner has delivered for curation all cultural resources materials collected during data recovery and mitigation for the project.

C. PALEONTOLOGICAL RESOURCES

Paleontological resources include the fossilized remains or trace evidence of prehistoric plants or animals which are preserved in soil or rock. These fossils are scientifically important because they help document the evolution of particular groups of organisms and the environment in which they lived. Fossils can also be used to date the rocks in which they are found as well as the formative geologic events.

Summary and Discussion of the Evidence

There are three geologic units in the vicinity of the La Paloma Generating Project that are of paleontological interest. These units are alluvium (sands, silts, and gravel), tar seeps in alluvium, and the Tulare Formation. The power plant and most of the associated facilities are located on alluvium. While alluvium has produced some significant fossils in the Bakersfield area, no fossil locations are known to exist at the power plant site. Tar seeps are present mainly near the route of the natural gas supply pipeline; numerous vertebrate and invertebrate fossils have been found at similar seeps in the area. The Tulare Formation has also produced vertebrate fossils at several locations in Kern County. (Ex. 35, p. 348).

In assessing the potential for paleontological resources, Applicant conducted investigative literature and computer database searches. In addition, Applicant conducted four separate field surveys during April, August, and November 1998 and March 1999. (4/22/99 RT 9-10). These studies included the alternate (1B) transmission line route and the other linear facilities related to the project. (4/22/99 RT 11; Ex. 35, p. 349; see also Exs. 3,31).

The evidence of record indicates that there is a high probability that vertebrate fossils may be encountered during construction of the project, especially along the routes of the linear facilities. These paleontological resources may be impacted by clearing and grubbing, grading, or excavating native soil or rock during construction activities. (Ex. 35, p. 349). The evidence of record also indicates, however, that the mitigation

measures proposed by Applicant (Ex. 1,section 5.8) and the measures included in the Conditions of Certification ensure that the project will not cause any direct, indirect, or cumulative adverse impacts to paleontological resources.[36] (Ex. 35, pp. 349-350). Similarly, impacts to the resources from any closure activities will be quickly mitigated by following the provisions of the Compliance Plan and the requirements of a specific Condition (PAL-8) pertinent to this topic area. (4/22/99 RT 16-17).

FINDINGS and CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Paleontological resources exist in the project area.

2. Construction and ground disturbance activities associated with the La Paloma Generating Project can potentially adversely impact paleontological resources.

3. Mitigation measures required by the Conditions of Certification will assure that activities associated with the La Paloma Generating Project will cause no direct, indirect, or cumulative adverse impacts to paleontological resources.

4. Implementation of the Conditions of Certification will ensure that the project is constructed and operated in compliance with the applicable laws, ordinances, regulations, and standards identified in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the project will not cause any significant adverse direct, indirect, or cumulative impacts to paleontological resources.

CONDITIONS of CERTIFICATION

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 resources specialist approved by the Energy Commission Compliance Project Manager (CPM) is available for field activities and prepared to implement the Conditions of Certification.

[36] The conclusion derived from this evidence also applies to the alternative transmission line route (1B), and the water storage reservoir. (4/22/99 RT 11, 14-15; Ex. 37).

The designated paleontological resources specialist shall be responsible for implementing all the 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 resources specialist.

1) The statement of qualifications for the designated paleontological resource specialist shall demonstrate that the specialist meets the following minimum qualifications: a degree in paleontology, geology, or paleontological resource management; 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.

2) 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.

3) If the CPM determines that the qualifications of the proposed paleontological resources specialist are not in concert with the above requirements, the project owner shall submit another individual's name and qualifications for consideration.

4) If the approved, designated paleontological resources specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontological resources 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 resources 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 ninety (90) days prior to the start of construction on the project, the project owner shall submit the name and resume and the availability for its designated paleontological resources specialist to the CPM for review and approval. The CPM shall provide written approval or disapproval of the proposed paleontological resources specialist.

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: In addition to the project owner's adoption of the guidelines of the Society of Vertebrate Paleontologists, as modified in the Application for Certification for the La Paloma Generating Project, dated July 1998 (Ex. 1; revised November 1998), the project owner shall adopt and implement the BLM's *General Procedural Guidance Manual for Paleontological Resource Management* for those sections of the project determined by the BLM to be under its jurisdiction. When the guidelines overlap, the project owner shall follow the more stringent guideline. The Paleontological Resources Monitoring and Mitigation Plan shall include, but not be limited to, the following elements and measures:

1) 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.

2) Identification of the person(s) expected to assist with each of the tasks identified in (a), above, and a discussion of the mitigation team leadership and organizational structure, and the inter-relationship of tasks and responsibilities.

3) 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.

4) An explanation that the designated paleontological resources 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.

5) 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.

6) 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.

7) 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 sixty (60) days prior to the start of construction on the project, the project owner shall provide the CPM with a copy of the 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 resources specialist, and the CPM shall meet to discuss comments and negotiate necessary changes.

PAL-3 Prior to the start of project construction, the designated paleontological resources specialist shall prepare and conduct an employee training program for all site workers The project owner shall submit the paleontological resources training program to the CPM for review and approval.

Protocol: The paleontological training program shall discuss the potential to encounter fossil 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 days (30) prior to the start of project construction, the project owner shall submit to the CPM (or designee) for review, comment, and written 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 resources specialist, and the CPM shall meet to discuss comments and negotiate necessary changes before the beginning of construction.

PAL-4 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 provide the 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.

Verification: 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 resources specialist shall present the CPM-approved paleontological resources training program. The project owner shall provide documentation to the CPM in the Monthly Compliance Report that the employee training and the set of procedures have been provided to all project managers, construction supervisors, and all workers. Documentation for training of additional new employees shall be provided in subsequent Monthly Compliance Reports, as appropriate.

PAL-5 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 resources 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-6 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 (3) years after completion and approval of the CPM-approved Final Paleontological Resources Report and shall keep these files available for periodic audit by the CPM.

PAL-7 The project owner shall ensure preparation of a Paleontological Resources Report by the designated paleontological resources specialist. The Paleontological Resource 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 resources specialist that project impacts to paleontological resources have been mitigated.

Verification: The Paleontological Resources Report shall be submitted under a cover letter stating that it is a confidential document. The report is to be prepared by the designated paleontological resources specialist within ninety (90) days following completion of the analysis of the recovered fossil materials. The project owner shall submit a copy of the Paleontological Resources Report to the CPM for review and approval.

PAL-8 The project owner shall include, in the facility closure plan, a description regarding the potential of the closure activities to impact paleontological resources. If no activities are proposed that would potentially impact paleontological resources, then no mitigation measures for paleontological resource management are required. 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.

Protocol: The closure requirements for paleontological resources are to be based upon the Paleontological Resources Report and the proposed grading activities for closure.

Verification: The project owner shall include a description of closure activities described above in the facility closure plan.

D. SOIL AND WATER RESOURCES

This portion of the Decision concentrates on the project's potential to induce erosion and sedimentation, adversely affect surface and groundwater supplies, degrade surface and groundwater quality, and increase the potential for flooding.[37]

Summary and Discussion of the Evidence

1. Soils.

Accelerated wind and water induced erosion may result from earth moving activities associated with construction of the La Paloma Generating Project. Removal of the vegetative cover and alteration of the soil structure leaves soil particles vulnerable to detachment and erosion. In an arid environment such as the western San Joaquin Valley, intense rainfall can greatly enhance the potential for erosion. Grading activities may redirect runoff into vulnerable areas, and construction of linear facilities across drainages can also elevate erosion potential. (Exs. 1, section 5.4; 12, section 3.2; 35, p. 298).

Soils present at the power plant and laydown areas are classified as Kimberlina Sandy Loam. No perennial water bodies are found within the vicinity of the site, but several small, ephemeral drainages cross the construction laydown sites. The watersheds of these drainages are in the Temblor Range foothills. One drainage crosses the power plant site while another dissipates within the site boundary. A third crosses the construction laydown area. The latter two carry occasional storm flows into a wash that drains McKittrick Valley before flowing on through the Elk Hills. (6/29/99 RT 155-156; Ex. 35, p. 295).

[37] Staff's analysis of this topic area appears in Exhibits 35, 45, and 54.

The routes for the associated linear facilities cross dissected uplands consisting of foothills, alluvial fans, and valley fill. Soils in these areas typically have a sandy loam surface texture and moderate to high water erosion hazard ratings. The last four miles of the transmission line crosses basin deposits characteristic of the San Joaquin lowlands. Soils on gentler slopes range in surface texture from sandy loams to clay loams and have a moderate water erosion hazard rating. (Ex. 35, p. 296). The project's two proposed water pipelines (for raw and potable water) cross approximately 15 ephemeral streams which are considered waters of the United States; construction of these pipelines will occur pursuant to the federal "Nationwide Permit No. 12" which has already been issued. (6/29/99 RT 184; Ex. 35, p. 299). Overall, the evidence of record indicates that the sensitivity to water erosion hazard for all soils affected by the project is medium to high, while the wind erosion hazard for all affected soils is low. (6/29/99 RT 156; Ex. 35, p. 298).

Currently, the site elevation ranges from 956 feet to 997 feet. The existing topography will be cut and filled to an elevation of about 982 feet above sea level (ASL). This will require moving approximately 55,000 cubic yards of cut and 60,000 cubic yards of fill to achieve the finished grade. An estimated 7000 cubic yards of borrowed fill material will also be needed to achieve the desired site elevation. (Exs. 1,section 5.4; 35, pp. 295,298). Additional ground disturbance will also be associated with construction of the project's linear facilities and water storage tank. (*Id.*). The evidence of record establishes that potential adverse impacts to the area's soils from wind and water erosion will be adequately mitigated through implementation of the required "Erosion Control and Storm Water Management Plan", specifying appropriate contamination and spill prevention measures, and suitable site grading to provide proper drainage. (6/29/99 RT 183; Ex. 35, pp. 299, 307-309).

2. Water Supply.

Applicant proposes to use State Water Project (SWP) water from a new turnout on the California Aqueduct. It has discussed construction of the turnout with the Department of Water Resources; the testimony establishes that Applicant's proposal is acceptable. (6/29/99 RT 160-161, 199). Applicant anticipates obtaining both raw and potable water from the West Kern Water District (WKWD). (Exs. 35, p. 300; 45, p. 1). The testimony establishes that Applicant has finalized its raw water supply arrangements with the WKWD, and is negotiating for the potable water supply. (6/29/99 RT 159-160).

Process water use at The La Paloma Generating Project will range from 5,530 acre-feet to about 6000 acre-feet a year, based on usage of approximately 5,308 gallons per minute (gpm) for average operating conditions and 7,360 gpm at maximum operating conditions. This water will be used for cooling tower makeup, service water, and in the cycle makeup treatment system. Project demand for potable water is approximately 3 gpm or 3.4 acre-feet per year. (*Id*.).

Providing water service to the La Paloma Generating Project does not represent a new water right or a new diversion of SWP water by the WKWD. The WKWD historically has diverted as much SWP water as it could, much of which has been banked through an exchange program with the Buena Vista Water Storage District (BVWSD). (Ex. 35, p. 296). As a result, use of this water by the LPGP is not a new diversion, but rather a change in the use of an existing diversion. (6/29/99 RT 186; *Id*.).

The WKWD currently has an entitlement to 25,000 acre-feet of SWP water. While the LPGP water supply will represent a 45 percent increase in the district's demand, the evidence indicates that average demands for WKWD water have been approximately only 13,200 acre-feet per year since 1990, that the demand

has generally declined over the last 25 years, that water district projections indicate there will be minimal additional future demands from the oil producers within the district's boundary, and that population growth will continue to be low. (Ex. 35, pp. 300- 301; 45, p. 1). Although during drought periods insufficient SWP water could be available to the WKWD to meet project demands, the water district would then draw upon its current banked groundwater entitlement of 216,000 acre-feet. (*Id.*). During wet years, the WKWD has an additional entitlement to SWP water of 10,000 acre feet per year. (6/29/99 RT 185; Ex. 35, p. 296).

The availability of SWP water to the WKWD is depicted below.

SOIL & WATER RESOURCES Table 1
West Kern Water District Water Supply

Water Year	SWP Entitlement	SWP Interruptible	Tehachapi-Cummings	Water Purchased	Water Sold	Water Banked
1990-1991	24,348	0	5,477	29,825	10,948	155,488
1991-1992	10,464	32	1,792	12,289	14,755	155,408
1992-1993	9,496	0	5,310	14,806	12,335	160,137
1993-1994	19,523	5,387	2,325	27,235	12,317	174,484
1994-1995	19,838	5,465	5,050	30,353	11,334	194,956
1995-1996	25,000	0	0	25,000	13,239	216,503
Total	108,705	10,884	19,945	139,508	74,928	-
Average	18,118	1,814	3,326	23,251	12,488	13,165

Source: WKWD 1997

The evidence of record thus establishes that considering the WKWD's entitlement to SWP water, banked groundwater, and its ability to buy interruptible water and water from other sources, supplying the La Paloma Generating Project will not adversely affect its ability to supply existing customers, or to curtail its ability to meet future demand. (Ex. 35, p. 301).

In order to assess conformity of the project's usage with policies adopted by the State Water Resources Control Board (SWRCB), the evidence also explored the availability of alternate sources for project water supplies, including a quantity

from Chevron. Analysis determined, however, that these alternative supplies would require the construction of additional pipelines and provide water which was both insufficient to meet project needs and of a much lower quality. The evidence shows that using these alternative sources would impose an economic penalty on the project without creating a commensurate economic or environmental benefit. (6/29/99 RT 164-165, 186; Exs. 42; 45, p. 2).

3. Dry Cooling.

The La Paloma Generating Project will use wet cooling towers to condense the steam exiting the steam turbines in order to maintain the lowest possible condenser vacuum and achieve maximum operational efficiency. Dry cooling towers, as well as wet/dry hybrid cooling towers, can also be used to transfer heat to the atmosphere. The fundamental differences among wet, wet/dry hybrid, and dry cooling towers are the initial capital costs and heat rejection effectiveness. (Ex. 35, pp. 305-306).

Dry and wet/dry cooling technologies can represent a reduction in project water demand of up to 95 percent. The evidence of record indicates that the use of dry or wet/dry cooling in the present case would not only reduce the project's water needs, but also would remove the need for constructing and operating the Aqueduct turnout, the storage tank, associated pipelines, and possibly any required injection wells.

On the other hand, however, the reduction in water demand and the lessening of any potential impacts is accompanied by significantly higher operating costs and decreased thermal efficiency and power output. (6/29/99 RT 187-188; Exs. 35, p. 306; 45, pp. 2-3). Dry cooling towers are two to three times more expensive than a wet system; hybrid systems fall in the range between the two, depending on the ratio of "wet to dry" cooling in the hybrid design. Applicant’s witness testified that use of these alternative technologies would result in an additional

capital cost of $7-8 million, and a significantly decreased operational efficiency . (6/29/99 RT 169-170).

The evidence further intimates that the dry or wet/dry cooling options are most appropriate in those instances where their utilization would avoid or lessen a substantial environmental impact or create an environmental benefit. In the present instance, however, all impacts associated with the La Paloma project are already mitigated below a level of significance by the measures contained in this Decision. Moreover, use by the project does not represent a new diversion of SWP water nor will it adversely impact the WKWD. Given these factors, the fact that alternative sources of water are not available, and considering the substantial additional costs involved, the evidence establishes that the use of dry or wet/dry cooling is not appropriate in this case, and that the use of wet cooling complies with the policies of the SWRCB. (6/29/99 RT 188, 191-193).

4. Water Quality and Wastewater Disposal.

Wastewater from the La Paloma Generating Project will consist mainly of cooling tower blowdown and water from the oil-water separator; it is nonhazardous. (Ex. 54, p.1). Incorrect disposal of wastewater or inadvertent chemical spills can degrade soil, surface water, and groundwater. Concerns about injection well disposal mainly focus on the potential for degrading groundwater, especially potential sources of drinking water. (Ex. 35, p. 302).

The estimated volumes of wastewater are shown on Table 2, below.

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SOIL AND WATER RESOURCES Table 2

Estimated Wastewater Volumes

Waste Stream	Daily Average	Daily Maximum
Cooling Tower Blowdown	501,000 gpd	698,000 gpd
Oil-Water Separator	43,000 gpd	43,000 gpd
Total to Injection Well	544,000 gpd	732,000 gpd

Source: Exhibit 1.

To properly handle the wastewater, Applicant proposes to use either injection wells or a zero discharge system.

a. Injection Wells. Using two wells (one as a backup), Applicant would inject wastewater into the underlying Tulare formation at a depth between 385 and 1,000 feet. The injected water is expected to increase the groundwater levels underlying the project. Because the regional groundwater flow is minimal, the injected fluid would likely move away from the well bore . (Ex. 35, pp. 302-303).

Applicant has submitted a Class 1 "Injection Well Permit Application " to the United States Environmental Protection Agency (EPA) and, on June 7, 1999, EPA issued a draft Underground Injection Control Class I Permit preliminarily approving Applicant's plans. (6/29/99 RT 178-179; Exs. 24, 41, 54, 56). The evidence indicates that EPA will likely issue final approval for the proposed injection wells. The federal permit will contain general conditions regarding construction and operation of the injection wells as well as specific conditions including a prohibition against the disposal of hazardous wastes in these wells. (Ex. 54, pp. 1-2). The testimony of record indicates that conditions imposed by EPA are not expected to conflict with the Conditions of Certification contained in this Decision. (6/29/99 RT 180, 193).

b. Zero Discharge. This disposal technology refers to wastewater disposal options that do not result in the release of wastewater to land, to surface, or to groundwater. Zero discharge may involve the use of evaporation ponds or the use of filtration, vapor compression, and crystallization or a similar process to assist in water evaporation. This disposal method can involve recycling process water and consequently reduce project water demands by as much as 10 percent. (6/29/99 RT 165; Exs. 45, p. 4; 54, pp. 2-3).

The evidence establishes that either discharge system is an acceptable wastewater disposal method, and that Applicant will choose which to employ at the final project design stage. (6/29/99 RT168; Ex. 54, p. 3).

5. Cumulative impacts.

The Sunrise Cogeneration and the Elk Hills power projects have also proposed using WKWD water. The former project would use about 64.5 acre-feet of district water per year, with its additional water demands being met by the use of water produced from the oilfield. The latter project would use approximately 3,000 acre-feet annually of groundwater from the district. These uses, in conjunction with that of the La Paloma Generating Project, would represent a significant increase in water demand. The evidence establishes, however, that the WKWD has sufficient supplies to meet these demands. (Ex. 35, p. 303). Finally, any closure activities will be suitably governed by the provisions of the Compliance Plan, as well as by requirements of the California Division of Oil and Gas and the USEPA permit concerning the abandonment of injection wells. (Ex. 35, p. 304).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Soils in the project area are susceptible to wind and water erosion.

2. The Conditions of Certification below will ensure that soil and water erosion do not create significant adverse environmental impacts.

3. The La Paloma Generating Project will use State Water Project water supplied by the West Kern Water District.

4. The project's use of the State Water Project water will not be a new use, but rather the diversion of an existing use.

5. The West Kern Water District has sufficient water to meet project needs.

6. The La Paloma Generating Project will use wet cooling technology.

7. The use of wet cooling will not cause, or contribute to, any significant adverse environmental impact.

8. Wet cooling will result in more water usage than would dry, or wet/dry, cooling.

9. The use of dry, or wet/dry, cooling, would increase project costs and decrease project efficiency.

10. The use of dry, or wet/dry, cooling would not substantially eliminate or reduce any environmental impact caused by the project.

11. The use of dry, or wet/dry, cooling technologies is feasible, but their use is not warranted in the present instance.

12. The La Paloma Generating Project will use either direct injection or zero discharge to dispose of its wastewater stream.

13. Neither disposal method referred to above will result in significant adverse environmental impacts.

14. The Conditions of Certification below will ensure that the La Paloma Generating Project will comply with the applicable laws, ordinances, regulations, and standards identified in the appropriate portion of Appendix A of this Decision.

We therefore conclude that construction and operation of the La Paloma Generating Project will create no significant direct, indirect, or cumulative adverse impacts to soil or water resources.

CONDITIONS OF CERTIFICATION

SOIL&WATER-1: Prior to beginning any clearing, grading, or excavation activities associated with project construction, the project owner will develop and implement a Storm Water Pollution Prevention Plan (SWPPP).

Verification: Two (2) weeks prior to the start of construction, the project owner will submit to the Energy Commission CPM a copy of the Storm Water Pollution Prevention Plan (SWPPP).

SOIL&WATER-2: Prior to the initiation of any earth moving activities, the project owner shall submit an erosion control and revegetation plan for CPM approval. The final plan shall contain all the elements of the draft plan with changes made to address the final design of the project.

Verification: The final erosion control and revegetation plan shall be submitted to the Energy Commission CPM for approval at least thirty (30) days prior to the initiation of any earth moving activities.

SOIL&WATER-3: Prior to the start of commercial operation, the project owner must submit a notice of intent to the State Water Resources Control Board to indicate that the project will operate under provisions of the General Industrial Activity Storm Water Permit. As required by the general permit, the project owner will develop and implement a Storm Water Pollution Prevention Plan (SWPPP).

Verification: Two (2) 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), and a copy of the Water Quality Control Board authorization to operate under the General Permit.

SOIL&WATER-4: Prior to completion of rough grading, the project owner shall notify the Energy Commission Compliance Project

Manager (CPM) which of the wastewater disposal methodologies, either injection wells or a zero liquid wastewater discharge system, will be used by the facility. If injection wells are the selected wastewater disposal option, the project owner shall provide a copy of the approved final Underground Injection Control Permit from the EPA for the proposed injection wells to Staff and notify the Energy Commission CPM of any changes to the permit. If the zero liquid wastewater discharge system is the selected methodology, the project owner shall submit to the CPM a description and schematic of the system. Within sixty (60) days (or within a timeframe approved by the CPM) of beginning operation of the project, the project owner shall submit to the CPM the results of Waste Extraction Test of the residual cake solid waste from the zero discharge system.

Verification: Within sixty (60) days of certification, the project owner shall submit in writing a description of the selected wastewater disposal methodology to the Energy Commission CPM. If injection wells are selected, this notification shall include a copy of the approved final Underground Injection Control Permit from the EPA. The project owner shall notify the Energy Commission CPM in witting of any proposed changes to this permit, either initiated by the project owner or by the EPA. The project owner shall provide a status report on injection well construction and operation to the Energy Commission CPM in the annual compliance report. If a zero liquid discharge system is the selected disposal methodology, then within sixty (60) days of beginning operation of the project, or within a timeframe approved by the CPM, the project owner shall submit to the CPM the results of the Waste Extraction Test of the residual cake solid waste from the zero liquid wastewater system. A status report on construction and operation of the system, including the volume of residual cake solids generated and the landfills used for disposal, shall also be included in the annual compliance report submitted to the CPM.

E. WASTE MANAGEMENT [38]

The La Paloma Generating Project will create various hazardous and nonhazardous waste products during its construction and operation. This portion of the Decision assesses whether this will result in any potential environmental impact, and examines whether :

- wastes generated during construction and operation will be managed in an environmentally safe manner;

- disposal of wastes will result in significant adverse impacts to existing waste disposal facilities; and

- waste management practices will comply with all applicable laws, ordinances, regulations, and standards. (See 4/21/99 RT 123; Ex. 35, p. 103).

Summary and Discussion of the Evidence

Constructing the proposed project will generate various hazardous and nonhazardous wastes. Table 1, following, illustrates the waste streams, classification, amounts, and waste management methods associated with project construction. (Exs. 1, section 5.14; 35, p. 105).

Operational waste streams and methods for managing them are shown on Table 2, following.

[38] At The April 21, 1999 evidentiary hearing, Applicant tendered testimony relating to this general area, specifically to the proposed Class I/UIC injection wells. The parties agreed, however, that this particular subject was more appropriately addressed under the technical topic of "Soil and Water Resources." (4/21/99 RT 114-116, 119-122; see also Exs. 14, 24, 39, 41 and 35, p. 103). The discussion pertinent to the injection wells therefore appears in the "Soil and Water Resources" portion of this Decision, *ante*.

WASTE MANAGEMENT Table 1
Summary of Construction Waste Streams and Management Methods

Waste Stream	Classification	Amount	Off-site Treatment
Scrap wood, steel, glass, plastic, paper, calcium silicate insulation, mineral wool insulation	Non-hazardous	40 yd^3/ wk	Landfill
Empty Hazardous material containers	Hazardous	1 yd^3/wk	Hazardous waste disposal facility
Solvents, construction equipment lube oils, paint, adhesives	Hazardous	55 gals./mo.	Hazardous waste disposal facility or recycle
Used and waste lube oil during CT and ST lube oil flushes	Hazardous	55 gals./flush each period, (approx. 3 weeks)	Hazardous waste disposal facility
Oily rags, oil absorbent from CT and ST lube oil flushes	Hazardous	55 gals./flush each period, (approx. 3 weeks)	Hazardous waste disposal facility
Oil rags, oil absorbent generated during normal construction activities excluding lube oil flushes	Hazardous	55 gals./mo.	Hazardous waste disposal facility
Spent batteries, lead acid	Hazardous	2 batteries/ yr.	Recycle
Spent batteries; alkaline type, sizes AAA,AA, C and D	Hazardous	60 batteries/mo.	Hazardous waste disposal facility
HRSG and Preboiler Piping cleaning waste, chelant type solution	Hazardous	200,000 gals./ cleaning	Hazardous waste disposal facility or recycle
Waste oil from oil/ waster separator	Hazardous	20 gallons/ mo.	Hazardous waste disposal facility
Sanitary Waste-Portable chemical Toilets and Construction Office Holding Tanks	Sanitary	400 gals./ day	Ship to sanitary water treatment plant
Storm water from construction area	Non-hazardous	334,000 gals. for a once-in-a-2-year, 24 hour storm event	Discharge to the storm water detention basin

Source: Exhibit 35, p. 106.

WASTE MANAGEMENT Table 2
Summary of Operating Waste Streams and Management Methods

Waste Stream	Classification	Amount	Off-Site Treatment
Used hydraulic fluid, oils, grease, oily filters	Hazardous	<5 gals./day	Hazardous waste disposal facility/treatment
Spent batteries	Hazardous	2 batteries/yr.	Recycle
Spent SCR catalyst (heavy metals)	Hazardous	56 m^3/yr,	Recycle
SCONOx catalyst wash (potassium carbonate solution)	Non-hazardous	6,000 gals./wash	Waste disposal facility after neutralization or Recycle
Pretreatment system filter cake solids	Non-hazardous	6.7 tons/day	Waste disposal facility
Activated carbon and sand, filter media	Non-hazardous	10 ft^3/ year	Waste disposal facility
Cooling tower basin sludge	Hazardous	2 tons/yr.	Hazardous waste disposal facility
Waste oil from oil/water separator	Hazardous	100 gals./yr.	Hazardous waste disposal facility
Oily rags, oil absorbent	Hazardous	55 galls./mo.	Hazardous waste disposal facility
CTG used air filters	Non-hazardous	2,100 filters	Recycle
CTG wash water	Non-hazardous	2,000 gallons/year	Waste disposal facility
HRSG periodic operational chemical cleaning	Hazardous	50,000 gallons/HRSG cleaning	Hazardous waste disposal facility
Sanitary wastewater	Non-hazardous	3,000 gals./day	Septic tank and leach field

Source: Exhibit 35, p. 108.

The evidence indicates that wastes generated by the project's construction and operation will be recycled to the extent practical. When impractical, solid project wastes will be disposed at landfills. Hazardous wastes must be disposed in Class I landfills; Class III landfills suffice for nonhazardous waste disposal. Each of the three major Class I landfills in California has enough capacity to accommodate the hazardous waste generated by the LPGP.[39] The evidence further indicates that the proposed waste management practices are acceptable and that, even without recycling, the La Paloma Generating Project facility would not create a sufficient amount of construction or operation wastes, either hazardous or nonhazardous, to significantly impact the capacity of any of the Class I or Class III landfills in California. (4/21/99 RT 124-125; Ex. 35, pp. 107-109).

The evidence also includes an examination of the waste management impacts of the La Paloma Generating Project in conjunction with four other power plant projects which may be constructed in the same general area,[40] and establishes that the cumulative impacts upon the identified landfills from these projects would be insignificant. (4/21/99 RT 126). Finally, the Conditions of Certification include a specific provision (WASTE -4) addressing the possibility of an unexpected facility closure. (Ex. 46; see also 4/21/99 RT 127).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Construction and operation of the La Paloma Generating Project will create hazardous and nonhazardous wastes.

[39] The major Class I landfills are the Kettleman Hills facility in Kings County, the Lokern facility in Buttonwillow, and a facility in Westmoreland in Imperial County. The expected remaining useful lives of these facilities are 48, 30, and 50 years respectively. (Ex. 35, p. 107).

[40] These are the Sunrise, Elk Hills, Pastoria, and Midway-Sunset projects. The Commission is currently reviewing only the first two.

2. Waste products will be recycled to the extent practical. Where this is impractical, hazardous wastes will be disposed in a Class I disposal facility, and non-hazardous wastes will be disposed in a Class III facility.

3. The La Paloma Generating Project, either alone or in combination with the four other potential power plant projects in the same general area, will not create quantities of hazardous or nonhazardous construction or operational wastes sufficient to create a significant adverse impact upon available Class I or Class III landfills.

4. The waste management practices identified in the Conditions of Certification ensure that project wastes will not create a significant adverse environmental impact.

5. The Conditions of Certification below ensure that the project will comply with the laws, ordinances, regulations, and standards identified in the pertinent portion of Appendix A of this Decision.

We therefore conclude that hazardous and nonhazardous construction and operation wastes associated with this project will create no significant adverse direct, indirect, or cumulative environmental impacts.

CONDITIONS OF CERTIFICATION

WASTE-1 Prior to the start of construction, the project owner shall prepare and submit to the Compliance Project Manager (CPM) a finalized Waste Management Plan for all wastes generated during construction and operation of the project. The plan shall contain at least the following:

- A description of all waste streams, including their origin, estimates of amounts, frequency of generation, and hazardous or non-hazardous classification and reasons therefor.

- Methods of managing each waste, including treatment methods and treatment contractors, methods of testing wastes to assure correct classification, modes of transportation, disposal requirements and sites, and recycling and waste minimization plans.

Verification: At least ninety (90) days prior to start of rough grading, the project owner shall submit a Waste Management Plan to the CPM for review and approval. Within 15 days of receipt of the plan, the CPM shall indicate approval/disapproval, changes, or additional information needed. In the Annual Compliance Report, the project owner shall summarize planned versus actual waste management activities.

NOTE: At the project owner's discretion, management plans for construction and operation wastes may be prepared separately. If so, the operational waste plan shall be submitted at least sixty (60) days prior to the start of operation.

WASTE-2 The project owner shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control. The project owner shall also obtain a hazardous waste generator permit from the Kern County Environmental Health Department, which is a Certified Unified Program Agency (CUPA).

Verification: At least thirty (30) days prior to start of rough grading, the project owner shall submit to the CPM copies of the hazardous waste generator identification number and of the Kern County Environmental Health Department hazardous waste generator permit.

WASTE-3 The project owner shall notify the CPM of any waste management-related enforcement action that has either been taken or is known to be pending against it or against any waste hauler or treatment, storage, or disposal facility with which it contracts.

Verification: The project owner shall notify the CPM in writing within ten (10) working days of becoming aware of any such enforcement action.

WASTE-4: Prior to the commencement of commercial operation, the project owner shall submit to the CPM for review and approval a waste management plan for unexpected closure of the facility. The plan may be incorporated into the On-Site Contingency Plan(s).

Protocol: The waste management plan shall describe how all hazardous waste and non-hazardous waste will be removed from the site in accordance with all applicable LORS in the event of an unexpected permanent closure of the facility.

The waste management plan shall also describe how the hazardous waste (if allowed to remain on site longer than 90 days) will be secured and maintained safely for the period of closure, in the event of an unexpected temporary closure of the facility.

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 to the CPM a revised plan.

Verification: At least sixty (60) days prior to the commencement of commercial operation, the project owner shall submit the waste management plan for unexpected closure 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, the project owner shall submit to the CPM a revised plan within thirty (30) days of receiving that notification.

WASTE-5: No hazardous waste will be stored on site longer than ninety (90) days unless dictated by laws, ordinances, regulations, or standards (LORS).

Verification: The project owner shall indicate in the Annual Compliance Report which hazardous wastes are stored on the site longer than ninety (90) days, and which LORS pertain.

VIII. LOCAL IMPACT ASSESSMENT

All aspects of a power plant project affect, in differing degrees, the community in which it is located. The effect of the various elements of a project upon the local area varies from case to case depending upon the nature and the extent of the community and of the associated impacts. In the present instance, we believe the technical elements discussed in this portion of our Decision are those constituting the most likely areas of potential local concern.

A. LAND USE

The discussion of the land use impacts for the La Paloma Generating Project focuses on two main issues: the conformity of the project with local land use plans, ordinances, and policies; and the potential of the proposed project to have direct, indirect, and cumulative conflicts with existing and planned uses. In general, a power plant project can be incompatible with existing or planned land uses when it creates unmitigated noise, dust, public health hazards or nuisances, traffic, or visual impacts, or when it significantly restricts existing or future uses.

Summary and Discussion of the Evidence

The La Paloma Generating Project is located within the administrative boundaries of the Asphalto oilfield. The project site is located within a declining oil production area, and the only development near the site (except for the town of McKittrick) is associated with oil production. There are no parks, recreational, educational, or religious facilities, nor are there agricultural areas, health-care facilities, commercial uses, or proposed residential developments on the project site or within a one-mile radius of the site. (Ex. 35, p. 123). The existing land uses are summarized below.

Location or Linear Facility	Existing Land Uses
La Paloma Generating Plant	Undeveloped/Oil Wells
Route 1 (R1) Transmission Line Route	BLM lands and Undeveloped/Oil Wells California Department of Fish and Game BLM Lands and California Aqueduct, Levee, Flood Canal/Agricultural, Buttonwillow Park
Route 2 (R2) Water Supply Line Route	BLM lands and Undeveloped/Oil Wells
Route 4 (R4) Potable Water Supply Line Route	BLM lands and Undeveloped/Oil Wells/Residential
Route 5 (R5) Natural Gas Supply Line	BLM lands and Undeveloped/Oil Wells

The transmission line passes within one mile of the towns of McKittrick and Buttonwillow, and within 0.25 mile of 5 residences southwest of Buttonwillow. There are also two schools within 0.8 mile of the transmission line route near the towns of McKittrick and Buttonwillow. (*Id.*). The tie-line parallels existing transmission rights-of-away for most of its length. Portions of its routing traverse BLM lands within the Caliente Resource Management Area,[41] and alternative route 1B would cross undeveloped lands to avoid a state ecological preserve. The evidence establishes that the tie-line will be compatible with the federal management plan for the area. (6/29/99 RT 40).

Construction of the power plant will disturb approximately 23 acres. Construction of the transmission line, 38 acres, and construction of the gas and water supply lines, 139 acres. The evidence indicates that the vast majority of these disturbances will be temporary. While most of the power plant site will remain dedicated to its industrial use, the transmission line will permanently remove only

[41] This area encompasses about 590,000 acres of public land and 450,000 acres of federally reserved mineral estate land. It was established for the protection and recovery of threatened and endangered species, and to promote oil and gas production. (Ex. 35, p. 123).

about four acres from other uses, including about 0.04 acres of prime farmland. (6/29/99 RT 156; Ex. 35, pp. 125-126).

The Kern County zoning designations affected by the La Paloma Generating Project are as follows:

Zoning Designations Within The Affected Environment

Location or Linear Facility	Zoning Designations
La Paloma Generating Plant	A
Route 1 (R1) Transmission Line Route	A, A1, E
Route 2 (R2) Water Supply Line Route	A
Route 4 (R4) Potable Water Supply Line Route	A, NR, R-1
Route 5 (R5) Natural Gas Supply Line	A

Each of these zoning designations allows the power plant and its appurtenant facilities as permissible uses. [42] (Exs. 1, section 5.9; 35, p. 127; 6/29/99 RT 26, 37). While the County would normally require a conditional use permit for this type of project, the Commission's certification supersedes this requirement. In order to address County concerns, we have included as a Condition of Certification (LAND-1) the submission of a development plan by Applicant which will Include measures which would be otherwise imposed by the County. (6/29/99 RT 36-37, 39; Ex. 35, pp. 128-130). The development plan also incorporates the possible transfer of landscaping funds to the McKittrick school, as discussed at the June 29, 1999 hearing. This matter is discussed further under “Visual Resources”, *infra*.

The testimony of record establishes that while Applicant has acquired most of the necessary easements for the linear facilities, it is still negotiating for easement rights on a portion of the routes for the tie-line, the raw water supply line, and the

[42] In order to conform with the General Plan, Applicant needed to obtain an Amendment to the Plan's Circulation Element. The County granted this Amendment on December 7, 1998. (Exs. 16, 35 p. 127; 6/29/99 RT 35).

fuel supply line. (6/29/99 RT 29, 120-123). These will be obtained before project construction commences. (6/29/99 RT 123). It has obtained the required permits for railroad crossings and highway encroachments, except for those involving County roads. (6/29/99 RT 222-223).

The project must also comply with requirements of the California Division of Oil, Gas, and Geothermal Resources (Division). The Division requires measures for the plugging and abandonment of oil wells in the project area. The Applicant is aware of these requirements, and has been pursuing this matter with the Division. (Exs. 30, 35, pp. 124-125).

The evidence of record establishes that the LPGP will not cause a significant change in the character of the affected area. At least three other projects (Sunrise, Elk Hills, and Midway) may also terminate at the existing Midway Substation. At the present time, however, there is insufficient information to determine whether these potential multiple terminations will affect land uses in the substation's immediate vicinity. (Ex. 35, p. 126).

Kern County has no specific provisions regarding the potential closure and restoration of the project site. The County has requested that it be given an opportunity to review the closure plan required in the Compliance and Closure portion of this Decision. This review is specified in Condition of Certification GEN-9 of the “Facility Design” portion of this Decision. (See also 4/21/99 RT 65).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The La Paloma Generating Project and its related facilities are permissible uses under the applicable Kern County zoning designations.

2. Construction and operation of the La Paloma Generating Project will not create conflicts with existing or planned land uses in the project vicinity.

3. There is insufficient information at present to determine whether termination of the transmission lines of the La Paloma, Sunrise Cogeneration, Elk Hills, and Midway projects will create a cumulatively adverse impact to land uses in the immediate vicinity of the Midway Substation.

4. The Conditions of Certification below ensure that the project will be constructed and operated in compliance with the applicable laws, ordinances, regulations, and standards contained in the pertinent portion of Appendix A of this Decision.

We therefore conclude that the La Paloma Generating Project will not create any significant direct or indirect adverse land use impacts.

CONDITIONS OF CERTIFICATION

LAND USE-1 The project owner shall submit a development plan for the site to Kern County for their review and comment, and to the Energy Commission Compliance Project Manager (CPM) for review and approval. The development plan shall contain a schedule for small-scale construction where appropriate to avoid conflicts with agricultural operations, a schedule discussing the timing of construction activities to avoid impacts to cultivated areas to the extent practical, and a statement requiring the project owner or its subcontractors to repair or replace any agricultural facilities damaged by construction activities. The project owner shall provide a letter of comment from the Kern County Planning Director. The development plan shall include a cost estimate for landscaping the power plant site. With the approval of the County Planning Director, these funds will be made available to the McKittrick School.

Verification: At least sixty (60) days prior to the start of construction, the project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a copy of the development plan, and a copy of the letter of comment from the Kern County Planning Director, including the choice of using the landscaping funds for landscaping the project site or using the funds for improvements at McKittrick school.

LAND USE-2 Transmission lines and pipelines shall be located with a minimum setback from oil wells (producing wells, idle wells, or plugged and abandoned wells) of 50 feet. All above-ground transmission lines and pipelines shall be located with a minimum setback from oil wells of 125 feet in at least one direction, so that a portable derrick may be raised over the oil well.

Protocol: The project owner shall submit a project development plan addressing any actions to be undertaken by the project owner to ensure no hazard or problems will be created with the existing four wells in the construction site and laydown areas to the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) for review and comment. The development plan shall include a discussion of how a minimum setback from existing oil wells as identified above is to be maintained.

Verification: At least sixty (60) days prior to the start of construction, the project owner shall submit to the CPM a copy of DOGGR's letter commenting on the development plan. Within fifteen (15) days of receipt of the development plan and the DOGGR comment letter on the plan, the CPM will either approve or comment and deny the plan, and transmit the approval or denial letter to the project owner.

B. NOISE

The construction and operation of any power plant creates noise, or unwanted sound. The character and the loudness of this noise, the times of day or night during which it is produced, and of the proximity of the facility to sensitive receptors combine to determine whether a proposed project will meet applicable noise control laws and ordinances, or whether it will create significant adverse impacts.

In this portion of the Decision, we examine the likely noise impacts from the La Paloma Generating Project and the sufficiency of measures proposed to control them.

Summary and Discussion of the Evidence

The La Paloma Generating Project site is located in a rural setting, surrounded by open lands containing scattered oil wells, pipelines, compressors, and tanks. The existing ambient noise environment in the project area is very quiet. The primary existing noise sources are local traffic along Route 33, occasional local traffic along Skyline Road, and background noise from existing oil field equipment. (Ex. 46, p. 5). The Noise Element of the Kern County General Plan establishes the following permissible sound levels:

NOISE: Table 1

Kern County General Plan-Noise Element

Land Use Category	Maximum Permissible Sound Level		
	L_{50} (Day)	L_{50} (Night)	L_{dn} (CNEL)
Non-sensitive Land Uses	65	60	75
Moderately Sensitive Land Uses	60	55	70
Sensitive Land Uses	55	45	65
Highly Sensitive Land Uses	50	40	60

According to the General Plan, single family rural dwellings are classified as "highly sensitive" land uses. Those nearest the proposed project include residences within

McKittrick. (4/21/99 RT 161; Ex. 46, page 4). The maximum allowable noise level at these receptors is 40 decibels (dB). (*Id.*).

The Applicant performed a noise survey to assess the existing ambient noise conditions and the potential impact of the project. Continuous noise measurements were recorded at three locations. [43] (4/21/99 RT 155; Exs. 1, section 5.12; 46, page 5). Sound levels at each of the three locations were very low at night, with background levels ranging from 34 to 43 dBA. The 24 hour average noise levels are represented below:

Noise: Table 2
Summary of 24-hour Average Noise Levels

Location	L_{dn}	CNEL	$L_{eq}(24)$
Location 1 (Site)	53.7	53.8	51.1
Location 2 (Site)	55.4	55.4	50.1
Location 3 (Residence)	49.2	49.4	42.7

The La Paloma Generating Project could increase the existing noise levels by virtue of its construction and operation activities. (4/21/99 RT 160; Ex. 46, p. 6).

1. Construction.

Various activities during the project's 24 month construction period will create noise. Construction phases include: excavation, concrete pouring, steel erection, mechanical component installation, and cleanup. Major noise sources include air compressors, backhoes, graders, bulldozers, scrapers, front-end loaders, cranes, generators, and various vehicles. Typical composite noise levels associated with power plant construction are shown below.

[43] Location 1 is at the southwest corner of the La Paloma Generating Project site, location 2 at the northeast corner, and location 3 in McKittrick at the residences nearest the project site.

Noise: Table 3
Construction equipment and composite site noise levels.

Construction Phase	Noise Construction Equipment	Equipment Noise Level (dBA)	Composite Site Noise Level @ 50 ft. (dBA)
Excavation	Pile driver Dump truck Rock drill	101 91 98	89
Concrete pouring	Truck Concrete mixer	91 85	78
Steel erection	Derrick crane Jack hammer	88 88	87
Mechanical	Derrick crane Pneumatic tools	88 86	87
Clean-up	Truck Steam blow unmuffled)	91 110 @ 1,000'	89

Source: EPA, 1971 and Barnes, 1976.

The loudest noise associated with the construction of a power plant of this type generally is an activity necessary to purge the steam piping and tubing before operation begins; this is known as a "steam blow". Steam blows can produce noise as loud as 130 dBA at a distance of 100 feet, attenuated to about 95 dBA at the nearest residence. These activities typically last two or three minutes each, and are performed daily over the initial start-up period of two or three weeks . (Ex. 46, page 7).

Project workers will also be subjected to construction noise; building the water pipelines, the gas supply line, and the transmission line will produce further noise. (Ex. 46, pp. 7-8).

While construction noise is temporary in nature, it nevertheless can adversely affect those nearby. The evidence establishes that any impacts associated with this noise source will be adequately mitigated. The mitigation specified in the Conditions of Certification below includes silencing of steam blow activities and the implementation of appropriate worker protection measures. Moreover, the distance of the nearest residential receptors and the community of McKittrick from the project site provides a buffer zone which allows for substantial attenuation of construction sound levels, and these noisy activities will occur only during daytime hours in order to further minimize disruptions in the local area.

The evidence of record indicates that construction noise associated with the project, as mitigated, will range from 35 to 45 dBA at the sensitive receptors; this level will be barely audible in McKittrick. (422/99 RT 156,158; Ex. 46, pp. 8-9). In order to assure that any disruption associated with steam blow activities is minimized, the Conditions of Certification also include a public notification program to alert area residents in advance of the occurrences. (*Id*.).

2. Operation.

During operations, the La Paloma Generating Project will essentially be a steady, continuous noise source. The primary contributors to the project's operational noise include the heat recovery steam generators, the combustion turbine generators, the steam turbine generators, the cooling towers, the boiler feed pumps, the generator step-up transformers, and the circulating water pumps. The linear facilities will not create any operational noise. (Ex. 46, p. 9).

The evidence indicates that the operational noise level will not create noticeable impacts to the local area. The mitigation measures included in the Conditions of Certification, as well as the project's distance (approximately 8000 feet) from the nearest sensitive receptors, result in noise levels which will be 40 dBA L50 or less under normal operating conditions. This level complies with the Noise Element of the General Plan, and is quieter than the ambient noises typically encountered in the neighborhood of the project. (4/21/99 RT 156,158, 162; Ex. 46, pp. 9-10).

There are no existing or planned projects within a two-mile radius of the La Paloma project. The evidence establishes that future power plant projects would have to be within a mile to a mile and a half of one another to contribute noticeably to a cumulative noise impact. (4/21/99 RT 167). Potential power plant projects in the vicinity of the LPGP range from 6 to over 20 miles away.[44] Therefore, no contribution to cumulative

[44] The projects are Midway-Sunset (six miles away), Elk Hills (8 miles away), Sunrise Cogeneration (8 miles away), and Pastoria (over 20 miles away). (Ex. 46, p.9).

impacts is expected. (4/22/99 RT 166-167; Ex. 46, pp. 9-10). Should the project face a closure scenario, operational noise will cease, and any noise caused by dismantling or closure activities will be treated similarly to that caused by the initial construction activities. (4/21/99 RT 163; Ex. 46, page 11).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Construction and operation activities of the La Paloma Generating Project will create noise.

2. The sensitive receptors nearest the La Paloma Generating Project are approximately 8000 feet away.

3. Construction activities associated with the project will be temporary in nature.

4. Operational noise from the power plant under normal operating conditions will not increase the existing ambient noise levels experienced at the nearest sensitive receptors.

5. No power plants exist, or are planned, within a two-mile radius of the project.

6. Implementation of the measures contained in the Conditions of Certification below will assure that the La Paloma Generating Project will comply with the applicable laws, ordinances, regulations, and standards specified in the pertinent portion of Appendix A of this Decision.

We therefore conclude that the La Paloma Generating Project will not create any significant direct, indirect, or cumulative adverse noise impacts.

CONDITIONS OF CERTIFICATION

NOISE-1 At least fifteen (15) days prior to the start of rough grading, the project owner shall notify all residents within McKittrick, by mail or other effective means, of the commencement of LPGP 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 LPGP. 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 LPGP site during construction in a manner visible to passersby. This telephone number shall be maintained until the LPGP has been operational for at least one (1) year.

Verification: The project owner shall transmit to the CPM in the first Monthly Construction Report following the start of rough grading 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 LPGP, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints.

The project owner shall:

1. use the Noise Complaint Resolution Form (see below for example), or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;

2. attempt to contact the person(s) making the noise complaint within 24 hours;

3. conduct an investigation to determine the source of noise related to the complaint;

4. if the noise is project related, take all feasible measures to reduce the noise at its source; and

5. 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 complainant's satisfaction.

Verification: Within thirty (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 Kern County 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 thirty (30) day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE COMPLAINT RESOLUTION FORM

La Paloma Generating Project
(98-AFC-2)

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: _____dBA Date: _____
Initial noise levels at complainant's property: _____dBA Date: _____

Final noise levels at 3 feet: _____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.

NOISE-3 Prior to the start of LPGP construction, the project owner shall submit to the CPM for review a noise control program. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA standards.

Verification: At least thirty (30) days prior to the start of rough grading, 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, 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 L_{50} measured at a distance of 100 feet. The project owner shall conduct steam blows only during the hours of 7:00 a.m. to 7:00 p.m. weekdays, and 8:00 a.m. to 6:00 p.m. weekends and holidays. If a modern, 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 fifteen (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 a description of the steam blow schedule. At least fifteen (15) days prior to the first 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 expected time schedule for execution of the process.

NOISE-5 The project owner shall conduct a public notification program to alert residents within one mile of the site and the residents of McKittrick prior to the start of steam blow activities. 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: At least fifteen (15) days prior to the first steam blow(s), the project owner shall notify all residents within one mile of the site and all residents of McKittrick 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. Within five (5) days of notifying these entities, the project owner shall send a letter to the CPM confirming that the residents have been notified of the planned steam blow activities, including a description of the method(s) of that notification.

NOISE-6 Upon the LPGP 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 dominant source of noise that draws complaints. Steam relief valves shall be adequately muffled to preclude noise that draws complaints. The noise contributed by the LPGP operations at the nearest residence in McKittrick shall not exceed 40 dBA L_{50} under normal operating conditions. If the results from the survey indicate that power plant noise levels are in excess of 40 dBA L_{50} at the nearest residence, additional mitigation measures shall be implemented to reduce noise to a level of compliance with this limit. The mitigation measures (to be employed as required) include, but are not limited to:

1. provide standard outdoor/weather enclosures for the combustion turbine generator packages;

2. provide air inlet silencers for the combustion turbines;

3. provide standard outdoor/weather enclosure for the steam turbine generator packages; and

4. install silencers for the heat recovery steam generator exhaust stacks.

Protocol: The measurement of power plant noise for purposes of demonstrating compliance with this Condition may alternatively be made at an acceptable location closer to the plant (e.g. 400 to 1,000 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the nearest sensitive receptor in McKittrick. However, not withstanding the use of this alternative method for determining the noise level, the character of plant noise shall be evaluated at the nearest sensitive receptor to determine the presence of pure tones or other dominant sources of plant noise.

Verification: Within thirty (30) days after first achieving an output of 80 percent or greater of rated output, the project owner shall conduct the above described noise survey. Within thirty (30) days after completing the survey, the project owner shall submit a summary report of the survey to Kern County and the CPM. Included in the report will 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. Within thirty (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 thirty (30) days after the facility is operating at an output of 80%

of rated capacity or greater, and shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5100 (Article 105) and Title 29, Code of Federal Regulations, Part 1910. 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 thirty (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 upon request.

NOISE-8 In order to avoid adverse noise effects, any construction activity such as pile driving, excavation and grading (earth movement), concrete pour and steel erection) shall be restricted to the hours of 7 a.m. to 7 p.m. on weekdays and from 8 a.m. to 6 p.m. on weekends and holidays.

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.

C. SOCIOECONOMICS

Under this topic, we evaluate any direct, indirect, or cumulative impacts the project may cause to local public services or infrastructure, and also examine any relevant community issues.

Summary and Discussion of the Evidence

1. Direct Effects.

Construction of the La Paloma Generating Project will cause a temporary influx of workers over a 21 month period. The number of workers will range from fewer than 100 in the first four months of construction to approximately 519 workers in the 21st month. Peak construction activity will occur in the 15th through 20th months; during this period, the greatest number of workers (about 747) will be needed in the 18th month. (Ex. 54, p. 3). The evidence indicates that the average number of non-local workers needed for power plant construction will be 55, with an additional 11 for transmission line construction. Fifteen of the 35 workers needed to maintain and operate the project may also be from outside the local area. (*Id*.).

Approximately 86 percent of the workers needed on average will likely come from the local labor pool. (Ex. 54, p. 6). Local labor unions will supply the workforce, consisting of electricians, pipefitters, boilermakers, bricklayers, iron and sheet metal workers, and members of other crafts and trades necessary to construct, operate, and maintain the project. (6/29/99 RT 106-109; Ex. 36, pp. 1, 5-6). Overall, when secondary jobs are included, the LPGP will create the equivalent of 1,457 construction related jobs and 101 operations related jobs. (Ex. 54, p. 4).

Sufficient housing is available in the project area to readily accommodate workers. (Ex. 54, p. 3). Local medical, police, and emergency services are also adequate to absorb any additional demands caused by the project. (Ex. 54, pp. 3,9). While schools in the immediate vicinity of the project are under their respective enrollment capacities, those in the broader project area (i.e. within a two-hour commute radius), including Bakersfield, are generally at or over capacity. (6/29/99 RT 91-92; Ex. 54, p. 4). Children of workers moving into this broader area will thus exacerbate any existing overcrowding and potentially result in increased costs to the schools. The evidence of record indicates that up to 50 school-age children of construction personnel could be added to the general area's schools, with 14 school-aged children of operation personnel entering schools in the immediate project vicinity. (Ex. 54, pp. 3-4).

The project will contribute nearly $51 million in property taxes to Kern County during its first during 10 years; nearly 61 percent of this will be earmarked for education. (Ex. 54, p. 4). Additional funding to offset impacts to the region's educational facilities is not available and mitigation of impact to schools at or above capacity beyond that contained in the Conditions of Certification is not feasible. (6/29/99 RT 88, 91-92, 95). Under a recent amendment to section 17620 of the Education Code (SB 50, signed on Aug. 27, 1998), public agencies may not impose additional fees, charges, or other financial requirements to offset the cost for school facilities; in other words, school funding is restricted to property taxes and statutory facility fees collected at the time the building permit is issued. (*Id.*). The evidence further indicates that local school officials believe the La Paloma Generating Project will not significantly adversely affect available school facilities. (Exs. 1, section 5.10, 54, p. 4).

The payroll over the project's construction period will be approximately $146 million, and the operation payroll will be about $6 million per year for the 35 year operational life. The bulk of the payroll will likely be spent in the area's communities. The evidence also indicates that $42 to $43 million worth of

materials and equipment will be purchased locally during construction activities, and that about $6.1 to $7.0 million will be spent locally each year for operating supplies. (6/29/99 RT 93-94; Ex. 54, pp. 4-5). Members of the public commenting on the LPGP support its entry into their community. (6/29/99 RT 112-116).

2. Cumulative Effects.

Cumulative effects can occur when the construction schedule of one project overlaps that of another. This situation would create a demand for workers that cannot be met by local labor and thus result in an influx of non-local workers and their dependents. Assuming that three other identified projects (Sunrise Cogeneration, Elk Hills Power, and Midway-Sunset) are also being built as anticipated by the developers,[45] there is an approximate six-month timeframe in which the projects would have overlapping construction schedules. (Ex. 54, p. 5). With the addition of each subsequent project, the ability of the local labor force to meet construction needs decreases. The cumulative need for workers in particular crafts or specialties could exceed the availability of those types of workers at different times based upon the progress of the various construction schedules. (Ex. 54, p. 6).

The evidence indicates that an average of 1,706 construction workers will be needed during the six-month overlap period. Furthermore, up to 3,804 secondary jobs may also emerge during this period. (Ex. 54, p. 7). These latter jobs will be coincident with the construction schedules, temporary, and unlikely to attract new residents to the area.

Overall, the influx of non-local construction workers for the four potential projects would result in an estimated addition of 235 children to Kern County schools. (Ex. 54, p. 8). Similarly, the influx of non-local workers needed for operation of

[45] This assumption is somewhat speculative at this point since only the Sunrise Cogeneration and the Elk Hills Power projects are currently being reviewed.

the four projects could add about 48 children to schools closer to the projects. The former could adversely affect Bakersfield area schools that are currently at or over capacity; the latter can be absorbed by the schools in the immediate project vicinities. (*Id*).

While existing fire fighting resources are sufficient to satisfactorily cover all anticipated power plant projects, the evidence of record further indicates that the Kern County Fire Department (KCFD) anticipates an increase in the number of emergency responses that typically occur at industrial facilities such as the proposed power plants. The KCFD has thus identified the need for additional equipment and personnel to enhance its emergency response capabilities for high angle and confined space rescues for these anticipated western Kern County facilities. (6/29/99 RT 92; *Id*.).

Although the four expected projects will generate approximately $1.37 million per year to the County's fire fund through property taxes, Applicant has agreed to provide advanced funding to the KCFD for supplementary equipment and personnel. (6/29/99 RT 83-84; Exs. 49, 54, p. 9). This measure also satisfactorily addresses worker safety concerns raised during the April 1999 evidentiary hearings. (6/29/99 RT 87, 194). Since La Paloma is the first of the potential projects likely to be constructed, the agreement provides that the subsequent projects should also contribute. (Exs. 49, 54, p. 10). The KCFD will enforce this agreement in future cases by seeking appropriate Conditions of Certification; Staff will similarly pursue the issue. (6/29/99 RT 85, 93).

Finally, the evidence of record indicates that any impacts from closure of the facility would not likely be significant, and can adequately be addressed through

the provisions contained in the Compliance Plan portion of this Decision. (Ex. 54, pp. 9-10).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The La Paloma Generating Project will draw primarily upon the local labor force for construction and operation workers.

2. The La Paloma Generating Project will not cause an influx of a significant number of construction or operation workers into the project area.

3. Construction and operation of the La Paloma Generating Project will result in substantially increased revenue from property and sales taxes, employment, and sales of services, manufactured goods, and equipment.

4. Three other power plants are currently anticipated to be built in western Kern County.

5. The projected construction schedules of these three power plants, and that of the La Paloma Generating Project, result in an overlapping construction period of approximately six months.

6. Construction and operation activities of these projects, including those associated with the La Paloma Generating Project, will result in increased enrollment in schools in the Bakersfield area and in the immediate vicinities of the projects.

7. Many schools in the Bakersfield area are at or near enrollment capacity; schools in the western Kern County area are typically below capacity.

8. State law restricts school funding to property tax revenues and statutory facility fees collected at the time the building permit is issued; public agencies may not impose additional fees, charges, or other financial requirements to offset the cost of school facilities.

9. The present net value of the estimated property taxes which will be imposed upon the La Paloma Generating Project and earmarked for education is approximately $30.5 million over the life of the project.

10. Future power plant projects in the general area will also be assessed property taxes.

11. Sufficient housing is available in the area to accommodate workers for the La Paloma Generating Project, as well as those associated with other identified projects.

12. Existing local medical, police, and fire fighting services are adequate to meet the needs of the La Paloma Generating Project, whether considered alone or in conjunction with other potential power plants.

13. The Kern County Fire Department possesses sufficient equipment and personnel to provide adequate emergency response capabilities for the La Paloma Generating Project.

14. The Kern County Fire Department requires additional equipment and personnel to provide adequate emergency services to the four power plants currently identified for the western Kern County area.

15. Each of the power plants proposed for the western Kern County area will benefit from the emergency services provided by the Kern County Fire Department.

16. Applicant and the Kern County Fire Department have entered into an agreement to assure that all of the identified power plant projects contribute to obtaining additional Fire Department equipment and personnel.

17. Socioeconomic impacts resulting from construction and operation activities of the La Paloma Generating Project, when considered alone or in combination with similar activities from other identified power plants in the area, will be mitigated to the extent feasible.

18. The Conditions of Certification below assure that the La Paloma Generating Project will comply with the laws, ordinances, regulations, and standards contained in the pertinent portion of Appendix A of this Decision.

We therefore conclude that the La Paloma Generating Project will not result in any significant direct, indirect, or cumulative adverse socioeconomic impacts.

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 with the Kern County Department of Engineering and Survey Services and Building Inspection.

Verification: The project owner shall provide proof of payment of the statutory development fee in the next Monthly Compliance Report following the payment.

SOCIO-2 Not later than thirty (30) days after certification, the project owner shall reach agreement with the Kern County Fire Department on funding for the following:

a) purchase of a new 105-foot Pierce Quint Aerial ladder truck equipped for high angle and confined space rescues;

b) first year funding for nine new positions for personnel to cover three shifts per day for the new truck; and

c) first year funding for a replacement ladder truck.

Verification: Not later than forty-five (45) days after certification, the project owner shall provide the CPM with a copy of an agreement with the Kern County Fire Department for funding of items a) through c) above.

D. TRAFFIC AND TRANSPORTATION

In this section, we examine the extent to which the La Paloma Generating Project will affect the regional and the local transportation systems. In some cases large numbers of construction workers can, over the course of the construction period, increase roadway congestion and affect traffic flow. Trenching and other activities associated with building the project's linear facilities may also prove disruptive, as can the transportation of large pieces of equipment on local roadways.

Therefore, during these licensing proceedings, we identified: the roads and routings which will be used; potential traffic problems associated with those routings; the anticipated number of deliveries of oversized/overweight equipment; anticipated encroachments upon public rights-of-way; the frequency of, and routes associated with, delivery of hazardous materials; and the availability of alternative transportation methods.

Summary and Discussion of the Evidence

The construction and the operation of the La Paloma Generating Project will increase traffic flows on the local road network. Major roadways potentially affected by the construction and the operation of the La Paloma Generating Project are Highways 33, 43, 58, 99, 119, 166, and Interstate 5. Of these, two -- Highways 33 and 58 -- provide access to the power plant site. From McKittrick, the site is reached by traveling east on Reserve Road to its junction with Skyline Road. These roads are maintained by Kern County. Applicant will construct an asphalt paved access road from Skyline Road; other roads on the site will be graveled. (Exs. 1, section 5.11; 12; 28; 35, p. 138).

1. Construction.

Construction related vehicle traffic will affect Highways 33, 43, and 58 most heavily, resulting in traffic increases of 25-35 percent along portions of these highways. Under

worst case assumptions (i.e. each worker driving a separate vehicle), 820 vehicle trips per day on average, and about 1,454 vehicle trips during the peak construction period, could occur. (Ex. 35, p. 139). This additional traffic could reduce the existing Level of Service (LOS) from B to C on Highway 58 (at the Lokern Road and Buttonwillow Drive junctions) and Highway 43 (at the junction of Highway 58 East), and from LOS C to D on Highway 33 (at the junction of Highway 58 East). The traffic will not significantly degrade the current LOS on either Reserve or Skyline Roads. (Ex. 35, p. 140).

The evidence further indicates that approximately 8,274 truck deliveries will be made to the plant site over the course of the construction period, or an average of 44 per day. This will result in a negligible affect upon the major highways, but will cause an estimated 20 percent increase in traffic on Reserve Road and a 31 percent increase on Skyline Road. (Ex. 35, p. 141). This increase is only temporary, however, and the existing capacities of these roads are sufficient to accommodate it. Applicant has consulted with CALTRANS and received approval for its traffic control measures. (6/29/99 RT 62; Exs. 51A, 51B).

Construction of the linear facilities associated with the project, particularly the transmission line, will also require the movement of heavy equipment, trucks, and worker vehicles along local access routes. Staging areas will be established to store equipment and materials, and to provide field offices at the power plant site and at the Midway Substation. This will serve to disperse the workforce and the expected small number of truck deliveries (approximately 247) to the staging sites. Existing spur roads will be used where possible, and relatively short new ones will be built where necessary. These latter activities are not expected to significantly disrupt road travel in the project's vicinity. Encroachment permits will, however, be necessary along State and County roads; Applicant has obtained all necessary permits for State highways, and will obtain those for County roads prior to commencing construction. (6/29/99 RT 222-223). The evidence establishes that construction of the linear facilities will not create significant adverse traffic impacts. (Ex. 35, pp. 144-146).

The project-related construction traffic will be most noticeable during the morning and evening peak commute hours between approximately 6 a.m. and 7 a.m., and again between 5 p.m. and 6 p.m. each day. These traffic patterns should not affect traffic related to McKittrick Elementary School which is normally open from 8:15 a.m. to 2:40 p.m.. (Ex. 35, p. 140). Applicant will also explore with CALTRANS the advisability of placing additional traffic control measures such as signs in the vicinity of McKittrick School. (6/29/99 RT 70-77).

2. Operation.

Operation of the power plant will require approximately 35 full-time employees; even assuming a maximum of 70 vehicle trips per day, the evidence indicates that the local avenues of travel will accommodate this amount of traffic. (Ex. 35, p. 143).

Plant operations will also generate hazardous materials (as discussed earlier in the "Hazardous Materials" portion of this Decision) and necessitate transport off-site for disposal or recycling. This will require one truck trip by licensed hazardous waste transporters about every 90 days. Approximately 11 truck deliveries per month of aqueous ammonia will also occur. The evidence establishes that adequate safety measures (i.e. guard rails) currently exist, specifically near the McKittrick Elementary School, in the event of a truck mishap. (6/29/99 RT 67-68; Ex. 35, p. 143).

The evidence of record further indicates that the available capacity of the regional highways serving the Kern County area is sufficient to accommodate the increase in traffic which is likely to result not only from construction of the La Paloma Generating Project, but also from construction of other potential projects (i.e. Sunrise Cogeneration, Elk Hills, and Midway-Sunset) in the same general area. Similarly, traffic attributable to the combined operating personnel of these projects will not cause any significant cumulative impact. (Ex. 35, p. 146). Any closure activities will be addressed through

the provisions of the Commission's Compliance Plan requiring adherence with applicable law. (Ex. 35, pp. 147-148).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Construction and operation of the La Paloma Generating Project will cause increased traffic on the local area's road network.

2. The capacities of the roads in the local area are sufficient to satisfactorily absorb the increased traffic occasioned by construction and operation of the La Paloma Generating Project.

3. All potential adverse impacts from the transportation and handling of hazardous substances can be mitigted to a level of insignificance by complying with applicable law.

4. The transportation and handling of hazardous materials during the construction and operation phases will be mitigated adequately by compliance with the Conditions of Certification of this Decision.

5. Construction activities will encroach upon public rights-of-way, and create adverse impacts upon roadway function and levels of service.

6. Impacts upon roadways due to construction activities are temporary and not significant.

7. Construction and operation of the La Paloma Generating Project will not contribute to cumulatively significant adverse traffic impacts.

8. The Conditions of Certification below ensure that construction and operation of the La Paloma Generating Project will comply with applicable laws, ordinances, regulations, and standards.

We therefore conclude that construction and operation of the project will not result in significant direct, indirect, or cumulative adverse impacts to the area's transportation network.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall comply with CALTRANS and Kern County limitations 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 submit copies of any oversize and overweight transportation permits received 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 (6) months after the start of commercial operation.

TRANS-2 The project owner or its contractor shall comply with CALTRANS and Kern County limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from CALTRANS (for temporary signalization during construction at the intersections of SR 58/SR 33 and SR 33/Reserve Road if necessary) 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 (6) months after the start of commercial operation.

TRANS-3 The project owner shall ensure that permits and/or licenses are secured from the California Highway Patrol and CALTRANS for the transport of hazardous materials.

Verification: The project owner shall include in its Monthly Compliance Reports copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous substances.

TRANS-4 Prior to the start of construction, the project owner shall consult with Kern County and prepare and submit to the CPM a construction traffic control plan and implementation program which addresses the following issues:

- timing of heavy equipment and building materials deliveries;
- signing, lighting, and traffic control device placement;
- establishing construction work hours outside of peak traffic periods;
- emergency access;
- temporary travel lane closures;

- maintaining access to adjacent residential and commercial property; and
- off street employee parking in construction areas during peak construction.

Verification: At least thirty (30) days prior to start of construction, the project owner shall provide to the CPM for review and approval a copy of its construction traffic control plan and implementation program.

TRANS-5 The project owner or its contractor shall install crossing structures and netting across major thoroughfares as a safety precaution to reduce the potential for damage from falling construction materials or equipment during cable-stringing activities. Prior to start of construction, the project owner shall consult with CALTRANS, and prepare and submit to the CPM a safety plan and implementation program.

Verification: At least thirty (30) days prior to start of construction, the project owner shall provide to the CPM, for review and approval, a copy of its safety plan and implementation program.

TRANS-6 Following construction of the power plant and all related facilities, the project owner shall meet with the CPM and Kern County to determine the actions necessary and schedule to complete the repair of all roadways to original or as near original condition as possible.

Protocol: At least thirty (30) days prior to start of construction, the project owner shall photograph the primary routes to be used by construction traffic (from the junction of Hwy. 33 easterly along Reserve Road to Skyline Road to the project site) and those that will be affected by pipeline construction (at Reserve Road just west of the intersection with Skyline Road). The property owner shall provide the CPM and Kern County with a copy of these photographs.

Verification: Within thirty (30) days of the completion of project construction, the project owner shall meet with the CPM and Kern County. The project owner shall provide a copy of the letter from Kern County acknowledging satisfactory completion of the roadway repairs in the first Annual Compliance Report following start of operation of the La Paloma project.

TRANS-7 The project owner shall consult with CALTRANS on the need for an additional school zone speed limit sign along state route 58, north of the McKittrick school.

Verification: The project owner shall submit a letter to the CPM stating the results of the consultation sixty (60) days prior to the start of construction.

E. VISUAL RESOURCES

Visual resources are the natural and the cultural features of the environment that one sees. Visual quality is considered to be the value of these visual resources. Scenic resources are those visual resources that contribute positively to visual quality. Under this topic, it is thus relevant to assess whether the project will create a substantial intrusion upon the viewshed.[46]

Summary and Discussion of the Evidence

The general area in which the La Paloma Generating Project will be located is bordered by the low foothills of the Temblor range to the southwest and by the Elk Hills to the north and northeast. Vegetation is low growing and sparse, consisting of open grasslands, patches of saltbush scrub, and a dense growth of alkali sink scrub. The power plant site is within an existing oil and gas production field. There are various oil wells scattered around; vegetation is consistent with that prevalent in the general area. (Exs. 1, section 5.13; 12, section 3.7; 28, section 2.7; 35, p. 175). The power plant will be constructed to appear as shown in Visual Resources Figures 1 and 2.

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[46] This assessment can also include an evaluation of whether a proposed project complies with applicable laws, ordinances, regulations, and standards. In the present instance, however, there are no specific pertinent federal, state, or local enactments. Visual or aesthetic resources are addressed in the Kern County General Plan, Open Space Element, and are implemented by the Kern County Planning and Development Services Department. Since the La Paloma project is consistent with the land use designation for the area, it is also consistent with associated visual resource planning policies and General Plan requirements. (Ex. 35, p. 173).

VISUAL RESOURCES - NOT AVAILABLE IN PDF VERSION

Figure 1

Artist's Rendering of Proposed La Paloma Generating Project

VISUAL RESOURCES - NOT AVAILABLE IN PDF VERSION

Figure 2

Cross Section of Major Facilities at the La Paloma Generating Project

There are no designated scenic highways, roads, or corridors in the project's vicinity. Reserve Road, east of McKittrick, serves solely as an access to the oil fields. The transmission line associated with the La Paloma Generating Project would be visible in the vicinity of the project. (6/29/99 RT 55; Ex. 35, p. 179). Potentially sensitive receptors include residences along the neighboring roads and travelers on those roads. The residence nearest the plant site is located in the midst of existing oil production facilities. A residential area in the community of McKittrick is due east about 1.7 miles away. Four homes on 4th Street in McKittrick face east toward the site.

The evidence of record contains the results of analyses performed to assess the project's visual impact. These analyses are based, in part, on viewshed evaluations from "Key Observation Points" (KOP). The KOPs are representative of project views, including visible plumes and lighting, in the local area. The KOPs are described in Table 1 below and are depicted on Visual Resources Figure 3, following.

VISUAL RESOURCES Table 1
Key Observation Points

KOP Number	Description
1	Taken from project site - east of McKittrick located near Reserve Road.
2	Taken from near residence on 4th Street approximately 1.7 miles west of the power plant.
3[a]	Taken from near residence at the corner of Buerkle and Mirasol Avenue looking north at proposed transmission line.

[a] Originally KOP 5; with the elimination of alternate Transmission Route 1A, the KOP has been redirected from a southerly to northerly observation point.

The evidence shows that the significance of a visual impact is a combination of viewer susceptibility and the impact's severity. (Ex. 35, p. 183). Visibility of the

project's site is largely unobstructed from KOP 1; existing natural vegetation in the area consists primarily of low brush and natural grasses, and the viewers are primarily oilfield workers. A similar unobstructed view of the project is apparent from KOP 2; the view from local residences includes existing electric transmission lines and oil development areas. From the three residences in the vicinity of KOP 3, the existing foreground view includes agricultural uses, existing transmission lines, and a farming residence with trees. (Ex. 35, pp. 180-182).

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VISUAL RESOURCES - NOT AVAILABLE IN PDF VERSION

Figure 3

Location of Key Observation Points

The susceptibility to visual impacts from the KOPs is summarized below.

VISUAL RESOURCES Table 2
Visual Impact Susceptibility - Key Observation Points

	VISUAL QUALITY	VIEWER SENSITIVITY	VISIBILITY	VIEWER EXPOSURE	VISUAL IMPACT SUSCEPTIBILITY
Key Observation Point 1	Moderate	Low	High	Moderate	Low
Key Observation Point 2	Low to Moderate	High	High	Moderate	Moderate
Key Observation Point 3[a]	Low to Moderate	High	Moderate	Moderate	Moderate

[a] Originally KOP 5; with the elimination of alternate Transmission Route 1A, the KOP has been redirected from a southerly to northerly observation point.

Similarly, the evidence reflects the severity of visual impacts as shown below. (Ex. 35, p. 184).

VISUAL RESOURCES Table 3
Visual Impact Severity - Key Observation Points

	CONTRAST					DOMINANCE		VIEW	VISUAL IMPACT SEVERITY
	FORM	LINE	COLOR	TEXTURE	SCALE	SCALE	SPATIAL	BLOCKAGE	
Key Observation Point 1	Structures: L* Vegetation: L Land: L	Structures: L Vegetation: L Land: H	Structures: L Vegetation: L Land: L	Structures: L Vegetation: L Land: L	Structures: M Vegetation: L Land: L	***Dominant***	Co-dominant	Weak	Strong
Key Observation Point 2	Structures:L Vegetation: L Land: L	Structures: L Vegetation: L Land: L	Structures: M Vegetation: L Land: L	Structures: L Vegetation: L Land: L	Structures: L Vegetation: L Land: L	*Sub-ordinate*	Sub-ordinate	Weak	Moderate
Key Observation Point 3[a]	Structures: L Vegetation: ***L*** Land: ***L***	Structures: L Vegetation: ***L*** Land: ***L***	Structures: L Vegetation: L Land: L	Structures: L Vegetation: L Land: L	Structures: L Vegetation: L Land: L	***Co-Dominant***	Co-dominant	Weak	Strong

[a] Originally KOP 5; With the elimination of alternate Transmission Route 1A, KOP has been redirected from a southerly to a northerly observation point.
L = Low; M = Moderate; H = High

Factors shown in bold italic type contributed to visual severity ratings of strong or very strong

As mentioned above, in assessing the extent of a potential visual impact, the evidence of record establishes that it is first necessary to assess both the susceptibility of viewers to the impact and the severity of the impact. (6/29/99 RT 49-50). The component elements of "susceptibility" are the existing visual quality, and viewer sensitivity, visibility, and exposure. (Ex. 35, p. 191). Relevant factors in assessing a potential impact's "severity" include contrast with the existing viewshed, scale and spatial dominance, and view blockage. (Ex. 35, pp. 191-194).

Based upon a combination of these evaluative criteria, and the mitigation measures contained in the Conditions of Certification, the evidence shows that the project and its related facilities (including the cooling tower plume) will result in the visual impacts depicted on the Table below. (Ex. 35, pp. 183,185).

VISUAL RESOURCES Table 4
Visual Impacts - Key Observation Points

	VISUAL IMPACT SUSCEPTIBILITY	VISUAL IMPACT SEVERITY	VISUAL IMPACT
Key Observation Point 1	Low	Strong	Insignificant
Key Observation Point 2	Moderate	Moderate	Less than significant
Key Observation Point 3	Moderate	Strong	Less than significant

Painting the facility to blend with the background and properly designing outdoor lighting, as required in the Conditions of Certification, further reduce the project's visibility. The testimony establishes that the residual visual impression of the LPGP will not be significant. (6/29/99 RT 50, 56). Activities such as project staging and material storage would blend with the context of adjacent land activities, and be temporary in nature. Other project-related activities such as

fugitive dust disturbances, while potentially visually prominent, would also be temporary in nature. (Ex. 35, p. 195).

At the June 29, 1999 evidentiary hearing, a member of the public questioned the need for landscaping around the plant, opining that such mitigation was not necessary in an existing industrialized area, and that the funds for such measures should more appropriately be directed toward similar activities at the McKittrick School. (6/29/99 RT 116). The parties agreed that, due to the lack of visual impacts associated with the project, this would be acceptable, if approved by the County. (6/29/99 RT 117-119). Condition **VIS-4** incorporates this measure.

Any closure plan submitted in the event of a planned or unexpected permanent closure should address removal of the facility's structures and transmission poles to reduce residual visual impacts (Ex. 35, p. 196), and this measure is included within the Compliance Plan's provisions. (6/29/99 RT 58-59).

Finally, the evidence of record establishes that while the La Paloma Generating project would add a noticeable industrial increment to the existing industrial character in the McKittrick Valley, it would not substantially lessen the existing visual conditions. Similarly, the substitution of towers for poles in the vicinity of the Midway Substation would not create a noticeable impact. (6/29/99 RT 53, 57-58). Furthermore, the LPGP would not contribute to a cumulative visual impact to sensitive receptors since none of the local residential viewers with a view of one plant will have a view of the other potential power plants (i.e. the Sunrise Cogeneration, Elk Hills, and Midway-Sunset projects). (Ex. 35, p. 195).

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The La Paloma Generating Project will be constructed in an area of existing oilfield and industrial development.

2. Construction of the La Paloma Generating Project will add a noticeable, but not significant, industrial increment to the existing viewshed.

3. The Conditions of Certification below require the implementation of mitigation measures sufficient to minimize the visual intrusion of the La Paloma Generating Project.

4. The La Paloma Generating Project will not contribute to a significant adverse cumulative visual impact.

We therefore conclude that construction and operation of the La Paloma Generating Project will not cause any significant direct, indirect, or cumulative adverse visual impacts.

CONDITIONS OF CERTIFICATION

VIS-1 Prior to first electricity generation, the project owner shall treat all project structures and transmission lines identified in the treatment plan in non-reflective colors to blend with the agricultural setting.

a. Prior to treatment of any project structures and transmission lines, the project owner shall submit a treatment plan for the project to the California Energy Commission Compliance Project Manager (CPM) for review and approval.

The treatment plan shall include:

- specification and 11” x 17” color simulations of the treatment proposed for use on project structures, including structures treated during manufacture;
- a detailed schedule for completion of the treatment; and,
- a procedure to ensure proper treatment maintenance for the life of the project.

b. 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 to the CPM a revised plan.

c. 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.

d. 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.

e. 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.

f. The project owner shall notify the CPM within one (1) week after all pre-colored structures have been erected and all structures to be treated in the field have been treated that the structures are ready for inspection.

Verification: Not later than sixty (60) days prior to ordering any structures that are to be 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, the project owner shall submit to the CPM a revised plan within thirty (30) days of receiving that notification.

Not less than thirty (30) days prior to first electricity generation, 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 project fencing shall be non-reflective.

a. 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.

b. If the CPM notifies the project owner that specification revisions are needed before the CPM will approve the submittal, the project owner shall submit to the CPM revised specifications.

c. The project owner shall not order any project fencing until the project owner receives approval of the fencing specifications from the CPM.

d. The project owner shall notify the CPM after the fencing has been installed and is ready for inspection.

Verification: At least thirty (30) days prior to ordering any 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 specification revisions are needed, the project owner shall prepare and submit to the CPM revised specifications for CPM review and approval within thirty (30) days of receiving that notification.

The project owner shall notify the CPM, in the next Monthly Compliance Report following installation of the fencing, that the fencing is ready for inspection.

VIS-3 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.

a. Prior to first electricity generation, 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 outdoor lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary; and
- 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.

b. 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.

c. 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.

d. A lighting complaint resolution form (following the general format of that in Attachment 1) shall 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.

Verification: At least sixty (60) 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, the project owner shall submit to the CPM, for review and approval, a revised plan within thirty (30) days of receiving that notification.

The project owner shall notify the CPM in the next Monthly Compliance Report that the exterior lighting installation is complete and ready for inspection.

Any lighting complaints received, and the outcome of those complaints, shall be described in the next Monthly or Annual Compliance Report, as appropriate.

VIS-4 Prior to the start of commercial operation, the project owner shall implement a landscape plan that meets the requirements of the Kern County Zoning Code and provides a continuous screen of the power plant from sensitive view areas.

a. The project owner shall submit to the CPM for review and approval a specific plan describing its landscaping proposal, stating that it conforms to Kern County's Zoning Code. The plan shall include, but not be limited to:

- a detailed landscape plan, at a reasonable scale, which includes a list of proposed tree and shrub species and sizes and a discussion of the suitability of the plants for the site conditions and mitigation objectives;
- maintenance procedures, including any needed irrigation;
- a procedure for replacing unsuccessful plantings;
- a cost estimate for landscaping; and

- a letter or other document from the County indicating the County's choice of using the lanscape funds for landscaping the site or improvements at the McKittrick school.

b. If the CPM notifies the project owner that plan revisions are needed, the project owner shall prepare and submit to the CPM a revised plan for CPM approval.

c. The trees and shrubs shall not be planted before the plan is approved. The project owner shall notify the CPM when the trees and shrubs have been planted and are ready for inspection.

Verification: At least ninety (90) days prior to the start of commercial operation, the project owner shall submit the proposed landscape plan, including a letter or other document from the County, if any, to the CPM for review and approval. The CPM will respond to the project owner within fifteen (15) days of receipt of the landscaping plan.

The project owner shall submit any required revisions within fifteen (15) days of notification by the CPM. The CPM will respond to the project owner within fifteen (15) days of receipt of the revised documents. The project owner shall notify the CPM in the next Monthly Compliance Report following completion of the proposed planting that the planting is ready for inspection.

ATTACHMENT 1
LIGHTING COMPLAINT RESOLUTION FORM

LA PALOMA GENERATING PROJECT Kern County
Complainant's name and address: ***Phone number:***
Date complaint received: ***Time complaint received:***
Nature of lighting complaint:
Definition of problem after investigation by plant personnel: ***Date complainant first contacted:***
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.)

APPENDICES

AIR QUALITY

FEDERAL

Under the Federal Clean Air Act (40 CFR 52.21), 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 San Joaquin Valley Unified Air Pollution Control District (District). The EPA determines the 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 considerate 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."

Public Resources Code section 25523(d)(2) provides that the Commission shall not find that a proposed facility conforms with applicable air quality standards unless the air district "…certifies that complete emissions offsets have been identified and will be obtained by the applicant prior to the Commission's licensing of the project…" to the extent such offsets are necessary to comply with applicable law.

LOCAL

The proposed project is subject to the following San Joaquin Valley Unified Air Pollution Control District rules and regulations:

RULE 2201 - NEW AND MODIFIED STATIONARY SOURCE REVIEW RULE

The main functions of the District's New Source Review Rule are to allow for the issuance of Authorities to Construct, Permits to Operate, the application of Best Available Control Technology (BACT) to new permit sources and to require the new permit source to secure emission offsets.

Section 4.1 - Best Available Control Technology

Best Available Control Technology is defined as: a) has been contained in any State Implementation Plan and approved by EPA; b) the most stringent emission limitation or control technique that has been achieved in practice for a class of

source, or c) any other emission limitation or control technique which the District's Air Pollution Control Officer (APCO) finds is technologically feasible and is cost effective. BACT will apply to any air pollutant that results in an emissions increase of 2 pounds per day. In the case of the LPGP, BACT will apply for NOx, SO2, PM10, VOC and CO emissions from all point sources of the project.

Section 4.2 - Offsets

Emissions offsets for new sources are required when those sources exceed the following emissions levels:

- Sulfur oxides - 150 lbs/day
- PM10 - 80 lb./day
- Oxides of nitrogen - 10 tons/year
- Volatile organic compounds - 10 tons/year

The LPGP exceeds all of the above emission levels; therefore offsets are required for all four of these pollutants. The emission offsets provided shall be adjusted according to the distance of the offsets from the LPGP. The ratios are:

- Within 15 miles of the same source - 1.2 to 1
- 15 miles or more from the source - 1.5 to 1

Section 4.2.5.3 allows for the use of interpollutant offsets (including PM10 precursors for PM10) on a case-by-case basis, provided that the applicant demonstrates that the emissions increase will not cause a violation of any ambient air quality standard. The ratio for interpollutant trading shall be based on an air quality analysis and shall be equal to or greater than the minimum offsetting requirements (the distance ratios) of this rule.

Section 4.3 - Additional Source Requirements

Rule 4.3.2.1 requires that a new source not cause, or make worse, the violation of an ambient air quality standard as demonstrated through analysis with air dispersion models.

RULE 2520 – FEDERALLY MANDATED OPERATING PERMITS

Requires that a project owner file a Title V Operating Permit with the District within 12 months of commencing operation. A project is subject to this requirement if any of the following apply: the project is a major stationary source (under PSD definitions), it has the potential to emit greater than 100 tons per year of a criteria pollutant, that any equipment is subject to New Source Performance Standards, the project is subject to Title IV Acid Rain program, or the applicant is required to obtain a PSD permit from EPA. The Title V permit application requires that the owner submit information on the operation of the air polluting equipment, the emission controls, the quantities of emissions, the monitoring of the equipment as well as other information requirements.

RULE 2540 – ACID RAIN PROGRAM

A project greater than 25 MW and installed after November 15, 1990, must submit an acid rain program permit application to the District. The acid rain requirements will become part of the Title V Operating Program (Rule 2520).

RULE 4001 - NEW SOURCE PERFORMANCE STANDARDS

Specifies that a project must meet the requirements of the Federal New Source Performance Standards (NSPS) specified in Title 40, Code of Federal Regulations, Part 60, Chapter 1. Subpart GG, which pertains to Stationary Gas Turbines, requires that NOx concentrations are a function of the heat rate of the combustion, which in this case would be approximately 116 ppmv at 15% O2. In addition, the SO2 concentration shall be less than 150 ppmv and the sulfur content of the fuel shall no greater than 0.8 percent by weight.

RULE 4101 - VISIBLE EMISSIONS

Prohibits air emissions, other than water vapor, of more than Ringelmann No. 1 (20 percent opacity) for more than 3 minutes in any one hour.

RULE 4201 - PARTICULATE MATTER CONCENTRATION

Limits particulate emissions from sources such as the gas turbines, cooling towers and emergency fire water pumps to less than 0.1 grain per cubic foot of exhaust gas at dry conditions.

RULE 4202 – PARTICULATE MATTER EMISSION RATE

Limits hourly particulate emissions based on the process rate of the process. Combustion of gaseous and liquid fuels are excluded from this rule, however the particulate emissions associated with the cooling tower are subject to the emission limits of this rule.

RULE 4703 - STATIONARY GAS TURBINES

Limits NOx concentrations to 12.2 ppm for the SCR controlled turbines and 21 ppm for the SCONOx controlled turbine. In addition there is a limit in CO concentrations of less than 200 ppm.

RULE 4801 - SO2 CONCENTRATION

Limits the SO2 concentration emitted into the atmosphere to no greater than 0.2 percent by volume.

RULE 8010 - FUGITIVE DUST ADMINISTRATIVE REQUIREMENTS FOR CONTROL OF FINE PARTICULATE MATTER (PM-10)

Specifies the types of chemical stabilizing agents and dust suppressant materials that can (and cannot) be used to minimize fugitive dust.

RULE 8020 - FUGITIVE DUST REQUIREMENTS FOR CONTROL OF FINE PARTICULATE MATTER (PM-10) FROM CONSTRUCTION, DEMOLITION, EXCAVATION, AND EXTRACTION ACTIVITIES

Requires that fugitive dust emissions during construction activities be limited to no greater than 40 percent opacity by means of water application or chemical dust suppressants. The rule also encourages the use of paved access aprons, gravel strips, wheel washers or other measures to limit mud or dirt carry-out onto paved public roads.

RULE 8030 - CONTROL OF PM10 FROM HANDLING AND STORAGE OF BULK MATERIALS

Limits the fugitive dust emissions from the handling and storage of materials, such as the borrow fill dirt material to be used for the LPGP. It specifies that bulk materials be transported using wetting agents, allow appropriate freeboard space in the vehicles, or be covered. It also requires that stored materials be covered or stabilized.

RULE 8060 - CONTROL OF PM10 FROM PAVED AND UNPAVED ROADS

Specifies the width of paved shoulders on paved roads or the use of chemical dust suppressants on unpaved roadways, shoulders and medians.

RULE 8070 - CONTROL OF PM10 FROM VEHICLE/EQUIPMENT PARKING, SHIPPING, RECEIVING, TRANSFER, FUELING AND SERVICE AREAS

This rule is intended to limit fugitive dust from unpaved parking areas by means of using water or chemical dust suppressants or the use of gravel. It also requires that the affected owners/operators shall remove tracked out mud and dirt onto public roadways once a day.

BIOLOGICAL RESOURCES

FEDERAL

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 through 711, prohibits the take of migratory birds.

STATE

CALIFORNIA ENDANGERED SPECIES ACT OF 1984

Fish and Game Code, sections 2050 through 2098, protects California's rare, threatened, and endangered species.

CALIFORNIA CODE OF REGULATIONS

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

FULLY PROTECTED SPECIES

Fish and Game Code, sections 3511, 4700, 5050, and 5515, prohibits take of plants and animals that are fully protected in California.

SIGNIFICANT NATURAL AREAS

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

STREAMBED ALTERATION AGREEMENT

Fish and Game Code, section 1600, reviews project impacts to waterways, including impacts to vegetation and wildlife from sediment, diversions and other disturbances.

NATIVE PLANT PROTECTION ACT OF 1977

Fish and Game Code, section 1900 et seq., designates state rare, threatened, and endangered plants.

LOCAL

KERN COUNTY GENERAL PLAN LAND USE, OPEN SPACE, AND CONSERVATION ELEMENTS OF 1994

Section 8, Resources

- Policy 14: Habitats of threatened and endangered species should be protected to the greatest extent possible.

KERN COUNTY GENERAL PLAN ENERGY ELEMENT OF 1990

Part 1 - Issues, Goals, Policies, and Implementation

- Policy 12: The County should work closely with local, state, and federal agencies to assure that all projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife and botanical resources, whenever practical.

- Policy 13: The County should develop and implement measures which result in long-term compensation for wildlife habitat which is unavoidably damaged by energy exploration and development activities.

CULTURAL RESOURCES

FEDERAL

Portions of the routes proposed for the raw water supply pipeline and the electric transmission lines cross lands managed by the US Bureau of Land Management (BLM). Therefore the project becomes "undertaking" according to federal definition and the BLM will be involved as the lead federal agency for cultural and paleontologic resources. If cultural resource sites are identified on non-federal lands and they meet federal criteria for eligibility for listing in the National Register of Historic Places, then federal laws also would apply to these resources.

- National Environmental Policy Act (NEPA): Title 42, United States Code, sections 4321-4327, requires federal agencies to consider potential environmental impacts of projects with federal involvement and to consider appropriate mitigation measures.

- Federal Land Policy and Management Act (FLPMA): Title 43, United States Code, Chapter 35, Sub-Chapter VI, Sections 1781-1782; requires the Secretary of Interior to retain and maintain public lands in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric water resource, and archeological values [Section 1781(a)(8)]; the Secretary, with respect to the public lands, shall promulgate rules and regulations to carry out the purposes of this Act and of other laws applicable to public lands [Section 1740].

- Federal Guidelines for Historic Preservation Projects: The US Secretary of the Interior has published a set of Standards and Guidelines for Archaeology and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archaeological and historic properties. The Secretary's standards and guidelines are used by federal agencies, such as the Forest Service, the Bureau of Land Management, and the National Park Service.

  Section 106 of the federal guidelines sets forth procedures to be followed for determining eligibility for nomination, the nomination, and the listing of cultural resources in the National Register of Historic Places (NHRP). The eligibility criteria and the process are used by federal, state and local agencies in evaluating the significance of cultural resources. Very similar criteria and procedures are used by the state in identifying cultural resources eligible for listing in the State Register of Historic Resources.

  Executive Order 11593, "Protection of the Cultural Environment," May 13, 1971, (36 Federal Register, 8921) orders the protection and enhancement of the cultural environment through providing leadership, establishing state offices of historic preservation, and developing criteria for assessing resource values.

American Indian Religious Freedom Act; Title 42, United States Code, Section 1996 protects Native American religious practices, ethnic heritage sites, and land uses.

Native American Graves Protection and Repatriation Act (1990); Title 25, United States Code Section 3001, *et seq.* defines "cultural items", "sacred objects", and "objects of cultural patrimony"; establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for return of specified cultural items.

STATE

The following discussion of California law related to the California Environmental Quality Act (CEQA) was revised in late 1998 and the changes have been incorporated into this revised list.

- 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 archaeologic or paleontologic 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, such resources must be avoided; if they can't be avoided, mitigation measures shall be required. The law also discusses excavation as mitigation; discusses the costs of mitigation for several types of projects; sets time frames for excavation; defines "unique and non-unique archaeological resources"; provides for mitigation of unexpected resources; and sets financial limitations for this section.

- 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 "historic resource" and describes what constitutes a "significant" historic resource.

- CEQA Guidelines, California Code of Regulations, section 15126.4 "Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects", sub-section (b) "Mitigation Measures Related to Impacts on Historical Resources". Subsection (1) discusses impacts of maintenance, repair, stabilization, restoration, conservation, or reconstruction of a historical resource. Subsection (2) discusses documentation as a mitigation measure. Subsection (3) 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, California Code of Regulations, 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 historic 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 "historic resources" and a "unique archaeological resources".

- California Environmental Quality Act (CEQA) Guidelines: 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".

- California Environmental Quality Act (CEQA) Guidelines, Appendix G: "ISSUE V: CULTURAL RESOURCES". Lists four questions to be answered in determining the potential for a project to impact archaeological, historic, and paleontologic resources.

- California Penal Code, section 622.5 -- Anyone who damages an object or thing of archaeological or historic 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 disposal.

LOCAL

Although the Energy Commission has pre-emptive authority over local laws, it typically ensures compliance with local laws, ordinances, regulations, standards, plans, and policies. The project site and associated linear facilities are all located within unincorporated portions of western Kern County.

KERN COUNTY

According to the Application for Certification (AFC), there are no applicable local LORS (LPGP 1998a). Kern County staff indicated that they do not have a specific county policy that addresses cultural resources but they do ensure compliance with CEQA (Forrest 1999).

POWER PLANT EFFICIENCY

FEDERAL

No federal laws apply to the efficiency of this project.

STATE

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires that an environmental analysis be completed prior to determining whether to approve an Application for Certification of a power plant. This analysis must include an identification of the significant effects of a project on the environment, feasible mitigation measures, and alternatives to the project (Pub. Resources Code, § 21002.1).

CEQA Guidelines state that the environmental analysis "…shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy" (Cal. Code Regs., tit. 14, § 15126.4(a)(1)). The Guidelines further require consideration of the project's energy requirements and energy use efficiency; its effects on local and regional energy supplies and energy resources; its requirements for additional energy supply capacity; its compliance with existing energy standards; and any alternatives that could reduce wasteful, inefficient and unnecessary consumption of energy (Cal. Code regs., tit. 14, Appendix F).

LOCAL

No local or county ordinances apply to power plant efficiency.

FACILITY DESIGN

The applicable LORS proposed by the applicant are contained in the AFC, in Section 7 and Appendices A through I (LPGP 1998a). This is designated as Exhibit 1 in the evidentiary record of this proceeding.

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 hazardous or acutely hazardous substances. The Acts (implemented in 40 CFR § 68.115) require 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. The requirements of these Acts, as well as additional requirements for handling and storage of acutely hazardous substances, are reflected in the California Health and Safety Code, section 25520 et seq.

STATE

HEALTH AND SAFETY CODE

California Health and Safety Code, section 25500

This requires companies that handle hazardous materials in sufficient quantities to develop a Business Plan. The Business Plan must include:

- the basic information on the location, type, quantity, and the health risks of hazardous materials handled, used, stored, or disposed of in the state, which could be accidentally released into the environment;

- a plan for training new personnel and for annual training of all personnel in safety procedures to follow in the event of a release of hazardous materials; and

- an emergency response plan and the identity of the business representative able to assist emergency personnel in the event of a release.

California Health and Safety Code, section 25531

This directs facilities handling hazardous materials in sufficient quantities to develop a Risk Management Plan (RMP) and submit it to appropriate local authorities and the United States Environmental Protection Agency (EPA) for review and approval. The plan must identify:

- the severity of 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.

This new program supersedes the California Risk Management and Prevention Plan (RMPP).

CODE OF REGULATIONS

Title 8, California Code of Regulations, Chapter 4, in part, describes the design requirements for the various storage tanks proposed by the applicant. These regulations are primarily designed to protect the on-site workers, but they protect the general public as well. While they are too voluminous to describe in detail here, the regulations generally require the applicant to design tanks to the American Society of Mechanical Engineers (ASME) coded standards.

CALIFORNIA BUILDING CODE

The California Building Code (CBC) contains requirements regarding the storage and handling of hazardous materials, in a Seismic Zone 4 area, which restrict the issuance of an occupancy permit until the applicant has demonstrated compliance with section 307.1.6 of the CBC. That section requires a Hazardous Materials Management Plan be completed, which is similar in some respects to the RMP. The project site is in a Seismic Zone 4 area.

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. Article 80 was extensively revised in the latest edition. These articles contain requirements that are generally similar to those contained in Health & Safety Code section 25531 et seq. The UFC does, however, contain unique requirements for secondary containment, monitoring, and treatment of toxic gases emitted through emergency venting. These unique requirements are generally restricted to extremely hazardous materials.

LAND USE

FEDERAL

Resource Area-Wide Allocations

- Unless otherwise identified, all public lands shall be retained in federal ownership (Allocation No. 1).

- Lands where BLM manages the mineral estate only (split estate lands) will be available for exchange through Section 206 of the Federal Land Policy Management Act (FLPMA), on a case by case basis (Allocation No. 6).

- Management Action shall conform to Visual Resource Management (VRM) classifications (Allocation No. 22).

TITLE 8, CALIFORNIA CODE OF REGULATIONS, SECTION 2700 ET SEQ., "HIGH VOLTAGE ELECTRIC SAFETY ORDERS"

Establishes essential requirements and minimum standards for safely installing, operating, and maintaining electrical installations and equipment; and the guarding against accidental contact with high-voltage lines.

KERN COUNTY GENERAL PLAN

The general plan is the legal document that acts as a constitution for land use and development in Kern County. It consists of the seven mandatory elements: land use, circulation, open space, conservation, housing, safety and seismic safety, and noise; and four optional elements: recreation, energy, hazardous waste management, and public services and facilities (Kern County 1996a). The following land use designations of the Kern County General Plan are specific to the proposed project.

LAND USE DESIGNATIONS

Nonjurisdictional Land

State and Federal Land - All property under the ownership and control of various state and federal agencies.

Resource

Intensive Agriculture
Applies to areas devoted to the production of irrigated crops or having the potential for such use. Other agricultural uses may be consistent with the intensive agriculture designation. Minimum parcel size is 20 acres gross. Permitted uses include, but are not limited to:

- Primary: irrigated cropland, orchards, vineyards, ranch and farm facilities, etc.; one single-family dwelling unit.

- Compatible: livestock grazing, water storage, mineral and petroleum exploration and extraction, and public utility uses, etc., pursuant to provisions of the Zoning Ordinance.

Extensive Agriculture

Applies to agricultural uses involving large amounts of land with relatively low value-per-acre yields. Minimum parcel size is 20 acres gross, except lands not under Williamson Act Contract, in which case the minimum parcel size shall be 80 acres gross. Permitted uses include, but are not limited to:

- Primary: livestock grazing, dry land farming, ranching facilities, wildlife and botanical preserves, timber harvesting, etc.; one single-family dwelling unit; and

- Compatible: irrigated croplands, water storage or ground water extraction, recharge areas, mineral and petroleum exploration, recreational activities, etc.

Mineral and Petroleum

Applies to areas, which contain producing, or potentially productive, petroleum fields and mineral deposits. Uses are limited to activities directly associated with resource extraction. Minimum parcel size is 5 acres gross. Permitted uses include, but are not limited to:

- Primary: mineral and petroleum exploration and extraction; and

- Compatible: extensive and intensive agriculture, mineral and petroleum processing, pipelines, power transmission facilities, communication facilities, equipment storage yards, and one single-family dwelling unit (subject to a Conditional Use Permit).

Physical Constraints

Includes overlay zones denoting physical constraints. Those applicable include:

- Steep Slopes: Land with an average slope of 30 percent or steeper; and

- Flood Hazard: Based on the Flood Hazard Boundary Maps of the US Department of Housing and Urban Development and the Kern County Water Agency. These areas include, for example, flood channels and watercourses, riverbeds, and gullies. Development within these areas is subject to review by the County and will include conformity with adopted ordinances.

Special Treatment Areas

These are areas for which area-wide land use plans have been prepared or approved. They include both "Accepted County Plan Areas" and "Rural Community" plans:

- Accepted County Plan Areas: Specific land use areas for which plans have been prepared and approved.

- Rural Community: Settlements in the County that have individual character and are recognized as unique communities meriting Specific Plan level of detail.

GENERAL PLAN LAND USE DESIGNATIONS WITHIN THE STUDY AREA

Location or Linear Facility1[1]	Land Use Designation
La Paloma Generating Plant	Extensive Agricultural/Mineral and Petroleum
Route 1 (R1) Transmission Line Route	Extensive Agricultural/Mineral and Petroleum
Route 2 (R2) Water Supply Line Route	Extensive Agricultural/Mineral and Petroleum
Route 4 (R4) Potable Water Supply Line Route	Extensive Agricultural/Mineral and Petroleum
Route 5 (R5) Natural Gas Supply Line	Extensive Agricultural/Mineral and Petroleum

EXISTING LAND USES WITHIN THE STUDY AREA

Location or Linear Facility	Existing Land Uses
La Paloma Generating Plant	Undeveloped/Oil Wells
Route 1 (R1) Transmission Line Route	BLM lands and Undeveloped/Oil Wells/California Department of Fish and Game lands/California Aqueduct, Levee, Flood Canal/Agricultural, Buttonwillow Park
Route 2 (R2) Water Supply Line Route	BLM lands and Undeveloped/Oil Wells
Route 4 (R4) Potable Water Supply Line Route	BLM lands and Undeveloped/Oil Wells/Residential
Route 5 (R5) Natural Gas Supply Line	BLM lands and Undeveloped/Oil Wells

LAND USE PLANS AND POLICIES RELATED TO THE LA PALOMA GENERATING PROJECT

The following provisions of the Kern County General Plan, McKittrick Rural Community Plan, Buttonwillow Community Development Plan, U.S. Fish and Wildlife Service, and Caliente Resource Management Plan are specific to the proposed project. Please refer to the **Socioeconomic Resources and Noise** sections of the Final Staff Assessment (FSA) for a discussion of the applicable policies of the Kern County General Plan. Please refer to the **Biological Resources** section of the FSA for a discussion of the

[1] Routes 1A and 3 were removed from consideration by La Paloma on March 5, 1999 (LPGP 1998a, Addendum VIII.

applicable policies of the U.S. Fish and Wildlife Service and the California Department of Fish and Game. The FSA is designated as Exhibit 35 in the evidentiary record of this proceeding.

Nonjurisdictional Land

- Coordination and cooperation will be promoted among the County, the incorporated cities and the various special districts where their planning decisions and actions affect more than a single jurisdiction (Policy No. 1).

- Land under state and federal jurisdiction will be considered as land designated for "Resource Management" on the General Plan map (Policy No. 4).

Physical Constraints

- Kern County will not permit new developments to be sited on land that is environmentally unsound to support such development (Policy No. 1).

- Development will not be allowed in natural hazard areas pending the adoption of ordinances that establish conditions, criteria and standards in order to minimize risk to life and property posed by those risks (Policy No. 2).

- Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas (Policy No. 3).

- New development will not be permitted in areas of landslide or slope instability as designated in the Safety and Seismic Safety Element of the General Plan, and as mapped on the Kern County Seismic Hazard Atlas (Policy No. 6).

- Regardless of percentage of slope, development on hillsides will be sited in the least obtrusive fashion, thereby minimizing the extent of topographic alteration required (Nonjurisdictional Land - Policy No. 1, p. 1 - Policy no. 9)

- Development proposed in areas with steep slopes will be reviewed for conformity to the adopted Hillside Development Ordinance to ensure that appropriate stability, drainage, and sewage treatment will result (Policy No. 10).

- Designated flood channels and watercourses, such as creeks, gullies, and riverbeds will be preserved as resource management areas or, in the case of the urban areas, as linear parks (Policy No. 12).

- New development will be required to demonstrate the availability of adequate fire protection and suppression facilities (Policy No. 13).

- Kern County will evaluate the potential noise impacts of any development-siting action or of any applications it acts upon that could significantly alter noise levels in the community and will require mitigative measures where significant adverse effects are identified (Policy No. 14).

- The air quality effects of a proposed land use will be considered when evaluating development proposals (Physical Constraints - Policy No. 15, p. 2-3).

- Kern County will disapprove projects found to have significant adverse effects on Kern County's air quality, unless the Board of Supervisors, Board of Zoning Adjustment, or the Director of Planning and Development Services, acting as Hearing Officer or Parcel Map Advisory Agency makes findings under CEQA (Policy No. 16).

Special Treatment Areas

- In areas designated "Specific Plan Required" with more than one owner, the interim designations will reflect the existing zoning pattern until the County prepares and adopts a Specific Plan (Policy 3(b)).

Resource

- Areas designated agricultural use, which include Class I and II agricultural soils with surface water delivery systems will be protected against residential and commercial subdivision and development activities (Policy No. 1).

- Areas identified by the Soil Conservation Service as having high range-site value will be reserved for extensive agricultural use or as resource reserves if located within a County water district (Policy No. 2).

- In areas with a Resource designation on the General Plan map, only industrial activities which directly and obviously relate to the exploration, production, and transportation of the particular resource will be considered to be consistent with this plan (Policy No. 4).

- Development will be constrained, pending adoption of ordinances, which establish conditions, criteria, and standards, in areas containing valuable resources in order to protect the access to and economic use of these resources (Policy No. 9).

- Rivers and streams in the County are important visual and recreational resources and wildlife habitats. Areas of riparian vegetation along rivers and streams will therefore be preserved when feasible to do so (Policy No. 11).

- The County will maintain and enhance air quality for the health and well being of County residents by encouraging land uses which promote air quality and good visibility (Policy No. 13).

- Habitats of threatened or endangered species should be protected to the greatest extent possible (Policy No. 14).

- Management which are presently under Williamson Act Contracts will have a minimum parcel size of 80 acres until such time as a contract expires or is canceled, at which time the minimum parcel size will become 20 acres (Policy No. 15).

General Provisions

- Prior to issuance of any development or use permit, the County shall make the finding, based on information provided by California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development. The developer shall assume full responsibility for costs incurred in service extensions or improvements that are required as a result of the proposed project (Policy No. 3).

- The air quality implications of new development will be considered in approval of major developments or area wide land use designations (Policy No. 15).

- The County will promote the preservation of designated historic buildings and the protection of cultural resources which provide ties with the past and constitute a heritage value to residents and visitors (Policy No. 16).

- Maintain the County's inventory of areas of potential cultural and archaeological significance (Implementation G).

McKittrick Rural Community Plan

The McKittrick Rural Community Plan has been developed using the criteria, goals, policies, and implementing ordinances of the Kern County General Plan. Programs and document framework for the McKittrick Plan are the same as those used in the Kern County General Plan.

Buttonwillow Community Development Plan

Open Space

- Encourage continuing dual use of transmission line easements as open space or possibly greenbelt areas (Implementation P. 23).

- Continuance of land use contracts under the provisions of the Williamson Act and maintenance of the A (Exclusive Agricultural) zoning classification for agricultural lands (Implementation, P. 25).

- Encourage continuance of land use contracts under the provisions of the California Land Conservation Act of 1965, as amended, and commonly referred to as “The Williamson Act” (Implementation, P. 30).

Fish and Wildlife

- Encourage programs to locate and determine populations of rare and endangered species (Implementation, P. 85).

BLM - Caliente Resource Management Plan

Resource Policy and Management Guidance

- All lands in the resource area are available for cooperative management agreements with local governments and/or private organizations, provided that proposed management conforms to plan objectives and land use allocations (Policy No. 14).

- BLM shall not jeopardize the continued existence of any plant or animal that is listed as threatened or endangered by the federal or state government, or is either proposed for listing or is a candidate for listing by the federal government (Policy No. 19).

- Efforts to avoid adverse effects to cultural resources will be implemented (Policy No. 26).

- Proposals for future development activities will require additional NEPA analysis (Policy No. 27).

- Protection of paleontological resources will include the assessment of the threat to these resources, along with the implementation of measures designed to mitigate these impacts (Policy No. 27).

- The authorized office may approve the use of motor vehicles on any public lands in the resource area (Policy No. 40).

- Resource Guidance and Decisions

- Improve the management efficiency of federal lands, improve resources protection and provide lands for public and private uses through land tenure adjustment (Objective No. 5).

- Accommodate requests for land use authorizations while minimizing residual impacts to sensitive resources (Objective No. 6).

- Manage public lands to enhance, protect and minimize impacts to sensitive resources, including cultural and paleontological resources; and air and improvement, oil development, pipeline corridors, and powerline corridors

must comply with local Air Pollution Control District requirements (Allocation No. 29).

Lokern Area of Critical Environmental Concern (ACEC)

- Cooperative of local landowners and local, state, and federal government agencies to manage the Lokern ACEC as a natural ecosystem for the benefit of threatened and endangered species and their habitats, while recognizing the rights and needs of authorized users of public land.

Management Prescriptions

- This ACEC is open for leasing of oil, gas, and geothermal resources subject to the following stipulation: LSU-Protected Species, LSU-Sensitive Species.

Public Facilities

- In evaluating a development application, Kern County will consider impacts on the local school district(s) (Policy No. 8).

- A large part of the short-term threat to public health and local government resources is due to transportation of hazardous waste (as well as hazardous material in general). Disposal capacity will be permitted for waste streams which minimize the volume and distance of transportation (Policy No. 13).

- All generators and processors of hazardous waste are encouraged to develop long-term waste management programs. Large generators of hazardous waste should be encouraged to recycle, treat and detoxify their wastes on site. Many such processes could be implemented in existing industrial map designations, if zoned appropriately (Policy No. 17).

- Include consideration of fiscal impacts of development proposals, so that the character and extent of possible public service or facility deficiencies can be identified during the course of the normal project review process (Implementation B).

- Determine the local cost of facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the time of approval of the Final Map (Implementation E).

- Ensure that the Superintendent of Schools and the respective school boards are informed of development proposals and are afforded the opportunity of evaluating their potential effect on the physical capacity of school facilities and their fiscal impact on locally originating revenue requirements. Their reports on these impacts should be available on a timely fashion prior to final consideration and action by Kern County on a development application (Implementation J).

- Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31030 et seq. Permit applications shall identify the commercial shipping routes they propose to utilize for particular waste streams (Implementation O).

Energy Element of the Kern County General Plan

- The County shall encourage the development and upgrading of transmission lines and associated facilities (e.g., substations) as needed to serve Kern County's residents and access the County's generating resources, insofar as transmission lines do not create significant environmental or public health and safety hazards (Policy No. 1).

- The County shall review proposed transmission lines and their alignments for conformity with the Land Use Element of the Kern County General Plan (Policy No. 2).

- In reviewing proposals for new transmission lines and/or capacity, the County shall assert a preference for upgrade of existing lines and use of existing corridors where feasible (Policy No. 3).

- The County shall work with other agencies in establishing routes for proposed transmission lines (Policy No. 4).

- The County shall discourage the siting of above ground transmission lines in visually sensitive areas (Policy No. 5).

- The County should encourage new transmission lines to be sited/configured to avoid or minimize collision and electrocution hazards to raptors (Policy No. 6).

- The County should monitor the supply and demand of electrical transmission capacity locally and statewide (Implementation A).

- The County shall continue to maintain provisions in the Zoning Ordinance and update as necessary to provide for transmission line development (Implementation B).

KERN COUNTY ZONING CODE

The Kern County Zoning Ordinance was adopted in July 1997. The ordinance implements the Kern County General Plan by applying development standards and construction requirements on land as it is developed within the unincorporated areas of the county. The following divisions of the Kern County Zoning Ordinance apply to the project.

ZONING DISTRICTS

Exclusive Agriculture (A)

Areas that are suitable for agricultural uses. This designation is designed to prevent the encroachment of incompatible uses onto agricultural lands and the premature conversion of such lands to non-agricultural uses. Permitted uses in the "A" District are limited primarily to agriculture and other activities compatible with agriculture.

Limited Agriculture (A-1)

Areas that are suitable for a combination of estate-type residential development, agricultural uses, and other compatible uses.

Natural Resource (NR)

Lands with this designation are productive or potentially productive petroleum, mineral, or timber resource areas; the designation is designed to prevent the encroachment of incompatible uses onto such lands. Uses in the "NR" District are limited to resource exploration, production and transportation, and to compatible activities.

Estate (E)

Areas that are suitable for larger lot residential living environments. Uses are limited to those typical of and compatible with, quiet residential neighborhoods. Uses permitted in the Estate District include agricultural, residential, commercial utility, communication facilities, resource extraction and energy development uses.

Low-density Residential (R1)

Areas that are suitable for traditional smaller lot, single-family homes and compatible uses. Maximum density is limited to ten dwelling units per net acre.

Zoning Designations Within The Affected Environment

Location or Linear Facility	Zoning Designations
La Paloma Generating Plant	A
Route 1 (R1) Transmission Line Route	A, A1, E
Route 2 (R2) Water Supply Line Route	A
Route 4 (R4) Potable Water Supply Line Route	A, NR, R-1
Route 5 (R5) Natural Gas Supply Line	A

NEED CONFORMANCE

STATE

PUBLIC RESOURCES CODE

Written decisions on Applications for Certification by the Energy Commission must contain findings, including "Findings regarding the conformity of the proposed facility with the integrated assessment of need for new resource additions determined pursuant to subdivisions (a) to (f), inclusive, of Section 25305 and adopted pursuant to Section 25308 or, where applicable, findings pursuant to Section 25523.5 regarding the conformity of a competitive solicitation for new resource additions determined pursuant to subdivisions (a) to (f), inclusive, of Section 25305 and adopted pursuant to Section 25308 that was in effect at the time that the solicitation was developed." (Public Resources Code Section 25523 (f).)

CALIFORNIA CODE OF REGULATIONS

California Code of Regulations states "The presiding member's proposed decision shall contain the presiding member's recommendation on whether the application shall be approved, and proposed findings and conclusions on each of the following: (a) Whether and the circumstances under which the proposed facilities are in conformance with the 12-year forecast for statewide and service area electric power demands adopted pursuant to Section 25309(b) of the Public Resources Code." (Cal. Code of Regs., tit. 20, **§** 1752 (a)).

NEED CONFORMANCE CRITERIA

In order to obtain a license from the Energy Commission, a proposed power plant must be found to be in conformance with the Integrated Assessment of Need. The criteria governing this determination are contained in the 1996 Electricity Report (***ER 96***), and are most succinctly described on page 72 of that document:

> "In sum, the ***ER 96*** need criterion is this: during the period when ***ER 96*** is applicable, proposed power plants shall be found in conformance with the Integrated Assessment of Need (IAN) as long as the total number of megawatts permitted does not exceed 6,737."

The Commission on November 5, 1997 adopted ***ER 96***. La Paloma Generating Project was found data adequate on August 26, 1998. Therefore, ***ER 96*** is the ***Electricity Report*** adopted most recently prior to the project being found data adequate. Staff evaluated the project based on ***ER 96*** Need Conformance Criteria.

NOISE

FEDERAL

Under the Occupational Safety and Health Act of 1970 (29 USCA § 651 et seq.), the Department of Labor, Occupational Safety and Health Administration (OSHA) has adopted regulations (29 C.F.R. § 1910 et seq.) that establish maximum noise levels to which workers at a facility may be exposed. These OSHA noise regulations are designed to protect workers against the effects of noise exposure, and list permissible noise level exposure as a function of the amount of time during which the worker is exposed. OSHA regulations also dictate hearing conservation program requirements and workplace noise monitoring requirements.

There are no federal laws governing offsite (community) noise.

STATE

Similarly, there are no state regulations governing offsite (community) noise. Rather, state-planning law (Gov. Code, § 65302) requires that local authorities such as counties or cities prepare and adopt a general plan. Government Code section 65302(g) requires that a noise element be prepared as part of the general plan to establish acceptable noise limits. Other state LORS include CEQA and Cal-OSHA.
The California Occupational Safety and Health Administration (Cal-OSHA) has promulgated Occupational Noise Exposure Regulations (Cal. Code Regs., tit. 8, § 5095 et seq.) that set employee noise exposure limits. These standards are equivalent to the federal OSHA standards described above.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) requires that significant environmental impacts be identified, and that such impacts be eliminated or mitigated to the extent feasible. The CEQA Guidelines (Cal. Code Regs., tit. 14, Appendix G) explain that a significant effect from noise may exist if a project would result in:

1. "Exposure of persons to, or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

2. "Exposure of persons to, or generation of excessive ground vibration or ground-borne noise levels.

3. "A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

4. "A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project."

LOCAL

KERN COUNTY GENERAL PLAN - NOISE ELEMENT

Kern County has established environmental noise limits based on the land use of the property receiving the noise. The permissible noise levels are outlined below.

NOISE: Table 1
Kern County General Plan-Noise Element

Land Use Category	Maximum Permissible Sound Level		
	L_{50} (Day)	L_{50} (Night)	L_{dn} (CNEL)
Non-sensitive Land Uses	65	60	75
Moderately Sensitive Land Uses	60	55	70
Sensitive Land Uses	55	45	65
Highly Sensitive Land Uses	50	40	60

The nearest noise sensitive receptors to the LPGP site include residences within McKittrick. According to the Kern County Noise Element, these single-family rural dwellings would be classified as Highly Sensitive Land Uses. As such, the maximum allowable noise level from the LPGP at the residential properties is the L_{50} (Night) of 40 dBA.

PALEONTOLOGIC

FEDERAL

The National Environmental Policy Act (NEPA): Title 42, United States Code sections 4321-4327. This legislation established the basis for the nation's environmental policies. Paleontological resources are considered items of scientific interest under NEPA.

Federal Land Management and Policy Act (FLMPA): Title 43, United States Code sections 1701-1784 requires that public land be managed in such a way that the quality of items of scientific interest (including paleontological resources) are protected.

NEPA and the FLMPA apply to the transmission line alignments and rights-of-way that cross land under the jurisdiction of the Bureau of Land Management (BLM). It is noted that the BLM has guidelines (BLM 1969) for assessing and managing paleontological resources on public lands under their jurisdiction.

STATE

CEQA Guidelines, Title 14, California Code of Regulations, Section 15000 et seq., Appendix G, (V)(c) are applicable to the site since the proposed project is located in California and not on a federal reservation or tribal lands (with the exception of a small portion of a transmission line alignment that crosses BLM land).

> In addition to the CEQA guidelines, the Energy Commission has regulations pertinent to paleontological resources assessment and management. These regulations are found in Title 20, California Code of Regulations, Division 2, Chapter 5, Article 6, Appendix B, (g)(16).

LOCAL GUIDELINES OR ORDINANCES

None apply to the project.

STANDARDS

The Society of Vertebrate Paleontologists (SVP) *Measures for Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources: Standard Procedures*, dated 1994 are applicable to the project. The Standard Procedures call for the assessment and mitigation program to be developed by a paleontologist.

PUBLIC HEALTH

FEDERAL

The Clean Air Act of 1970 (42 U.S.C., section 7401 et seq.) required establishment of ambient air quality standards to protect the public from the effects of air pollutants. These standards have been established by the United States Environmental Protection Agency (EPA) for the major air pollutants: nitrogen dioxide, ozone, sulfur dioxide, carbon monoxide, sulfates, particulate matter with a diameter of 10 micron or less (PM10) and lead. The act required states to adopt plans to ensure compliance by 1982. These plans are known as the State Implementation Plans (SIPs). The EPA revised the ozone standard and the particulate matter standard in 1997 to differentiate between PM10 and particulate matter with a diameter of 2.5 micron or less (PM2.5). Such particulate matter may serve as a source of exposure to both criteria and noncriteria pollutants.

STATE

California Health and Safety Code, section 39606 requires the California Air Resources Board (CARB) to establish California's ambient air quality standards to reflect the California-specific conditions that influence its air quality. Such standards have been established by the CARB for ozone, carbon monoxide, sulfur dioxide, PM10, lead, hydrogen sulfide, vinyl chloride and nitrogen dioxide. The same biological mechanisms underlie some of the health effects of most of these and the noncriteria pollutants. The California standards are listed together with the corresponding federal standards in the **Air Quality** section of this Appendix.

California Health and Safety Code, section 41700 states that "(n)o 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 business or property."

The California Health and Safety Code, section 39650 mandates California Environmental Protection Agency (Cal/EPA) to establish safe exposure limits for toxic, noncriteria air pollutants and identify the best available methods for their control. These laws also require that the new source review rules for each air district include regulations establishing procedures to control the emission of these pollutants. The toxic emissions from natural gas combustion are listed in CARB's April 11, 1996 California Toxic Emissions Factors (CATEF) database for natural gas-fired combustion turbines. Cal/EPA has developed cancer potency estimates for assessing their related cancer risks at specific exposure levels. For the noncarcinogens, Cal/EPA established specific no-effects levels (known as reference exposure levels) for assessing the likelihood of health symptoms at specific exposure levels. Such health effects would be considered likely only when exposure exceeds these reference levels. Staff uses these Cal/EPA potency estimates and reference exposure values in its health assessments.

California Health and Safety Code, section 44300 et seq., requires facilities which emit large quantities of criteria pollutants and any amount of noncriteria pollutants to provide the local air district an inventory of toxic emissions. Such facilities may also be required to prepare a quantitative health risk assessment to address the potential health risk involved. The CARB and the San Joaquin Unified Air Pollution Control District (District) will ensure implementation of these requirements for the project.

LOCAL

The San Joaquin Valley Unified Air Quality Management District has no specific rules implementing Health and Safety Code section 44300. It does, however, require the results of a health risk assessment as part of the application for the Authority to Construct (ATC).

SOCIOECONOMIC RESOURCES

FEDERAL

Executive Order 12898, "Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low-Income Populations." This order focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The 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 problem. 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 53080, 65959 ET SEQ.

The code includes provisions for levies against development projects near school districts. The administering agency for the above authority for this project is Kern County.

CALIFORNIA GOVERNMENT CODE, SECTION 65996

As amended by SB 50 (Ch. 407, Sec. 23), states that public agencies may not impose fees, charges or other financial requirements to offset the cost for school facilities.

LOCAL

KERN COUNTY GENERAL PLAN

Public facilities component pertinent to socioeconomics.

Policy No. 8

In evaluating a development application, Kern County will consider impacts on the local school districts.

Implementation E

Requires the determination of the local cost of facility and infrastructure improvements and expansions that are necessitated by new development of any type and requires the preparation of a schedule of charges to be levied on the developer at the time of approval of the Final Map.

TRANSMISSION SYSTEM ENGINEERING

FEDERAL AND STATE

- California Public Utilities Commission (CPUC) General Order 95 (GO-95), "Rules for Overhead Electric Line Construction", formulates uniform requirements for construction of overhead lines. Compliance with this order ensures adequate service and safety to persons engaged in the construction, maintenance, operation or use of overhead electric lines and to the public in general.

- CPUC Rule 21 provides standards for the reliable connection of parallel generating stations connected to participating transmission owners.

- 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 Reliability Criteria also provide 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 and the NERC Planning Standards. The Cal-ISO Reliability Criteria incorporate the WSCC Criteria and NERC Planning Standards. However, the Cal-ISO Reliability Criteria also provide some additional requirements that are not found in the WSCC Criteria or the NERC Planning Standards. The Cal-ISO Reliability Criteria apply to all existing and proposed facilities interconnecting to the Cal-ISO controlled grid.

- Cal-ISO Scheduling Protocols and Dispatch Protocols require conformance with NERC, WSCC, and Local Area Reliability and Planning Criteria. These standards will be applied the assessment of the system reliability implications of the La Paloma Generating Project. Also of major importance to the LPGP, 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 if the participant will be paid more or less than, for instance, the generating units dispatched net power output (Cal-ISO 1998a, Cal-ISO 1998b).

- Cal-ISO Participating Generator Agreement consists of detailed explanations of the requirements in the Cal-ISO Tariff pertaining to the paralleled generating unit.

TRANSMISSION LINE SAFETY AND NUISANCE

FEDERAL

AVIATION SAFETY

Title 14, Code of Federal Regulations, part 77, "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.

Federal Aviation Administration Advisory Circular 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.

Federal Aviation Administration Advisory Circular No. 70/460-1G, "Obstruction Marking and Lighting"

Describes the FAA standards for marking and lighting objects that may pose a navigation hazard as established using the criteria in Title 14, Code of Federal Regulations, part 77.

INTERFERENCE WITH RADIO-FREQUENCY COMMUNICATION

Federal Communications Commission (FCC) regulations in Title 47, Code of Federal Regulations, 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 this noise is generated, it usually manifests as interference with radio or television signal reception. Since the level of interference will depend 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, no maximum interference level is specified as a design criterion for modern transmission lines.

STATE

CALIFORNIA PUBLIC UTILITIES COMMISSION, GENERAL ORDER 52 (CPUC, GO-52)

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.

AUDIBLE NOISE

As with radio noise, any audible noise from a transmission line will usually result 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. Such noise is usually generated during wet weather and from lines of 345 kV or higher. Research by the Electric Power Research Institute (EPRI 1982) has shown the fair-weather audible noise from modern transmission lines to be generally indistinguishable from ambient noise at the edge of a 100-ft right-of-way. There are no design-specific regulations to limit the noise from transmission lines. Such sources is limited instead through design standards established from industry research and experience as effective for noise reduction without significant impacts on line safety, efficiency and reliability.

FIRE HAZARDS

The fires addressed through these 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.

California Public Utilities Commission, General Order 95, "Rules for Overhead Electric Line Construction" (CPUC, GO-95)

Tree trimming criteria to minimize the potential for power line-related fires.

Title 14, California Code of Regulations, section 1250, "Fire Prevention Standards for Electric Utilities"

Utility-related measures for fire prevention.

HAZARDOUS SHOCKS

California Public Utilities Commission, General Order 95, "Rules for Overhead Line Construction" (CPUC, GO-95)

Uniform statewide requirements for overhead line construction regarding ground clearance, grounding, maintenance and inspection. Implementing these requirements usually ensures the safety of the general public and line workers.

Title 8, California Code of Regulations, section 2700 et seq., "High Voltage Electric Safety Orders"

Establishes essential requirements and minimum standards for safely installing, operating, and maintaining electrical installations and equipment; and the guarding against accidental contact with high-voltage lines.

National Electrical Safety Code, Part 2: "Safety Rules for Overhead Lines"

Provisions in this part of the code specify the national safe operating clearances applicable in areas where the line might be accessible to the public. Such requirements are intended to minimize the potential for direct or indirect contact with the energized line.

The hazardous shocks that are addressed by these regulations and standards are those that could result from direct or indirect contact between the 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.

LOCAL

There are no local laws or regulations specifically aimed at the physical structure of electric power lines.

TRAFFIC AND TRANSPORTATION

FEDERAL

The federal government addresses transportation of goods and materials in Title 49, Code of Federal Regulations:

- Title 49, Code of Federal Regulations, section 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, section 350-399, and Appendices A-G, Federal Motor Carrier Regulations, addresses safety considerations for the transport of goods, materials and substances over public highways.

STATE

The California Vehicle Code and the Streets and Highways Code contain requirements applicable to the licensing of drivers and vehicles, the transportation of hazardous materials and right-of-way. In addition, the California Health and Safety Code addresses the transportation of hazardous materials. Specifically, these codes include:

- California Vehicle Code, section 353 defines hazardous materials.

- California Vehicle Code, sections 31303-31309, regulates the highway transportation of hazardous materials, the routes used, and restrictions thereon.

- California Vehicle Code, section 31030, requires that permit applications shall identify the commercial shipping routes they propose to utilize for particular waste streams.

- California Vehicle Code, sections 31600-31620, regulates 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, 34501, 34501.2, 34501.4, 34501.10, 34505.5-7, 34507.5 and 34510-11, regulate the safe operation of vehicles, including those which are used for the transportation of hazardous materials.

- California Vehicle Code, sections 2500-2505, authorize 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, it requires 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., 1470, and 1480, regulate right-of-way encroachment and the granting of permits for the encroachment on state and county roads.

- California Health and Safety Code, sections 25160 et seq., address the safe transport of hazardous materials.

LOCAL

KERN COUNTY

The Circulation Element of the Kern County General Plan sets up local goals and guidance policies about building and transportation improvements. It introduces planning tools essential for achieving the local transportation goals and policies (County of Kern, 1972). Relevant goals and policies include, in part, the following:

Private Development Access to Existing Roadway Network

As a condition of private development approval, developers shall build roads needed to access the existing road network (Policy No. 1).

Growth Beyond 2010

The County should monitor traffic volumes and patterns on County major highways (Policy No. 1).

Development applications must demonstrate that sufficient transportation capacity is available to serve the proposed project at Level of Service “D” (LOS D) or better.

Trucks on Highways

Make Caltrans aware of heavy truck activity on Kern County's roads (Policy No. 1).

Start a program that monitors truck traffic operations (Policy 2).

Promote a monitoring program of truck traffic operations (Policy 2).

Trucks Routes

The Transportation Management Department should oversee truck travel patterns and be aware of locations where heavy trucks traverse residential areas (Policy No. 1).

Transportation of Hazardous Materials

State maintained highways are acceptable as commercial hazardous waste transportation routes (Policy No. 1).

Kern County and affected cities should reduce use of county maintained roads and city maintained streets for transportation of hazardous materials (Policy No. 3).

Restrict commercial transportation of hazardous materials in accordance with Vehicle Code, section 31303 (Policy No. 4). This circulation element recommends charting routes where hazardous material shipments can go.

Road Pavement Damage

The County shall continue to maintain pavement conditions and check operating conditions by collection and review of traffic flow and accident data to rate the circulation system (Policy No. 1).

VISUAL RESOURCES

FEDERAL AND STATE

Segments of the proposed transmission line rights-of-way are located on both federal and state lands. The Bureau of Land Management (BLM) manages the federal lands, and the California Department of Fish and Game (CDFG) manages the state. See the **Biological Resources, Land Use, Paleontological Resources** and **Cultural Resources** sections of this Decision for further discussion. No roadway in the project vicinity is a designated or eligible State Scenic Highway. Therefore, no federal or state regulations pertaining to scenic resources are applicable to the project.

LOCAL

COUNTY OF KERN

General Plan

Kern County has no specific policies on visual or aesthetic resources that apply to the La Paloma Generating Project. However, these issues are addressed in the Kern County General Plan, Open Space Element, and are implemented by the Kern County Planning and Development Services Department (Kern County, 1994). This element of the General Plan requires public notification and review of any projects that may adversely impact visual resources.

WASTE MANAGEMENT

FEDERAL

- The Resource Conservation and Recovery Act (RCRA) sets forth standards for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal (42 USC § 6901 et seq.). The U. S. Environmental Protection Agency (EPA) may administer the provisions of RCRA in each state. However, the law also allows EPA to delegate the administration of the RCRA program to the various states when a state program is shown to meet federal requirements. When a state receives final EPA authorization of its program, its regulations have the force and effect of federal law. California received final authorization of its program on August 1, 1992.

- Under the provisions of the RCRA, the EPA has promulgated regulations identifying hazardous wastes subject to the management standards, either by listing them or by describing characteristics that qualify the wastes as hazardous. In addition, generators of hazardous waste must comply with requirements regarding:

- record keeping practices that identify quantities of hazardous wastes generated and their disposition;

- labeling practices and use of appropriate containers;

- use of a manifest system for transportation; and

- submissions of periodic reports to the EPA or authorized state agency.

The RCRA also establishes requirements applicable to hazardous waste transporters, including record keeping, compliance with the manifest system, obtaining EPA identification numbers and transporting only to permitted facilities.

Amendments to RCRA passed in 1984 broadened regulatory control and banned land disposal of untreated hazardous wastes.

Title 40, Code of Federal Regulations, section 260 et seq., contains regulations promulgated by the EPA to carry out the requirements of the RCRA as described above. These regulations describe characteristics of hazardous waste in terms of ignitability, corrosivity, reactivity and toxicity. They also list specific types of wastes.

STATE

The following laws and regulations apply, at least in part, to the proposed LPGP project:

- California Health and Safety Code section 25100 et seq. (Hazardous Waste Control Act of 1972, as amended.), creates the framework under which hazardous wastes are managed in California. It mandates the Department of Toxic Substances Control (DTSC) 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 the California EPA (Cal EPA) and creates a manifest system to be used when transporting such wastes. Additionally, transporters of hazardous wastes must hold valid registrations with the Cal EPA DTSC Transportation unit.

- Title 22, California Code of Regulations, section 66001 et seq., adopted by DTSC, sets forth the State's minimum standards for the management of hazardous and extremely hazardous wastes. Title 22, California Code of Regulations, section 66262.10 et seq., establishes 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 Cal EPA identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Additionally, registered hazardous waste transporters handle hazardous wastewater. Generator requirements for record keeping, reporting, packaging and labeling are also established.

LOCAL

Pursuant to Senate Bill 1082 (Stats. 1993, ch. 418) the Secretary for Environmental Protection established requirements under which every county must apply to the Secretary for approval of a unified hazardous waste and hazardous materials management regulatory program. (Health and Safety Code §§ 25404 and 25404.6)

The Kern County Environmental Health Department is the Certified Unified Program Agency (CUPA) that consolidates, coordinates and makes consistent the administrative requirements, permits, inspection activities, enforcement activities, and hazardous waste and hazardous materials fees (Von Sydow 1999).

SOIL AND WATER RESOURCES

FEDERAL

CLEAN WATER ACT

The Clean Water Act (33 USC § 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 specific or general National Pollutant Discharge Elimination System (NPDES) permits. Stormwater discharges during construction and operation of a facility and incidental non-stormwater discharges associated with pipeline construction also fall under this act, and are addressed through a general NPDES permit. In California, requirements of the Clean Water Act regarding regulation of point source discharges and stormwater discharges are delegated to and administered by the nine Regional Water Quality Control Boards (RWQCB). Section 404 of the act regulates the discharge of dredged or fill material into waters of the United States, including rivers, streams and wetlands. Site specific or general (nationwide) permits for such discharges are issued by the Army Corp of Engineers (ACOE) and are certified by the RWQCBs.

SAFE DRINKING WATER ACT

The Safe Drinking Water Act (42 USC § 300 et seq.) is designed to protect the quality of drinking water in the United States. Part C specifically mandates the regulation of underground injection of fluids through wells. Section 1421 of the Act requires the United States Environmental Protection Agency (EPA) to propose and promulgate regulations specifying minimum requirements for state programs to prevent underground injection that endangers drinking water sources. In California, the EPA permits all Class I wells. Class I wells are those facilities used to inject hazardous or non-hazardous wastewater below a Underground Source of Drinking Water. An Underground Source of Drinking Water are those aquifers with water having a total dissolved solids concentrations less than 10,000 mg/l.

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 (SWRCB) and the nine 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 Central Valley Region Water Quality Control Plan (Basin Plan 1994). The Porter-Cologne Water Quality Control Act also requires the SWRCB and the nine RWQCBs to ensure the protection of water quality through the regulation of waste discharges to land. Such discharges are regulated under Title 23, California Code of Regulations, Chapter 15, Division 3. These regulations require that the RWQCB issue a Waste Discharge Requirement which specifies conditions regarding the construction,

operation, monitoring and closure of the waste disposal site, including injection wells for waste disposal. In this case, the EPA will be permitting an injection well and a Waste Discharge Requirement is not required (Waas 1999).

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; the use will not impact downstream users or biological resources; and the use 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.

STATE WATER RESOURCES CONTROL BOARD POLICY 75-58

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 requires 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.

401 WATER QUALITY CERTIFICATION

Section 401 of the Clean Water Act provides for state certification that federal permits allowing discharge of dredged or fill material into waters of the United States will not violate federal and state water quality standards. For the LPGP, a number of the proposed linear facilities cross ephemeral drainages which are considered waters of the United States. The Central Valley RWQCB will issue the 401 certification for this project.

LOCAL

Kern County Code of Building Regulations, Chapter 17.28 sets forth grading requirements.

WORKER SAFETY AND FIRE PROTECTION

FEDERAL

- Occupational Safety and Health Act of 1970 (29 USC § 651 et seq.);
- Occupational Safety and Health Administration Safety and Health regulations (29 CFR §§ 1910.1 - 1910.1500).

Approval of California's plan for enforcement of its own Safety and Health requirements, in lieu of most of the federal requirements found in Part 29, Code of Federal Regulations, sections 1910.1 - 1910.1500 (29 CFR §§ 1952.170 - 1952.175)

STATE

Title 8, California Code of Regulations, section 450 et seq. (Applicable requirements of the Division of Industrial Safety, including Unfired Pressure Vessel Safety Orders, Construction Safety Orders, Electrical Safety Orders, and General Industry Safety Orders).

California Building Code, Title 24, California Code of Regulations, section 501 et seq. The California Building Code is designed to provide minimum standards to safeguard human life, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, etc. of buildings and structures.

LOCAL

Uniform Fire Code (UFC). The uniform fire code contains provisions necessary for fire prevention and information about fire safety, special occupancy uses special processes, and explosive, flammable, combustible and hazardous materials.

Uniform Fire Code Standards. This is a companion publication to the UFC and contains standards of the American Society for Testing and Materials and of the National Fire Protection Association.

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	
	)	
Application for Certification of	)	Docket No. 98-AFC-2
The La Paloma Generating	)	
Project	)	
_____)		

EXHIBIT LIST

EXHIBIT 1: Application for Certification, Volumes I and II, dated July 1998. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 2: Responses (dated October 13, 1998) to Staff's September 11, 1998 data requests. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 3: Cultural and Paleontological reports, dated September 14, 1998. DESIGNATED CONFIDENTIAL. Sponsored by Applicant; admitted into evidence on April 22, 1999.

EXHIBIT 4: Amendment to Application for Determination of Compliance, dated September 15, 1998. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 5: Biological Assessment, dated October 26, 1998. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 6: Errata (dated October 27, 1998) to Application for Certification. Sponsored by Applicant; admitted into evidence on April 22, 1999.

EXHIBIT 7: Package of miscellaneous correspondence from various agencies regarding environmental permits, dated November 6, 1998. Sponsored by Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 8A: Application for PSD permit, dated July 1998. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 8B: Application for Determination of Compliance, dated July 1998. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 9: Package (dated November 12, 1998) of correspondence concerning ten permits. Sponsored by Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 10: California Department of Fish and Game section 1603 agreement, dated November 13, 1998. Sponsored by Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 11: ABB turbine start-up curves, dated December 2, 1998. Sponsored by Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 12: Supplement No. 1 to the Application for Certification, dated December 7, 1998. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 13: Errata (dated January 20, 1999) to Supplement No. 1 to the Application for Certification. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 14: Letter from Central Valley Regional Water Quality Control Board re: Class V injection well permit application, dated December 29, 1998. Sponsored by Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 15: Status update re: SCONOx and ERC, dated January 13, 1999. Sponsored by Applicant; received into evidence on June 29, 1999.

EXHIBIT 16: Package (dated January 13, 1999) consisting of: letter from California Regional Water Quality Control Board re: application for Class V Injection Well Permit, dated December 29, 1998; and summary of Kern County Board of Supervisors action amending General Plan. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 17: Draft Biological Resources Mitigation Implementation Monitoring Plan, dated January 19, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 18: Revised annual emissions estimates for NOx, VOC, and CO, dated

January 19, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 19: Corrections to AFC Supplement No. 1 re: Air Quality, dated January 20, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 20: Letter re: PM_{10} precursor offset ratio analysis and revised annual emissions calculations, dated January 22, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 21: Notice of Change of Ownership, dated January 28, 1999. Sponsored by Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 22: Letter (dated February 10, 1999) containing responses to Hazardous Waste information request. Sponsored by Applicant; admitted into evidence on April 22, 1999.

EXHIBIT 23: Memorandum regarding strategy for Compliance with ESA and CSEA, dated February 11, 1999. Sponsored by Applicant; admitted into evidence June 29, 1999.

EXHIBIT 24: Class I Injection Well Permit Application, dated February 17, 1999. Sponsored by Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 25: Summary of PGandE's transmission system interconnection studies and California Independent System Operator review, dated March 3, 1999. Sponsored by Applicant; admitted into evidence on April 22, 1999.

EXHIBIT 26: Letter from Allan Thompson eliminating alternate linear routes, dated March 5, 1999. Sponsored by Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 27: Letter from California ISO to Mr. Rod Maslowski, dated February 25, 1999. Sponsored by Applicant; admitted into evidence on April 22, 1999.

EXHIBIT 28: Supplement 2 to the Application for Certification, dated March 1999. Sponsored by Applicant; admitted into evidence June 29, 1999.

EXHIBIT 29: Supplement (dated December 20, 1998) to PSD permit application. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 30: Letter concerning location of wells, dated March 23, 1999. Sponsored by

Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 31: Supplement No. 2 to Cultural and Paleontological technical reports, dated March 31, 1999. Sponsored by Applicant; admitted into evidence on April 22, 1999.

EXHIBIT 32: Submission (dated March 31, 1999) of three winter raptor surveys. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 33: Preliminary Determination of Compliance, dated April 2, 1999. Sponsored by San Joaquin Valley Air Pollution Control District; admitted into evidence on June 29, 1999.

EXHIBIT 34: Package of prepared testimony and resumes, dated March 23, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 35: Final Staff Assessment for the La Paloma Generating Project, dated April 1999. Sponsored by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 36: Prepared testimony of Danny Kane and Nicholas Kavanaugh, dated April 7, 1999. Sponsored by CURE; admitted into evidence on June 29, 1999.

EXHIBIT 37: Supplemental and Revised Testimony to the Final Staff Assessment, dated April 14, 1999. Sponsored by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 38: Prepared testimony of Ron. S. Daschmans re: Transmission System Reliability, dated April 7, 1999. Sponsored by Staff on behalf of the California Independent System Operator; admitted into evidence on April 22, 1999.

EXHIBIT 39: Package containing Applicant's rebuttal testimony, dated April 14, 1999. Sponsored by Applicant; admitted into evidence June 29, 1999.

EXHIBIT 40: Letter re: project impacts on fire protection services, dated April 2, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 41: Letter re: revised construction information for Class I UIC Wells, dated March 11, 1999. Sponsored by Applicant; admitted into evidence on April 21, 1999.

EXHIBIT 42: Response to Chevron letter re: source water, dated April 7, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 43: Witness resumes contained in Applicant's March 9, 1999 Prehearing Conference Statement. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 44: Revised testimony for Cultural Resources, dated April 19, 1999. Sponsored by Staff; admitted into evidence on April 22, 1999.

EXHIBIT 45: Supplemental testimony on Soil and Water Resources, dated April 20, 1999. Sponsored by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 46: Revised testimony (dated April 28, 1999) to the La Paloma Generating Project Final Staff Assessment re: Waste Management, Noise, and Hazardous Materials Handling. Sponsored by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 47: Third Supplement to AFC (regarding zero liquid discharge system), dated May 10, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 48: Response by Applicant to USEPA re: Class I UIC Permit Application, dated May 11, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 49: Letter from Applicant re: status of discussions for new ladder trucks, dated May 10, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 50: "La Paloma Traffic Analysis", dated May 21, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 51A: Correspondence from California Department of Transportation to Applicant, dated June 2, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 51B: Correspondence from Applicant to California Department of Transportation, dated June 11, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 52: Preliminary approval by USEPA for PSD permit, dated May 18, 1999. Authenticated by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 53: Final Determination of Compliance and Authority to Construct, dated May 28, 1999. Sponsored on behalf of Air District by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 54: Revised and Supplemental Staff Testimony on Air Quality, Biology, Socioeconomics, and Soil and Water Resources, dated June 14, 1999. Sponsored by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 55: Staff Status Report and errata to Transmission System Engineering testimony, dated June 21, 1999. Sponsored by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 56: Notice of Intent to issue a UIC Class I permit to La Paloma Generating Company from USEPA, dated June 7, 1999. Sponsored by Applicant; admitted into evidence on June 29, 1999.

EXHIBIT 57: Biological Opinion from US Fish & Wildlife Service, dated June 24, 1999. Sponsored by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 58: Letter from California Department of Fish and Game re: Formal Consultation, dated June 25, 1999. Sponsored by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 59: CDFG Staff Report on Burrowing Owl Mitigation, dated October 17, 1995. Sponsored by Staff; admitted into evidence on June 29, 1999.

EXHIBIT 60: Revised Final Determination of Compliance prepared by the San Joaquin Valley Air Pollution Control District, dated September 22, 1999. Admitted into evidence pursuant to Order Reopening Evidentiary Record (September 30, 1999).

EXHIBIT 61: Declaration of Mr. S. Sadredin authenticating September 22, 1999 Final Determination of Compliance, dated September 23, 1999. Admitted into evidence pursuant to Order Reopening Evidentiary Record (September 30, 1999).

EXHIBIT 62: Declaration of William Steiner, dated September 27, 1999. Admitted into evidence pursuant to Order Reopening Evidentiary Record (September 30, 1999).

EXHIBIT 63: Staff's proposed changes to Air Quality Conditions of Certification, dated September 29, 1999. Admitted into evidence pursuant to Order Reopening Evidentiary Record (September 30, 1999).

GLOSSARY OF TERMS AND ACRONYMS

A

A	Ampere
AAL	All aluminum (electricity conductor)
AADT	Annual Average Daily Traffic
AAQS	Ambient Air Quality Standards
ABAG	Association of Bay Area Governments
AC	Alternating Current
ACEC	Area of Critical Environmental Concern
ACGIH	American Conference of Government and Industrial Hygienists
ACE	Army Corps of Engineers
ACSR	Aluminum Covered Steel Reinforced (electricity conductor)
AFC	Application for Certification
AFY	acre-feet per year
AHM	Acutely Hazardous Materials
AIHA	American Industrial Hygienists Association
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
AWS	American Welding Society

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
BCF	billion cubic feet
Bcfd	billion cubic feet per day
b/d	barrels per day
BO	Biological Opinion
BLM	Bureau of Land Management

BR	Biennial Report
BRMIMP	Biological Resources Mitigation and Monitoring Plan
Btu	British thermal unit

C

CAA	U.S. Clean Air Act
CAAQS	California Ambient Air Quality Standards
CALEPA	California Environmental Protection Agency
Cal-OSHA	California Occupational Safety and Health Administration
CA-PX	California Power Exchange
CALTRANS	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CATEF	California Toxic Emissions Factors
CBC	California Building Code
CBO	Chief Building Official
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
CERCLA	Comprehensive Environmental Response Compensation and Liability 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
CNLM	Center for Natural Lands Management
CO	Carbon Monoxide
CO2	Carbon Dioxide
COC	Condition of Certification
COI	California Oregon Intertie
CPCN	Certificate of Public Convenience & Necessity
CPM	Compliance Project Manager

CPUC	California Public Utilities Commission
CRTR	Cultural Resources Technical Report
CT	Combustion Turbine Current Transformer
CTG	Combustion Turbine Generator
CUPA	Certified Unified Program Agency
CURE	California Unions for Reliable Energy

D

dB	decibel
dB(A)	decibel on the A scale
DC	Direct Current
DCS	Distributed Control System
DCTL	Double Circuit Transmission Line
DDWTF	Delta Diablo Wastewater Treatment Facility
DDSD	Delta Diablo Sanitation District
DEIR	Draft Environmental Impact Report
DEIS	Draft Environmental Impact Statement
DFG	California Department of Fish and Game
DHS	California Department of Health Services
DOC	Determination of Compliance
DOE	(U.S.) Department of Energy
DOG	(California) Department of Oil and Gas
DSM	Demand Side Management
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources

E

EDF	Environmental Defense Fund
EDR	Energy Development Report
EEGL	Emergency Response Planning Guidelines
EFS&EPD	Energy Facilities Siting and Environmental Protection Division
EIA	(U.S.) Energy Information Agency
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EJ	Environmental Justice
ELFIN	Electric Utility Financial and Production Simulation Model
EMF	Electric And Magnetic Field
EOR	East of River (Colorado River)

EPA	(U.S.) Environmental Protection Agency
EPA-ARI	(U.S.) Environmental Protection Agency-Accidental Release Information Program
EPRI	Electric Power Research Institute
ER	Electricity Report
ERC	Emission Reduction Credit {offset}
ERNS	Emergency Response Notification System
ERPG	Emergency Response Planning Guidelines
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
FERC	Federal Energy Regulatory Commission
FIP	Federal Implementation Plan
FLPMA	Federal Land Policy Management Act
FONSI	Finding of No-Significant Impact
FP	(State) Fully Protected
FSA	Final Staff Assessment
FT	Federally (listed) Threatened

G

GE	General Electric
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, Ventilation and Air Conditioning

I

IAR	Issues and Alternatives Report
IDLH	Immediately Dangerous to Life and Health Level
IEA	International Energy Agency
IEEE	Institute of Electrical & Electronics Engineers
IIPP	Injury and Illness Prevention Program
IIR	Issues Identification Report
IMPLAN	Impact Analysis for Planning
IOU	Investor-Owned Utility
IS	Initial Study
ISO	Independent System Operator
ISCST3	Industrial Source Complex Short-Term model, Version 3

J

JES	Joint Environmental Statement

K

KCM	thousand circular mils (also KCmil) (electricity conductor)
KGRA	Known Geothermal Resource Area
km	kilometer
KOP	Key Observation Point
kV	kilovolt
KVAR	kilovolt-ampere reactive
kW	kilowatt
kWe	kilowatt, electric
kWh	kilowatt hour
kWp	peak kilowatt

L

LAER	Lowest Achievable Emission Rate
lbs	pounds
lbs/hr	pounds per hour
lbs/MMBtu	Pounds Per Million British Thermal Units
LORS	Laws, Ordinances, Regulations and Standards
LOS	Level of Service

M

m (M)	meter, million, mega, milli or thousand
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
MG	milli gauss

mgd	million gallons per day
MOU	Memorandum of Understanding
MPE	Maximum Probable Earthquake
m/s	meters per second
MS	Mail Station
MVAR	megavolt-ampere reactive
MW	megawatt (million watts)
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
NAHC	Native American Heritage Council
NCR	Non-Conformance Report
NEC	National Electrical Code
NEPA	National Energy Policy Act National Environmental Policy Act
NERC	National Electric Reliability Council
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NIOSH	National Institute of Occupational Health and Safety
NMHC	nonmethane hydrocarbons
NO	nitrogen oxide
NOI	Notice of Intention
NOL	North of Lugo
NO_x	nitrogen oxides
NO2	nitrogen dioxide
NOP	Notice of Preparation (of EIR)
NOV	Notice of Violation
NRC	National Research Council National Response Center
NRDC	Natural Resources Defense Council
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
OLM	Ozone Limiting Method
OSHA	Occupational Safety and Health Administration (or Act)

P

PAH	Polycyclic Aromatic Hydrocarbons
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	particulate matter
PMPD	Presiding Member's Proposed Decision
PM_{10}	Particulate matter 10 microns and smaller in diameter
$PM_{2.5}$	Particulate matter 2.5 microns and smaller in diameter
PPE	Personal Protective Equipment
ppb	parts per billion
ppm	parts per million
ppmvd	parts per million by volume, dry
ppt	parts per thousand
PSA	Preliminary Staff Assessment
PRC	(California) Public Resources Code
PSD	Prevention of Significant Deterioration
PT	Potential Transformer
PTO	Permit to Operate Participating Transmission Owner
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
RCRA	Resource Conservation and Recovery Act
RDF	Refuse Derived Fuel
RE	Resident Engineer
RMP	Risk Management Plan
ROC	Report of Conversation Reactive Organic Compounds
ROG	Reactive Organic Gas
ROW	Right-of-Way

RWQCB	Regional Water Quality Control Board

S

SARA	Superfund Amendments and Reauthorization Act of 1986
SB	Senate Bill
SCAB	South Coast Air Basin
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
SE	State (listed) Endangered
SHPO	State Office of Historic Preservation
SIC	Standard industrial classification
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVUAPCD	San Joaquin Valley Unified Air Pollution Control District
SMP	Safety Management Plan
SNCR	Selective Noncatalytic Reduction
SNG	Synthetic Natural Gas
SO_2	Sulfur Dioxide
SO_x	Oxides of Sulfur
SO_4	Sulfates
SSC	Species of Special Concern
ST	State (listed) Threatened
STEL	Short Term Exposure Limit
STPEL	Short Term Public Emergency Limit(s)
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
TL T-Line	Transmission Line (or lines Transmission Line
TLV	Threshold Limit Value
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
UFC	Uniform Fire Code
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

VOC	Volatile Organic Compound(s)
VRM	Visual Resource Management

W

W	Watt
WAA	Warren-Alquist Act
WEPEX	Western Energy Power Exchange
WHO	World Health Organization
WICF	Western Interconnection Forum
WIEB	Western Interstate Energy Board
WRTA	Western Region Transmission Association
WSCC	Western System Coordination Council
WSPP	Western System Power Pool