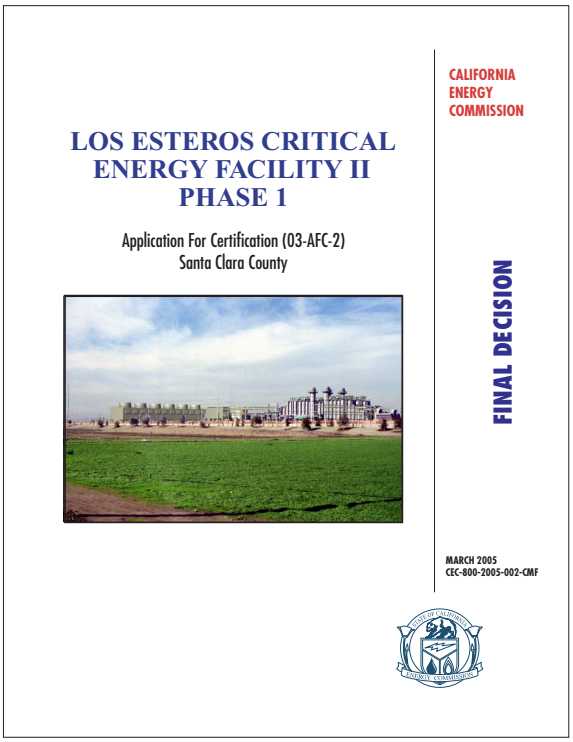
CALIFORNIA
ENERGY
COMMISSION

LOS ESTEROS CRITICAL ENERGY FACILITY II PHASE 1

Application For Certification (03-AFC-2)
Santa Clara County

FINAL DECISION

MARCH 2005
CEC-800-2005-002-CMF



CALIFORNIA ENERGY COMMISSION

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Commissioner

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE **LOS ESTEROS CRITICAL ENERGY FACILITY 2, (PHASE 1)** ***(LOS ESTEROS 2)***	**DOCKET NO. 03-AFC-2** **ORDER NO. 05-0316-04**

COMMISSION ADOPTION ORDER

This Commission Order adopts the Commission Decision on the Los Esteros Critical Energy Facility 2, Phase 1. It incorporates the Presiding Member's Proposed Decision (PMPD) in the above-captioned matter. The Commission Decision is based upon the evidentiary record of these proceedings (Docket No. 03-AFC-2) and considers the comments received at the March 16, 2005, business meeting and at the March 14, 2005, Committee Conference. 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 facility as relicensed, 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:

The Los Esteros Critical Energy Facility 2, Phase 1 Project, sponsored by the Los Esteros Critical Energy Facility, LLC, a wholly-owned subsidiary of Calpine Corporation, will continue to provide local economic benefits and electricity reliability to the Santa Clara County area. Phase 1 is a relicensing of the 180 MW simple-cycle, gas fired power plant that was originally licensed for a 3-year period in July 2002 in Proceeding 01-AFC-12.

The Conditions of Certification contained in the accompanying text, if implemented by the project owner, ensure that the project, as relicensed, will continue to be 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.

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

The evidence of record establishes that no feasible alternatives to the project, as described during these proceedings, exist which would reduce or eliminate any significant environmental impacts of the mitigated project.

The evidence of record establishes that an environmental justice screening analysis was conducted and that relicensing the project will not have a disproportionate impact on low-income or minority populations.

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

The Decision contains a discussion of the public benefits of relicensing the project as required by Public Resources Code section 25523(h).

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.

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:

The Application for Certification of the Los Esteros Critical Energy Facility 2, Phase 1 as described in this Decision is hereby approved and a certificate to continue to operate the facility for the life of the project is hereby granted.

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

This Decision is adopted, issued, effective, and final on March 16, 2005.

1. Reconsideration of this Decision is governed by Public Resources Code, section 25530.

2. Judicial review of this Decision is governed by Public Resources Code, section 25531.

3. 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.

4. 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: March 16, 2005, at Sacramento, California.

STATE OF CALIFORNIA
ENERGY RESOURCES
CONSERVATION AND
DEVELOPMENT COMMISSION

_____
VACANT
Chair

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JACKLYNE PFANNENSTIEL
Vice Chair

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JAMES D. BOYD
Commissioner

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ARTHUR H. ROSENFELD
Commissioner

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JOHN L. GEESMAN
Commissioner

INTRODUCTION

A. SUMMARY

This document is the California Energy Commission's Presiding Member's Proposed Decision (PMPD).[1] The Energy Commission has exclusive jurisdiction in California over the licensing of power plants that are 50 megawatts (MW) or more. The Commission appointed a Committee of two Commissioners to review the proposed power plant project. This PMPD contains the Committee's determinations regarding the Application for Certification (AFC) for the Los Esteros Critical Energy Facility (LECEF 2) Phase 1, the recertification of a 180-MW simple-cycle, gas-fired power plant in the City of San Jose. The PMPD includes the findings and conclusions required by law, and it is based exclusively on the evidentiary record established at the hearings on the application. The document contains the Committee's reasons supporting its PMPD and references to portions of the record, which support the Committee's findings and conclusions.[2]

Prior to the Evidentiary Hearing, Applicant and Staff had completely agreed on all issues in this matter. All Applicant Testimony and all Staff Testimony were admitted by stipulation without cross-examination by the other party. (12/06/04 RT 10:5-13; 10:16-12:7.) Only one Intervenor actively participated in the Commission's evidentiary hearings on the LECEF 2, Phase 1 project by cross-examining witnesses, and/or presenting witnesses and documentary evidence of their own. That Intervenor was Californians For Renewable Energy Inc. (CARE).

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[1] The requirements for the Presiding Member's Proposed Decision are set forth in the Commission's regulations, Title 20, California Code of Regulations, sections 1749 through 1754. Requirements for the Revised PMPD are found in Title 20, California Code of Regulations, section 1753. The Final Decision is described in section 1755.

[2] References to the evidentiary record, which appear in parentheses following the referenced material, may include an exhibit number and page and/or a reference to the date, page and line number(s) of the reporter's transcript e.g., (Ex. 2, p. 55; or 12/06/04 RT 123:8-124:3.) Evidentiary Hearings were conducted on December 6, 2004.

CARE focused its questions and arguments on the topics of Air Quality, Power Plant Efficiency and Environmental Justice and on the question of whether of not the Commission has any authority to recertify the facility as a simple-cycle power plant. CARE participated in the Prehearing Conference at which time its Petition to Intervene was discussed and argued. Care also attended the Evidentiary Hearing and cross-examined witnesses for Staff and Applicant. Mr. Sarvey, who is not an attorney, appeared in a representative capacity. California Unions for Reliable Energy (CURE) intervened but did not participate in the Evidentiary Hearings. (12/06/04 RT 4-70.)

In addition to the formal Intervenors named above, there were a number of public officials and members of the public who participated to offer support or opposition to the project. For example, during the Information Hearing, Dr. Robert Gross, a member of the landscape committee who helped landscape the site and a retired board member of the Santa Clara Valley Water District involved in South Bay water recycling, was very supportive of the existing LECEF project and Calpine[3]. Richard Santos, the current vice-chair of the Santa Clara Valley Water District also praised Calpine for being a good neighbor and he was supportive of the current project as well. (5/04/04 RT 44-51.) Mr. Santos, a lifetime resident of the community of Alviso, particularly commented on Calpine's active involvement in the Alviso community to garner local support for the projects by addressing community concerns. Mr. Santos stated his opinion that the developers had addressed the concerns of the local citizenry and their political representatives. He concluded that the LECEF projects would provide a valuable economic stimulus for the community. (5/04/04 RT 47:14-49:16.)

By contrast, no one seems to have opposed the current projects, although a few organizations such as Mr. Robert Sarvey on behalf of CARE and Mr. William Garbutt on behalf of T.H.E.P.U.B.L.I.C. have voiced some concerns about the conditions under which the power plant should be allowed to continue to operate.

[3] Calpine is the parent corporation of the Applicant.

CARE also opposes relicensing at all as a matter of policy. (5/04/04 RT 50:22-56:2; 11/22/04 RT 10:8-11:6.)

B. PROJECT NAME, OWNER, AND OBJECTIVES

1. *NAME*: Los Esteros Critical Energy Facility (LECEF2)

Throughout this and other documents referring to this project, the acronym "LECEF" is used constantly. In those various documents, LECEF can refer to the original project licensed in proceeding 01-AFC-12, Phase 1 of this project (recertification of the simple-cycle facility), Phase 2 (conversion of the facility to a combined cycle operation), or the combination of Phase 1 and Phase 2 that comprises the entire subject of this application (03-AFC-2). To avoid further confusion, the following acronyms will be used throughout this Decision:

LECEF:	The originally licensed project, a simple-cycle power plant (01-AFC-12) and the site in general;
LECEF 2	The current proceeding, consisting of Phase 1 and Phase 2;
Phase 1	The proceeding to recertify the simple-cycle LECEF that is the subject of this Decision; and
Phase 2	The proceeding seeking a license for conversion of LECEF to a combined-cycle operation. That proceeding is underway but is not a part of this Decision.

2. *PROJECT OWNER*

a) Los Esteros Critical Energy Facility, LLC, a wholly-owned subsidiary of Calpine Corporation

3. *PROJECT OBJECTIVES*

(per Project Owner)

a) To recertify the operating nominal 180 megawatt (MW) natural gas-fired simple-cycle power plant for the life of the project; and

b) To produce electric power to export for 24 hours per day, 7 days per week, year-round, except as required for planned maintenance.

C. PROJECT DESCRIPTION

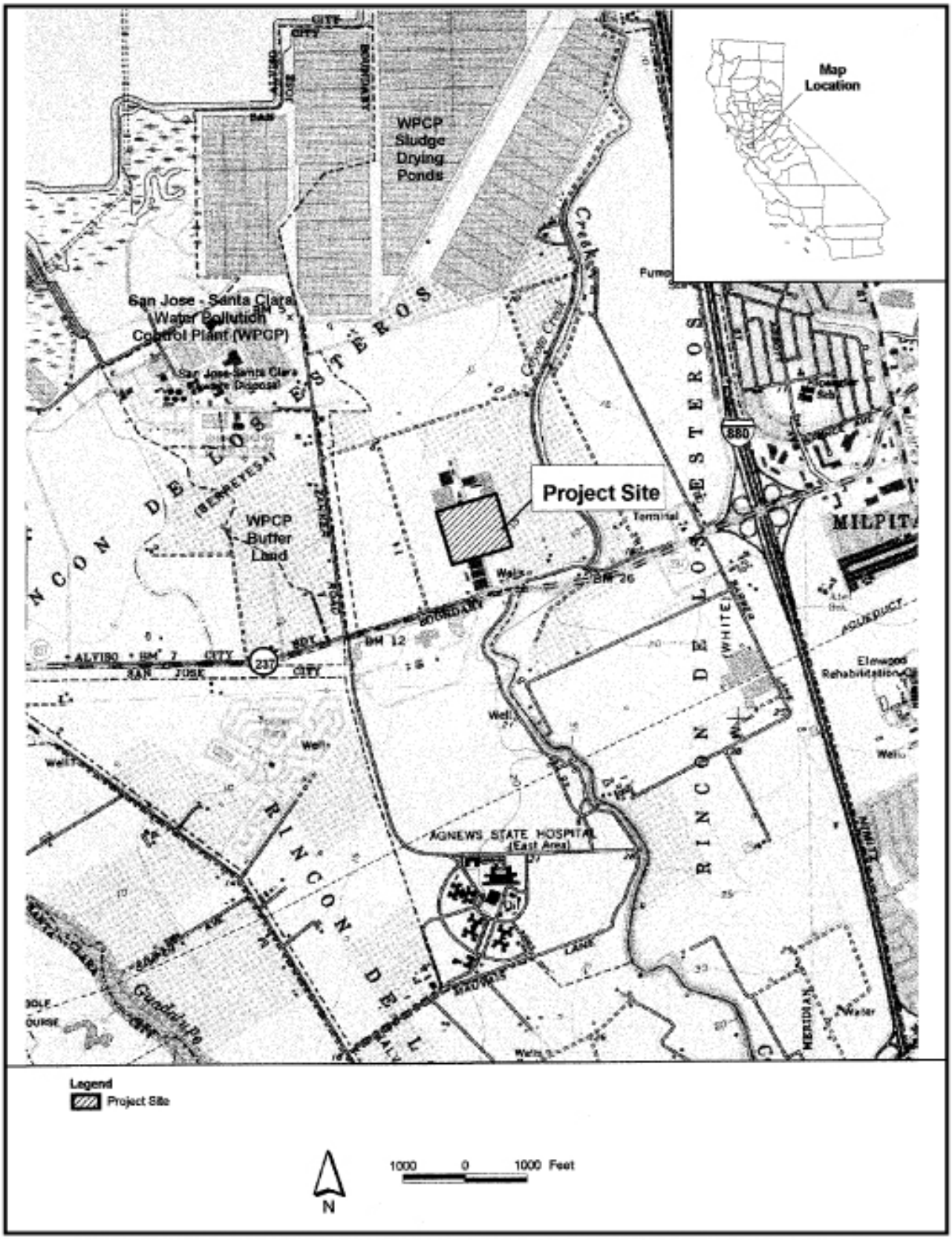
The project is located in Township 6 South, Range 1 West (as shown on the USGS Milpitas 7.5-minute quadrangle) in northern San Jose, Santa Clara County, at 800 Thomas Foon Chew Way. It consists of a fenced 21-acre site within a 34 acre parcel. Thomas Foon Chew Way is a 2,700 foot private access road curving through the adjacent buffer lands leading East to the project site and the Pacific Gas & Electric (PG&E) Los Esteros Substation from Zanker Road. The area is currently zoned light-industrial and the parcel is covered by a proposed development zone designation specifically allowing the current power plant with a 180 MW output. No additional zoning action is required for Phase 1 recertification. (Ex. 3, p. 3-2 to 3-3; Ex. 2, p. 2-1.) See Figures 1 and 2. Figure 1 is a 2004 photograph of the existing site. Figure 2 shows the shows the general area of North San Jose including the project location. (Ex. 3, p. 3-2

The project site is fenced on all sides with the south and west bounded by a sound wall on an elevated berm. The San Jose/Santa Clara Water Pollution Control Plant (WPCP) is across Zanker Road to the northwest of the site. The larger site is bounded on the west by city buffer lands, and Zanker Road, and on the north by a strip of land on which Silicon Valley Power plans to build a 230 kV switching station, and the PG&E Los Esteros Substation. Undeveloped buffer lands and the WPCP sludge drying ponds lie further north of the project. The southern 13-acres of the parcel lie outside the fence line of the power plant and are bordered by Alviso-Milpitas Road and State Route 237. . (Ex. 3, p. 3-2 to 3-3; Ex. 2, p. 2-1.)

PROJECT DESCRIPTION FIGURE 1

PROJECT DESCRIPTION - FIGURE 2

Los Esteros Critical Energy Facility II - Phase I - Local Area



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, NOVEMBER 2004

SOURCE: AFC Figure 1.1-2

The current LECEF is powered by four LM6000 combustion turbine generators (CTGs) with spray intercooling injection (SPRINT) to enhance power, and operates with selective catalytic reduction (SCR) to reduce carbon monoxide and nitrous oxide (NO_x) emissions. The project was designed to accommodate conversion to combined-cycle operation and the four housings for the heat recovery steam generator equipment (HRSG's) and combustion exhaust stacks were constructed as part of the original project. The HRSGs also contain the equipment for the SCR emissions reduction systems. LECEF has a 180 megawatt (MW) net capacity. LECEF utilizes recycled water from the South Bay Water Recycling Program (SBWR) through one 18-inch diameter line, each 1,500 feet in length, connecting with the SBWR recycled water main located in the City of San Jose's buffer lands west of the LECEF. After use LECEF directs waste water back to the WPCP facility through a waste water collection pipeline to the west at Zanker Road. Electricity from LECEF is delivered to the grid through an interconnection to the PG&E 115 kV Los Esteros Substation-Nortech line at a point adjacent to the plant access road. Natural gas is supplied through a 550 foot-long 10-inch diameter line connecting to PG&E lines 101 and 109 located to the south and adjacent to State Route 237. Storm water run-off from the facility is collected and discharged to the Coyote Creek high-flow channel to the west. Completion of the discharge line, scheduled for 2005, will direct the storm water run-off to the Coyote Creek low-flow channel. (Ex. 3, 3-3 to 3-4; Ex. 2, 2-1 to 2-2.)

Construction of the LECEF was completed and the facility became fully operational on March 7, 2003. (Exhibit 3, 1-2 to 1-3.)

D. PAST AND FUTURE PROJECT/SITE DEVELOPMENT

C* Power, LLC, another wholly owned Calpine subsidiary, originally applied for a license to build and operate LECEF in August 2001, under the expedited licensing provisions then existing under California Public Resources Code (PRC)

§25552. This Commission granted the original license for LECEF on July 2, 2002, to run for a period of three years. The simple-cycle power plant was constructed and became operational in March 2003. The legal transfer of ownership from C* Power, LLC, to Los Esteros Critical Energy Facility, LLC, was acknowledged by this Commission on August 25, 2004. This proceeding (Phase 1) seeks relicensing or recertification of the simple-cycle facility for the life of the project without substantive change.

Possible future development consists of both Phase 2 and Phase 3.

Phase 2 is currently under consideration by this Commission under this same Application (03-AFC-2). Phase 2 requests a license to convert the simple-cycle power plant to a combined-cycle operation allegedly achieving much higher efficiency and adding equipment to increase the maximum output to 320 MW. A Decision on Phase 2 is anticipated later in 2005. Phase 3 of the project involves a proposal to add even more equipment and systems designed to provide cooling and high reliability and energy services to a large "Super Hub" computer server center proposed by the U.S. DataPort Corporation to be located adjacent to LECEF. Phase 3 may go forward at some time in the future when the server center is constructed, but licensing thereof is not a part of this Application.

E. THE RECERTIFICATION PROCESS

PRC §25552 as originally enacted required that any peaking power plant licensed under this section be "modified, replaced, or removed within a period of three years…." In May 2001, the Legislature amended PRC §25552 in pertinent part to read that any peaking power plant licensed under this section be "**recertified**, modified, replaced, or removed within a period of three years…." (*emphasis added*). As noted above, the original license for LECEF was issued on July 2, 2002, after the amendment to PRC §25552.

The Commission Decision (01-AFC-12) contained a Condition of Certification (EFF-1) that read:

> "The project owner shall either convert the project to a combined cycle generation facility … or shall close the plant permanently, within a period of three years from the date of this Energy Commission decision, in accordance with Public Resources Code Section 25552(e)(5)(B)."

This Condition of Certification is internally inconsistent in that it seemingly requires conversion to combined cycle or shut-down while, at the same time, directing conformance with PRC §25552(e)(5)(B). PRC §25552(e)(5)(B), in addition to the enumerated terms in the Condition of Certification, allowed **recertification** of the simple cycle power plant. This is the alternative chosen by the Applicant, at least until such time as the power plant may be converted to a combined cycle. This possibility was noted by this Commission in the Commission Decision in July 2002. (Commission Decision, page 8.)

We find no merit in any argument that this Commission has no authority to recertify the existing power plant. Whatever effect Condition of Certification EFF-1 may have on the existing license, it certainly does not limit the Commission's power to act on a **new** Application for Certification such as the one we have before us. We do not see the logic in first requiring a petition to amend the Condition of Certification when the present Application (AFC) is its functional equivalent.

LECEF2, Phase 1 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 (CEQA). (Pub. Resources Code, §§ 25519(c), 21000 et seq.) The Commission's process and associated documents

are functionally equivalent to the preparation of an Environmental Impact Report under CEQA. (Pub. Resources Code, § 21080.5.)

The Commission's process is designed to allow the review of a project to be completed within a specified period; 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. A Petition for Recertification is no different. During the 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 Intervenors with the same legal rights and duties as the project developers. The Commission encourages public participation at every stage of the process.

The process begins when an applicant submits its Application for Certification (AFC) or, as in this case, its "Application for Relicense[4]." Commission staff reviews the data submitted as part of this AFC and determines whether or not it contains adequate information to permit review to commence; and makes recommended findings to the Commission . Once the Commission determines that an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the review process. The Commission also appoints a hearing officer to provide legal assistance to the Committee in each case. 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 Committee, and ultimately the Commission, serves as fact-finder and decision-maker.

[4] Throughout this Decision, the "Application for Relicense" will also be referred to as AFC.

The Commission has a Public Adviser. The role of the Commission's Public Adviser is to assist members of the public and intervenors with their understanding of and participation in the Commission's siting process.

All parties, including the Applicant, Commission staff, and all Intervenors, are subject to the Commission's *ex parte* rule, which prohibits them from communicating on substantive matters with Committee members, other Commissioners, their staffs, and the hearing officer, except for communications which are on the public record.

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, members of the public, Staff, and Applicant meet to evaluate and resolve pertinent issues. Staff then publicizes its initial technical evaluation of the project in the document called the Staff Assessment (SA).[5]

Following completion of the SA and any supplements thereto, the Committee conducts a Prehearing Conference to assess the adequacy of the available information, identify issues, and determine the positions of the various participants. Information obtained from this event forms the basis for a Hearing Order organizing and scheduling formal evidentiary hearings as necessary. These hearings are conducted after Staff has finalized its technical evaluation of the project.

At the evidentiary hearings following the release of the final SA all participants that have become formal parties are able to present testimony, under oath or affirmation, which is subject to cross-examination by other parties and to

[5] The SA in this case is equivalent to the "Preliminary Staff Assessment in a other cases. After a period of Staff Workshops and comments on the SA, it is enhanced by the publication of a Staff Report or "Final Staff Assessment" as is done in other cases using a 12-month process.

questioning by the Committee. The public may also comment on the proposed project at these hearings. Evidence and public comment adduced during these hearings provide 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 revision necessary in response to comments received during this period, the Committee may 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.

F. PROCEDURAL HISTORY

The Public Resources Code and the Commission's regulations mandate a public process and specify the occurrence of certain necessary events. (Pub. Res. Code, §§ 25500 et seq.; Cal. Code of Regs., tit. 20, §§ 1701, et seq.) The essential procedural elements occurring during the present case are summarized below.

On December 30, 2003, Los Esteros Critical Energy Facility, LLC, filed an Application for Certification for the Los Esteros Critical Energy Facility, Phase 1, Relicense, and Phase 2, Combined Cycle Conversion. This AFC seeks a license (recertification for continued operation of Phase 1 of the Los Esteros Critical Energy Facility located in the City of San Jose. Phase 1 is a 180 megawatt natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. This AFC also seeks a license for conversion of the facility to a combined-cycle operation (Phase 2) but that portion of the AFC is not a subject of this Decision. Shortly thereafter, Staff sent a "request for agency participation" to those governmental agencies likely to have

an interest in the project. On March 17, 2004, the full Commission determined that the Applicant had made its AFC sufficiently informative and complete to commence the 12-month review process set forth in Public Resources Code, section 25540.6.

On April 19, 2004, the Committee issued its notice for its initial event, an "Informational Hearing and Site Visit." The Notice was sent to all known to be interested in the proposed project, including owners of land adjacent to, or in the near vicinity of, LECEF; it was also published in local general circulation newspapers.

On May 4, 2004, the Committee conducted the Informational Hearing and Site Visit in San Jose. There, the Committee and other participants discussed the proposed project, described the Energy Commission's review process, and identified opportunities for public participation. Before beginning the hearing, Applicant hosted a tour of the existing power plant site.

On May 21, 2004, the Committee issued its required "Committee Ruling, Briefing Order and Scheduling Order."

On October 14, 2004, Staff released its Staff Assessment (SA) and afterward held various workshops to receive comments thereon. On November 15, 2004, Staff issued its Final Staff Assessment (FSA). On November 22, 2004, the Committee held a Prehearing Conference.[6] Evidentiary Hearings were scheduled by Notice of Evidentiary Hearings, dated November 23, 2004. On

[6] At the Prehearing Conference conducted on November 22, 2004, the Committee conducted issue identification with the parties and addressed issues of special concern to the parties. During the hearing, the parties, at the direction of the Committee, argued the matter of the Petition of Californians For Renewable Energy, Inc. (CARE). Also discussed were time concerns the Committee and the parties had regarding conclusion of the evidentiary proceedings in a single day. CARE agreed that granting its Petition to Intervene would not delay the proceedings nor the contemplated schedule and that they would "take the case as they found it." (11/22/04 RT 10:8-14, 11:3-6, 12:21-13:21.)

December 6, 2004, according to the Notice of Evidentiary Hearings, the Committee conducted evidentiary proceedings in Sacramento.

The Committee, after reviewing and compiling the evidentiary record, publishes this Presiding Member's Proposed Decision (PMPD).

I. PROJECT DESCRIPTION AND OBJECTIVES

SUMMARY OF THE EVIDENCE

The LECEF is located within a 21-acre project site that includes the fenced area of the LECEF and the facility's surrounding landscaping. The project site is located within a larger, 34-acre parcel. The parcel originally analyzed in the first LECEF proceedings was a 55-acre parcel which now contains the 34-acre project parcel, the PG&E Los Esteros Substation, and the strip of orphan land between that substation and the LECEF project. Silicon Valley Power (SVP) will construct a 230 kV switching station on the orphan land area currently scheduled for completion in December 2004. (Ex. 2, 2-1; Ex. 3, 3-2.)

The LECEF project site is located at 800 Thomas Foon Chew Way in north San Jose. South of the project parcel is State Route 237. **See Figure 1, above,** for a photograph of the existing facility, the substation and transmission lines. To the east is agricultural land, and further east is Coyote Creek. The PG&E Los Esteros Substation and the area that will contain the Silicon Valley Power (SVP) Switching Station are immediately north and adjacent to the LECEF. **Figure 2, above,** shows the general vicinity of northern San Jose including the project location. Further to the north is agricultural land, San Jose/Santa Clara Water Pollution Control Plant (WPCP) buffer land that is open space, and the WPCP sludge drying yards and ponds. To the west is undeveloped WPCP buffer land. A 5-acre easement south of the access road has been purchased by Calpine to be managed as burrowing owl habitat consistent with condition of certification **BIO-11** from the original LECEF Commission Decision. Zanker Road runs north-south about 2,500 feet west of the project. (Ex. 2, 2-1 to 2-2; Ex. 3, 3-2.)

The project parcel and several surrounding parcels are located within an area designated as Light Industrial in the San Jose General Plan. The area is zoned Planned Development Zoning Project (PDZ). The PDZ zoning was originally

requested by U.S. Dataport (USDP) for the purpose of constructing a large computer server center, including an energy center to provide reliable power and chilled water. The City of San Jose approved that PD zone designation in April 2001 (City Council Ordinance #26343, April 3, 2001; specific zoning PDSCH # 00-06-048). Subsequently, after agreeing to the current LECEF design, USDP and Calpine jointly applied for a revision to the PD zone to include the LECEF as the energy source for the potential data center and capable of independent operation. The City of San Jose approved the new PD zone designation in March 2002. (City Council Ordinance #26579, March 5, 2002; specific zoning PDSCH # 01-09-088.) Due to current market conditions, construction of the proposed USDP has not occurred and is unlikely in the near future. (Ex. 2, 2-2; Ex. 3, 3-2.)

As licensed and constructed, the LECEF currently consists of the following listed features. As proposed, there would be no additional physical changes at the site required for re-certification of Phase 1:

- Four GE LM6000 SPRINT combustion turbine generators (CTGs) with water injection;
- oxidation catalysts and selective catalytic reduction (SCR) pollution control equipment, installed within four HRSG casings and stacks (these casings were installed during Phase 1 in anticipation of a later conversion to combined-cycle);
- a single-cell cooling tower (2 cells were originally permitted);
- a 115-kilovolt-(kV) switchyard;
- a 152-foot-long, wood pole transmission line to the Pacific Gas & Electric Company's (PG&E's) 115 kV Los Esteros Substation-Nortech transmission line, immediately to the west of the LECEF switchyard;
- a 2,700-foot-long primary access road, named Thomas Foon Chew Way, linking LECEF with Zanker Road;
- a 470-foot-long emergency access road, linking Thomas Foon Chew Way and Alviso-Milpitas Road;
- a 550-foot-long, 10-inch-diameter natural gas supply line between the facility and PG&E lines 101 and 109;
- one 1,500-foot-long recycled water supply line between the facility and the WPCP's recycled water supply pipeline in Zanker Road;

- a 2,000-foot-long sanitary sewer discharge line to the City of San Jose's sewer main in Zanker Road;
- a 1,000-foot-long storm water line between the facility and the Coyote Creek high –flow channel to the east. In accordance with existing Conditions of Certification, permit applications are currently in process for construction of a permanent stormwater outfall that extends the drain approximately 250 feet into the low-flow channel of Coyote Creek; and,
- a 370-horsepower diesel fire pump. (Ex. 2, 2-1 to 2-2; Ex. 3, 3-3.)

Originally the Energy Commission and the air district permits had licensed a natural gas-fired emergency generator that will not be constructed. (Ex. 3, 3-3.)

The applicant owns the 34-acre project parcel on which the 21-acre LECEF facilities and the 13-acre vacant area to the south are situated. The parcel is located in Township 6 South, Range 1 West; Latitude 37° 25'30", Longitude 121° 55' 50"; UTM zone 10, easting 594,500, northing 4,142,530 (NAD 27, UTM Zone 10). The project site is at an elevation of approximately 15 feet above sea level. The nearest residences are located approximately 0.6 mile southwest, 0.8 mile east, and 1.4 miles southeast of the project site center. San Francisco Bay lies approximately 7 miles west-northwest of the site. (Ex. 2, 2-1; Ex. 3, 3-2 to 3-3.)

The recycled water supply for Phase 1 of the project is provided from the Water Pollution Control Plant (WPCP) through the South Bay Water Recycling (SBWR) program. The cities of San Jose and Santa Clara jointly own the WPCP facility, but the City of San Jose operates and maintains the facility (see Figure 2). Water from the SBWR recycled water main comes to the site via a 1,500-foot-long pipeline. The pipeline is routed south of the project site and turns west, along an existing utility corridor, to connect to the existing SBWR recycled-water pipeline parallel to State Route 237 on the adjacent WPCP buffer lands. The facility is in the SBWR's recycled water service area, and the City of San Jose has adequate recycled water supplies to serve the facility. Potable water for the operation of the facility is currently trucked to the facility. No potable water pipelines are planned to be added for Phase 1 relicensing. The facility also minimizes freshwater use.

Recycled water from the SBWR program is used for plant cooling and process water needs after treatment to remove impurities. (Ex. 2, 2-2, 2-10 to 2-11; Ex. 3, 3-4.)

The facility's peak water consumption is about 598 gallons per minute (gpm), based on hot day full load operation. Total daily peak water use is about 861, 000 gallons per day (gpd), based on 24 hours operation at sustained peak hourly temperature. (Ex. 2, 2-11.)

A 1,000-foot-long storm water line between the facility and the Coyote Creek high-flow channel to the east was completed during construction of the LECEF. In accordance with existing Conditions of Certification (**SOIL & WATER 3, 4, and 10**), permit applications are currently in process for completing the construction of a permanent stormwater outfall that extends the drain approximately 250 feet into the low-flow channel of Coyote Creek. Completion is scheduled for 2005. (Ex. 2, 2-2, 2-8; Ex. 3, 3-4.)

Natural gas for the project is supplied at 250 to 400 pounds per square inch gauge through a 550-foot-long, 10-inch-diameter natural gas supply line between the facility and PG&E lines 101 and 109 which run parallel to the SR 237, south of the project site. On-site compressors provide consistent pressure to the four turbines which are designed to burn a maximum 48,000 million British Thermal Units (MMBTU) per day (higher heating value[HHV] basis). (Ex. 2, 2-10; Ex. 3, 3-4.)

The four CTGs generate poser at 13.8kV. The four 13.8 kV generator outputs are connected by non-segregated bus through generator circuit breakers to individual oil-filled generator step-up transformers, which increase the voltage to 115 kV. Electricity generated by LECEF is distributed through a 152-foot-long, wood pole transmission line to the PG&E's 115 kV Los Esteros Substation-Nortech transmission line, immediately to the west of the LECEF switchyard.

Currently this interconnection has been approved by the Energy Commission until July 2, 2005 (Energy Commission Order No. 04-121-06, January 21, 2004). Staff has received information from Calpine, PG&E, the California Independent System Operator (Cal-ISO) supporting a recommendation that the LECEF remain on the current tap connection as long as the simple-cycle output does not exceed the current maximum of 195 MW (Amendment Number 3 for Los Esteros Critical Energy Facility 01-AFC-12, filed July 28, 2004). (Ex. 2, 2-9; Ex. 3, 3-4 to 3-5.)

FINDINGS AND CONCLUSIONS

1. Applicant has constructed and operates the LECEF, a nominal, 180 MW simple-cycle natural gas-fired merchant power plant consisting of four turbine islands, a 115-kV switchyard, other power-generation equipment, emission control equipment, and ancillary facilities.

2. Applicant proposes to continue to operate the LECEF beyond the three-year term licensed in CEC Proceeding 01-AFC-12.

3. The project site is located in the Alviso community of north San Jose in Santa Clara County in an area annexed and zoned for industrial development consistent with the LECEF.

4. Linear facilities include a 152-foot-interconnect to the PG&E-controlled grid, gas pipeline interconnections, recycled water supply and discharge pipelines, a storm water line to Coyote Creek, an access road and an emergency access road.

We conclude that the LECEF Phase 1 is described in sufficient detail to allow review in compliance with the provisions of both the Warren-Alquist Act and the California Environmental Quality Act (CEQA).

II. PROJECT ALTERNATIVES

The Commission is required during the AFC process to examine the feasibility of site and facility alternatives that may avoid or lessen the potential significant environmental impacts of a proposed project. (Pub. Resources Code, § 21080.5(b)(3)(A); Cal. Code of Regs., tit. 20, § 1765.)

We note that Applicant provided an Alternatives analysis as part of the AFC. (Ex. 2, [Vol. 1], sec. 9.)[7] Staff also conducted an Alternatives analysis as part of its Staff Analysis of the LECEF project. (Ex. 3, sec.6.) Therefore, this Decision complies with the "CEQA guidelines", 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 CCR, § 15126 (e).)

The range of alternatives that 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 CCR, § 15125 (d)(5).]

SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence of record addresses alternatives to the LECEF. The methodology used to evaluate this alternatives section includes:

[7]Although Applicant's AFC was not required to contain a discussion of site alternatives, the Commission's CEQA duty remained unchanged. (*See* Pub. Resources Code, § 25540.6 (b).)

- Identifying the basic objectives of the project;
- Providing an overview of the project's potentially significant adverse impacts (including appurtenant facilities);
- Evaluating possible alternatives to the project;
- Discussing the possibility of alternative locations for sites; and
- Evaluating the impacts of no project.

1. Project Objectives

Staff summarized Applicant's objectives for constructing the LECEF project as follows:

- To provide electrical energy in the deregulated power market;
- To be located near key infrastructure including transmission line interconnections, supplies of natural gas, and recycled water;
- Add support and reliability to the North San Jose Transmission Reinforcement Project recently approved by the CPUC; and
- To provide a reliable source of energy for the future U.S. Dataport facility, mitigating the diesel-fueled reliable energy center in that original proposed development;
- LECEF began commercial operation on March 7, 2003. (Ex. 3, 6-2.)

2. Potentially Significant Adverse Impacts

The environmental impacts of the project are discussed in detail in the individual subject areas of this Decision. However, in its Alternatives analysis Staff did not identify any potentially significant, unmitigated, adverse environmental impacts in any of the subject areas of discussion. Staff's conclusion and Applicant's ability to mitigate impacts to levels of insignificance is discussed under the respective topics. (Ex. 3, 6-2.)

3. Technological Alternatives

LECEF has been constructed, has begun commercial operation, and is seeking recertification of its current 3-year license for the life of the project. No alternative technology, site, or demand-reduction program provides a practical alternative, or

has the ability to replace the 180 MW electrical output of the LECEF in the North San Jose area served by the project. Alternative generation typically has specific resource needs, environmental impacts, permitting difficulties, and intermittent availability. Therefore, these technologies do not fulfill a basic objective of the proposed project to provide peaking, load-serving or load-following capability in order to ensure a reliable supply of electricity for north San Jose and California.

Staff and Applicant did not consider alternative technologies (solar, wind, biomass, and hydroelectric) to be feasible alternatives to the recertification of the LECEF. (Ex. 2, 9-3 to 9-4; Ex. 3, 6-4.) We concur with the analysis provided by the Applicant and Staff.

4. Alternative Locations

Two alternative sites were reviewed and rejected as being inferior during the original siting process for LECEF (CEC Proceeding 01-AFC-12). The LECEF site itself was viewed as a preferred alternative site for the Metcalf Energy Center siting case approved by the Energy Commission in 2001. Because the project is already constructed and operating, no alternative sites are considered for the Phase 1 relicensing. (Ex. 3, 6-2.)

LECEF has been constructed, has begun commercial operation, and is seeking recertification of its current 3-year license for the life of the project. No alternative technology, site, or demand-reduction program provides a practical alternative, or has the ability to replace the 180 MW electrical output of the LECEF in the North San Jose area served by the project. Alternative generation typically has specific resource needs, environmental impacts, permitting difficulties, and intermittent availability. Therefore, these technologies do not fulfill a basic objective of the proposed project to provide peaking, load-serving or load-following capability in order to ensure a reliable supply of electricity for north San Jose and California. (Ex. 3, 6-4.)

No alternative sites were proposed by the applicant or by staff as the proposed project is a fully operational power plant interconnected to the grid and needing no additional linear facility construction or expansion. (Ex. 3, 6-5.)

5. No Project

CEQA Guidelines and Energy Commission regulations require us to consider the "No Project" Alternative. This alternative assumes that the project's license is not renewed, the power plant is closed and removed, and the impacts of that scenario are compared to those of the proposed project.

The California Independent System Operator (ISO) has analyzed the electric reliability problems of the greater San Jose area and concluded that more local generation is needed. Such generation greatly reduces stress on the transmission system and increases critical reliability margins. The LECEF project was licensed in 2002 to provide additional local generation, with attendant reliability benefits. The ISO and Energy Commission staff had previously identified the LECEF project location as an ideal location that would maximize the benefits of new generation for overall electricity grid reliability. The Commission has previously analyzed numerous San Jose area sites in the Metcalf Energy proceedings, and concluded that benefits of locating a project at the LECEF site included important line loss savings, a reduction of reliability must run concerns, and the ability to provide Bay Area grid reliability benefits (Ex. 3, 6-3.)

The need for new generation in the region remains significant. Estimated need for the North San Jose area is 800 MW in 2004, rising to 900 MW by 2008. With the completion of the 120 MW PICO power plant, the North San Jose area will have approximately 420 MW of "internal" generating capacity. Even with the proposed future conversion of LECEF to combined cycle mode (adding an additional 140 MW) local generation will only account for approximately 65

percent of the area's peak power demand, requiring continued import of 300 MW in 2008. (Ex. 3, 6-3.)

If the project is not re-licensed ("no project"), the increased system reliability benefits of LECEF will be forgone, and new generation projects will presumably be needed in other San Jose locations. Moreover, the use of the excellent site location near existing substations and switchyards would not be utilized. Pursuant to licensing conditions, the project would be dismantled and removed. The land might be returned to agricultural uses, or it might be developed in some other manner that is unforeseeable. If the current zoning designations for the U.S. Dataport (USDP) server farm remain in place, the land might remain unutilized until that project is eventually built. However, if USDP is built at a later date, "no project" would deprive that server farm of the reliable on-site backup power source that was considered necessary to make that project feasible. The original backup power proposal for USDP was more than 100 MW of diesel backup generators; LECEF was proposed as a cleaner, more environmentally acceptable alternative generation backup for the USDP project. If LECEF is not re-licensed, it is unclear what, if any, backup power source would be available to support a future USDP project. However, it is noteworthy that the diesel backup generator proposal would result in air pollutant emissions that are at least an order of magnitude greater than those of the LECEF. (Ex. 3, 6-3.)

If the project is re-licensed, it will continue to emit criteria pollutants into the greater San Jose region. Although the facility is a very modern and relatively clean gas-fired project these emissions may contribute to regional smog, and may add a slight contribution to nitrogen deposition on sensitive serpentine soils downwind of the project that host listed endangered species that rely on such soils. However, if the project is not re-licensed, it is relatively likely that additional generation sources will be built elsewhere in the region that will have similar environmental impacts. Moreover, it is doubtful that these future projects would have as beneficial a location for the purposes of transmission system reliability. If

the locations of future generation capacity is less optimal, the system will be somewhat less efficient, requiring some level of generation greater than that of LECEF to achieve a similar level of reliability. (Ex. 3, 6-3 to 6-4.)

Since the LECEF was constructed, the need for electricity capacity in the region, and the state, has not lessened. Estimated need for the North San Jose area is 800 MW in 2004, rising to 900 MW by 2008. The San Jose and Silicon Valley generally have an even greater need for additional local generation capacity (Ex. 3, 6-4.)

The "No Project" Alternative would eliminate the benefits that the LECEF project brings to San Jose and the Northeastern Transmission System Reinforcement Project service area, including increased property taxes, employment, sales taxes, and sales of services. Staff and Applicant agree that when all of the factors discussed above are considered, the project appears to be environmentally superior when compared to the "no project" alternative. (Ex. 2, sec. 9; Ex. 3, 6-3.) This concurs with the opinions expressed by Mr. Gross and Mr. Santos at the Information Hearing. (5/04/04 RT 44-51.) and contradicted by no one.

Both Staff and Applicant have conducted comprehensive Alternatives analysis. Those analyses and lack of any evidence to the contrary convince us of the appropriateness of this project.

FINDINGS AND CONCLUSIONS

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

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 an appropriate discussion of alternative technologies, fuels, linear routings, and the “no project” alternative.

3. No alternative to the project considered by the Commission, including but not limited to the 'no project' alternative would avoid or lessen any direct, indirect, or cumulative significant adverse environmental impact.

4. No alternative to the project considered by the Commission, including but not limited to the 'no project' alternative is feasible, because none are capable of meeting the project objectives as specified in the Final Staff Analysis.

We therefore conclude that the evidence of record contains an analysis of possible alternatives to the LECEF project, including its appurtenant facilities, which satisfies the requirements of both the Warren-Alquist Act and CEQA and its implementing regulations.

III. COMPLIANCE AND CLOSURE

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

SUMMARY 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 by which the Commission ensures that the LECEF is constructed and operated according to the Conditions of Certification. It essentially describes the respective duties and Commission expectations of the project owner and the Commission Staff Compliance Project Manager (CPM) in implementing the design, construction, and operation criteria set forth in this Decision. (See Ex. 3, 7-1.)

The Commission verifies compliance with the Conditions of Certification contained in this Decision through mechanisms such as periodic reports and site visits. The Plan also contains requirements governing the planned closure, as well as the unexpected temporary or permanent closure, of the project. Facility closure can be temporary or permanent. Temporary closure is defined as a shutdown for a period exceeding the time required for normal maintenance, including for overhaul or replacement of the combustion turbines. Causes for temporary closure include a disruption in the supply of natural gas or damage to the plant from earthquake, fire, storm, or other natural acts. Permanent closure is defined as a cessation in operations with no intent to restart operations owing to plant age, damage to the plant beyond repair, economic conditions, or other reasons. (Ex. 2, p. 4.1.)

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

- Set forth the duties and responsibilities of the 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 disputes and making post-certification changes;
-
- State the requirements for periodic compliance reports and other administrative procedures necessary to verify the compliance status of all Commission-imposed conditions; and
- Establish requirements for facility closure.

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

The contents of the Compliance Plan are intended to be read in conjunction with any additional requirements contained in the individual Conditions of Certification.

FINDINGS AND CONCLUSIONS

The evidence of record establishes:

1. The Compliance Plan and the specific Conditions of Certification contained in this Decision assure that the Los Esteros Critical Energy

Facility 2, Phase 1, will be designed, constructed, operated, and closed in conformity with applicable law.

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

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

COMPLIANCE PLAN

GENERAL CONDITIONS OF CERTIFICATION

COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

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

1. ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and conditions of the Energy Commission Decision;
2. processing post-certification changes to the conditions of certification, project description, and ownership or operational control;
3. documenting and tracking compliance filings;
4. ensuring that the compliance files are maintained and accessible; and
5. receiving and resolving complaints.

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

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval the approval will involve all appropriate staff and management.

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

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):

- all documents demonstrating compliance with any legal requirements relating to the operation of the facility;
- all annual compliance reports filed by the project owner;
- all complaints of noncompliance filed with the Energy Commission; and
- all petitions for project or condition changes and the resulting staff or Energy Commission action.

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. A summary of the General Conditions of Certification is included as **Compliance Table 1** at the conclusion of this section. The designation after each of the following summaries of the General Compliance Conditions (**COM-1, COM-2,** etc.) refers to the specific General Compliance Condition contained in **Compliance Table 1.**

GENERAL CONDITIONS OF CERTIFICATION

COM-1, Unrestricted Access

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

COM-2, Compliance Record

The project owner shall maintain project files onsite, or at an alternative site approved by the CPM, for the life of the project unless a lesser period of time is specified by the conditions of certification. The files shall contain copies of all “as-built” drawings, all documents submitted as verification for conditions, and all other project-related documents.

COM-3, Compliance Verification Submittals

Each condition of certification is followed by a means of verification. The verification describes the Energy Commission’s procedure(s) specifically tailored to each AFC to ensure post-certification compliance with adopted conditions.

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

1. adhering to the procedures spelled out in the verification;
2. reporting on the work done and providing the pertinent documentation in annual compliance reports filed by the project owner or authorized agent as required by the specific conditions of certification;

3. providing appropriate letters from delegate agencies verifying compliance;
4. Energy Commission staff audits of project records; and/or
5. Energy Commission staff inspections of mitigation 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:

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

If the project owner desires Energy Commission staff action by a specific date (allowing sufficient lead time for the CPM to process the amendment to the conditions of certification) the owner shall so state in the submittal and include a detailed explanation of the effects on the project if this date is not met.

Compliance Reporting

During operation, an Annual Compliance Report must be submitted. These reports, and the requirement for an accompanying compliance matrix, are described below. The majority of the conditions of certification require that compliance submittals be submitted to the CPM in the annual compliance reports.

COM-4 (does not exist for Phase I)

COM-5, Compliance Matrix

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

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

COM-6, KEY EVENTS LIST

PROJECT: Los Esteros Critical Energy Facility Relicense

DOCKET # (03-AFC-02)

COMPLIANCE PROJECT MANAGER: Lance Shaw

EVENT DESCRIPTION	DATE
Recertification Date/Obtain Site Control	
Online Date	
POWER PLANT SITE ACTIVITIES	
First Combustion of Gas Turbine	
Start Commercial Operation	
Complete All Construction	
TRANSMISSION LINE ACTIVITIES	
Start T/L Construction	
SYNCHRONIZATION WITH GRID AND INTERCONNECTION	
COMPLETE T/L CONSTRUCTION	
FUEL SUPPLY LINE ACTIVITIES	
WATER SUPPLY LINE ACTIVITIES	

COM-7, Annual Compliance Report

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

1. an updated compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);
2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
3. documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Annual Compliance Report;
4. a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;
5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
6. a listing of filings made to, or permits issued by, other governmental agencies during the year;
7. a projection of project compliance activities scheduled during the next year;
8. a listing of the year's additions to the on-site compliance file;
9. an evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date [see General Conditions for Facility Closure addressed later in this section]; and
10. a listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved complaints, and the status of any unresolved complaints.

COM-8,Operation Security Plan

1. The Operations Security Plan shall include the following:
2. permanent site fencing and security gate;
3. evacuation procedures;
4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency;
5. fire alarm monitoring system;

6. site personnel background checks, including employee and routine on-site contractors [Site personnel background checks are limited to ascertaining that the employee's claims of identity and employment history are accurate. All site personnel background checks shall be consistent with state and federal law regarding security and privacy.];
7. site access for vendors; and
8. requirements for Hazardous Materials vendors to prepare and implement security plans as per 49 CFR 172.800 and to ensure that all hazardous materials drivers are in compliance with personnel background security checks as per 49 CFR Part 1572, Subparts A and B.

In addition, the Security Plan shall include one or more of the following in order to ensure adequate perimeter security:

1. security guards;
2. security alarm for critical structures;
3. perimeter breach detectors and on-site motion detectors; and
4. video or still camera monitoring system.

The Project Owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to the Security Plan. The CPM may authorize modifications to these measures, or may recommend additional measures depending on circumstances unique to the facility, and in response to industry-related security concerns.

COM-9, Confidential Information

Any information that 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, that is determined to be confidential shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

COM-10, Department of Fish and Game Filing Fee

Pursuant to the provisions of Fish and Game Code Section 711.4, the project owner shall pay a filing fee in the amount of $850. The payment instrument shall be provided to the Energy Commission's Siting Project Manager (PM), not the CPM, at the time of project recertification and shall be made payable to the California Department of Fish and Game. The PM will submit the payment to the Office of Planning and Research at the time of filing of the notice of decision.

COM-11, Reporting of Complaints, Notices, and Citations

Upon recertification, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering

with date and time stamp recording. All recorded inquiries shall be responded to within 24 hours. The telephone number shall be posted at the project site and made easily visible to passersby during operation. The telephone number shall be provided to the CPM who will post it on the Energy Commission's web page at:

http://www.energy.ca.gov/sitingcases/power_plants_contacts.html

Any changes to the telephone number shall be submitted immediately to the CPM who will update the web page.

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

Facility Closure

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

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

Closure Definitions

Planned Closure

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

Unplanned Temporary Closure

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

Unplanned Permanent Closure

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

General Conditions for Facility Closure

COM-12, Planned Closure

In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least twelve months prior to commencement of closure activities (or other period of time agreed to by the CPM). The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.

The plan shall:

1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site;
2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;
3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and
4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

In the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are

inconsistent with the plan, the CPM shall hold one or more workshops and/or the Energy Commission may hold public hearings as part of its approval procedure.

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

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

COM-13, Unplanned Temporary Closure/On-Site Contingency Plan

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

The project owner shall resubmit an on-site contingency plan for CPM review and approval. The plan shall be submitted within 60 days (or other time agreed to by the CPM) after recertification. The approved plan must be in place within 120 days after recertification of project operation of the facility and shall be kept at the site at all times.

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

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

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

In the event of an unplanned 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 the circumstances and expected duration of the closure.

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

COM-14, Unplanned Permanent Closure/On-Site Contingency Plan

The on-site contingency plan required for unplanned temporary closure shall also cover unplanned permanent facility closure. All of the requirements specified for unplanned temporary closure shall also apply to unplanned permanent closure.

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

In the event of an unplanned 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.

A closure plan, consistent with the requirements for a planned closure, shall be developed and submitted to the CPM within 90 days of the permanent closure or another period of time agreed to by the CPM.

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

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

Noncompliance Complaint Procedures

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

Informal Dispute Resolution Procedure

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

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

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

Request for Informal Investigation

Any individual, group, or agency may request that the Energy Commission 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 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 48 hours, followed by a written report filed within seven 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 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 agencies with expertise in the subject area of concern, as necessary;
3. conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and
4. after the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1230 et seq.

Formal Dispute Resolution Procedure-Complaints and Investigations

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

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

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

The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to modify project design, operation or performance requirements, change any condition of certification and to transfer ownership or operational control of the facility. It is the responsibility of the project owner to contact the CPM to determine if a proposed project change should be considered a project modification pursuant to section 1769. Implementation of a project modification without first securing Energy Commission or Energy Commission staff approval may result in enforcement action that could result in civil penalties in accordance with section 25534 of the Public Resources Code.

A petition is required for **amendments** and for **insignificant project changes** as specified below. For verification changes, a letter from the project owner is sufficient. In all cases, changes should not be implemented until approved by the Commission or in the case of a verification change, by the CPM. The petition or letter requesting a change should be submitted to the CPM, who will file it with the Energy Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209.

The criteria that determine which type of approval and the process that applies are explained below.

Amendment

The project owner shall petition the Energy Commission, pursuant to Title 20, California Code of Regulations, Section 1769, when proposing modifications to project design, operation, or performance requirements. If a proposed modification results in deletion or change of a condition of certification, or makes changes that would cause the project not to comply with any applicable laws, ordinances, regulations or standards, the petition will be processed as a formal amendment to the final decision, which requires public notice and review of the Energy Commission staff analysis, and approval by the full commission. This process takes approximately two to three months to complete, and possibly longer for complex project modifications.

Change of ownership

Change of ownership or operational control also requires that the project owner file a petition pursuant to section 1769 (b). This process takes approximately one

month to complete, and requires public notice and approval by the full commission.

Insignificant Project Change

Modifications that do not result in deletions or changes to conditions of certification, and that are compliant with laws, ordinances, regulations and standards, and do not require any additional mitigation, may be processed as insignificant project changes. The CPM, after review and concurrence with technical staff may issue a notice of insignificant project change pursuant to section 1769(a) (2). This process requires a 14-day public review of the Notice of Insignificant Project Change of staff's intention to approve the modification unless substantive objections are filed. If substantial objections are filed the notification must be heard at a Public Business Meeting and approved by the Commission.

Verification Change

A verification may be modified by the CPM without requesting an amendment to the decision if the change does not conflict with the conditions of certification and provides an effective alternate means of verification. This process usually takes less than five working days to complete.

TABLE 1

COMPLIANCE SECTION
SUMMARY of GENERAL CONDITIONS OF CERTIFICATION

CONDITION NUMBER	PAGE #	SUBJECT	DESCRIPTION
COM-1		Unrestricted Access	The project owner shall grant Energy Commission staff and delegate agencies or consultants unrestricted access to the power plant site.
COM-2		Compliance Record	The project owner shall maintain project files on-site. Energy Commission staff and delegate agencies shall be given unrestricted access to the files.
COM-3		Compliance Verification Submittals	The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether the condition was satisfied by work performed by the project owner or his agent.
COM-4			▪ does not apply to Phase 1
COM-5		Compliance Matrix	The project owner shall submit a compliance matrix (in a spreadsheet format) with each annual compliance report which includes the status of all compliance conditions of certification.
COM-6		Record Keeping	Key Events List
COM-7		Annual Compliance Reports	After construction ends and throughout the life of the project, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports.
COM-8		Security Plans	Thirty days prior to commencing construction, the project owner shall submit a Security Plan for the construction phase. Sixty days prior to initial receipt of hazardous material on site, the project owner shall submit an Security Plan & Vulnerability Assessment for the operational phase.
COM-9		Confidential Information	Any information the project owner deems confidential shall be submitted to the Dockets Unit with an application for confidentiality.
COM-10		Dept of Fish and Game Filing Fee	The project owner shall pay a filing fee of $850 at the time of project recertification.
COM-11		Reporting of Complaints,	Within 10 days of receipt, the project owner shall report to the CPM, all notices, complaints, and

CONDITION NUMBER	PAGE #	SUBJECT	DESCRIPTION
		Notices and Citations	citations.
COM-12		Planned Facility Closure	The project owner shall submit a closure plan to the CPM at least twelve months prior to commencement of a planned closure.
COM-13		Unplanned Temporary Facility Closure	To ensure that public health and safety and the environment are protected in the event of an unplanned temporary closure, the project owner shall submit an on-site contingency plan within 60 days after recertification.
COM-14		Unplanned Permanent Facility Closure	To ensure that public health and safety and the environment are protected in the event of an unplanned permanent closure, the project owner shall submit an on-site contingency plan within 60 days of recertification.

COMPLAINT REPORT/RESOLUTION FORM

PROJECT NAME: Los Esteros Critical Energy Facility AFC Number: (03-AFC-2)
COMPLAINT LOG NUMBER _____ Complainant's name and address: Phone number: _____
Date and time complaint received: _____ Indicate if by telephone or in writing (attach copy if written): Date of first occurrence:
Description of complaint (including dates, frequency, and duration):
Findings of investigation by plant personnel: Indicate if complaint relates to violation of Energy Commission requirement: Date complainant contacted to discuss findings: _____
Description of corrective measures taken or other complaint resolution: Indicate if complainant agrees with proposed resolution: If not, explain: Other relevant information:
If corrective action necessary, date completed:_____ Date first letter sent to complainant: _____(copy attached) Date final letter sent to complainant: _____(copy attached)
This information is certified to be correct. Plant Manager's Signature: _____ Date:_____

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

IV. ENGINEERING ASSESSMENT

The broad engineering assessment conducted for the LECEF Power 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 other project-related elements such as the associated linear facilities (the transmission line, the natural gas supply pipeline, and the raw water supply pipeline).

A. FACILITY DESIGN

SUMMARY OF THE EVIDENCE

The facility-design portion of the engineering assessment combines four technical areas: civil engineering; structural engineering; mechanical engineering; and electrical engineering as noted by Staff in a review of the existing Facility Design Conditions of Certification. (Ex. 3, p. 5.1-1.) The basis for the Conditions of Certification in each technical section are those found in the Commission Decision for the original LECEF (01-AFC-12)[8]. The Staff's analysis of the AFC to relicense the project is based upon an already-constructed and operating project, from information presented in the current AFC, and the answers to data requests. The relicensing of the project requires that any and all changes to laws, ordinances, regulations and standards (LORS), and any changes in the environment are considered in developing new Conditions of Certification. These new Conditions of Certification reflect both modification of existing conditions and the development of new conditions as appropriate. (Ex. 3, p. 3-4.)

Phase 1 of LECEF II is a nominal 180-megawatt (MW) natural-gas-fired simple-cycle peaking facility. Electrical generation is at 13.8 kilovolts (kV), which is stepped up to 115 kV for connection to the system grid. The facility's

[8] All future references to the Commission Decision in 01-AFC-12, a Commission record of which we take judicial notice, will be in the format: "01-AFC-12: p.#."

interconnection involves a wooden-pole line connecting the LECEF switchyard with the PG&E's 115 kV Los Esteros-Nortech line. (Ex. 2, p.2-2.)

The project site is located in Seismic Zone 4, a designation indicating the highest level of potential earthquake-related shaking in California. To address this potentiality, major structures and components must be designed and constructed to conform to the analysis requirements of the most recent edition of the California Building Code.[9] (01-AFC-12, p. 47.)

Key facility design features are as follows:

- Four General Electric LM6000 SPRINT combustion turbine generators (CTGs) equipped with water injection to control oxides of nitrogen (NO_x) emissions, water injection for power augmentation, and associated auxiliary equipment. Carbon monoxide (CO) emissions are controlled in the CTG combustors through good combustion practices. Each CTG generates a nominal 45 MW.
- Selective catalytic reduction (SCR) and oxidation catalyst units for further NO_x and CO emissions reduction. These are housed in four HRSG casings that were installed during construction in anticipation of the Phase 2 installation of steam generator tubing and other combined-cycle equipment.
- A one-cell cooling tower for plant equipment cooling.
- A 10-inch-diameter, 550-foot long natural gas pipeline that connects to existing PG&E lines 101 and 109, both of which are located adjacent to State Route 237.
- Two 18-inch-diameter, 1,500-foot-long recycled water pipelines that connect with the South Bay Water Recycling Program's (SBWRP's) recycled water main, located within the City of San Jose's buffer land west of the project site.
- An 18-inch-diameter 2,000-foot-long waste water pipeline connecting LECEF with the City's sanitary sewer line located in Zanker Road.
- A 1,000-foot-long storm water drain that connects LECEF to an existing 24-inch diameter outfall, located to the east of the site at the flood control

[9] The 1998 edition of the California Building Code is currently in effect. (Ex. 2, 5.1-3.) Should this version be superseded by the time that the final plans for the LECEF are submitted, however, the successor version will be used. *(Ibid.)* 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. (Condition **STRUC-1**.)

channel adjacent to Coyote Creek. In accordance with existing Conditions of Certification, permits applications are currently in process for construction of a permanent storm water outfall that extends the drain approximately 250 feet into Coyote Creek. Agencies involved in issuing these permits include the U.S. Army Corps of Engineers (404 Section 7 Nationwide Permit); the California Department of Fish and Game (Streambed Alteration Agreement); the Santa Clara Valley Water District (encroachment permit); and the San Francisco Bay Regional Water Quality Control Board (Section 401 Water Quality Certification). Applicant anticipates that construction of the permanent outfall will occur in the summer of 2005. (Ex. 2, pp. 2-2 to 2-8.)

Process Description

For Phase 1 operation, CTG combustion air flows through the inlet air filters, chiller coils and associated air inlet ductwork, is compressed, and then flows to the CTG combustion sections. Natural gas fuel is injected into the combustion sections and ignited. The hot combustion gases expand through the turbine sections of the CTGs, causing them to rotate and drive the electric generators and CTG compressors. The hot combustion gases exit the turbine sections and enter SCR/CO units (located within the HRSG casings) and exit to the atmosphere through the exhaust stacks. (Ex. 2, p. 2-8.)

Thermal energy is produced in the four CTGs through the combustion of natural gas, which is converted into the mechanical energy required to drive the combustion turbine compressors and electric generators. Four aeroderivative-technology CTGs supplied by General Electric have been installed for the facility. This technology is the most efficient simple-cycle aeroderivative combustion turbine generator on the market. The construction and commissioning process for the CTGs took approximately 4 to 6 months once the initial support infrastructure was in place, including the water and natural gas lines and electrical switchgear. (Ex. 2, p. 2-8.)

Each CTG system consists of a CTG with supporting systems and associated auxiliary equipment. The CTGs have water injection to control NOx emissions and for power augmentation. CO emissions are controlled in the CTG

combustors through good combustion practices. The CTGs are equipped with the following required accessories to provide safe and reliable operation:

- Inlet air chilling coils
- Inlet air filters
- Metal acoustical enclosure
- Lube oil cooler
- Water injection pumps
- Turbine vent fans
- Generator vent fans
- Fire detection and protection system
- Fuel gas control system (Ex. 2, p. 2-8.)

Inlet combustion air is cooled via a chilled water system and each combustion turbine has water injection spray evaporative inter-cooling between the low pressure compressor and the high pressure compressor. NO_x suppression water injection further controls NO_x emissions. (Ex. 2, p. 2-8.)

The exhaust gases from the CTG are directed to the SCR and oxidation catalyst unit to reduce both NO_x and CO emissions. The CTG exhaust gases exit the SCR/CO catalyst units to the atmosphere through the exhaust stacks. The SCR emission control system uses ammonia vapor in the presence of a catalyst to further reduce the NO_x concentration in the CTG exhaust gases. Diluted ammonia vapor (NH_3) is injected into the exhaust gas stream through a grid of nozzles located upstream of the catalyst module. The subsequent chemical reaction reduces NO_x to nitrogen and water. The oxidation catalyst system passively controls CO and precursor organic compound (POC) emissions through a chemical reaction. (Ex. 2, p. 2-9.)

The electric power produced by the facility is transmitted to the regional transmission grid. Some of this power may be used for the U.S DataPort Super Hub computer server center, once the server center is constructed. Some power is used onsite to power auxiliaries such as pumps and fans, control systems, and general facility loads, including lighting, heating, and air conditioning. Some is

also converted from alternating current (AC) to direct current (DC) for use as backup power for control systems and for other uses. Transmission and auxiliary uses are discussed below. (Ex. 2, p. 2-9.)

The four CTGs generate power at 13.8 kV. The four 13.8 kV generator outputs are connected by non-segregated bus through generator circuit breakers to individual oil-filled generator step-up transformers, which increase the voltage to 115 kV. Surge arresters are provided at the high-voltage bushings to protect the transformers from surges on the 115 kV system caused by lightning strikes or other system disturbances. The transformers are set on concrete pads within containment systems designed to contain the transformer oil in the event of a leak or spill. The high voltage side of each LECEF step-up transformer is connected to the plant switchyard via underground cables. The plant switchyard is connected to a 150-foot-long, 115 kV transmission line that connects with PG&E's Los Esteros-Nortech 115 kV transmission line. The LECEF switchyard is configured in a reliable scheme, as described in the section on Transmission System Engineering, *supra*. (Ex. 2, p. 2-9.)

Auxiliary power to the power block is supplied at 4,160 volts AC by a double-ended 4,160-volt switchgear lineup. Two oil-filled 115 kV to 4.16 kV station service stepdown transformers supply primary power to the switchgear. The 4,160-volt switchgear lineup supplies power to the CTG inlet chiller compressor motors, gas compressors, cooling tower fan, circulating water pumps, and to station service transformers (SSTs), rated 4,160 to 480 volts for 480-volt power distribution. (Ex. 2, p. 2-9.)

Each CTG is equipped with 125 VDC battery/charger systems for its package controls and its on-board fire protection system. 480 VAC is provided from the associated motor control center (MCC) for that CTG. Each CTG unit has a second 125 VDC battery/charger installed in the power distribution center

adjacent to each unit. This system provides DC for control and protection of ancillary equipment and transformers. (Ex. 1, p. 2-9.)

One common DC power supply system consisting of one 125-volt DC battery, two 100 percent 125-volt DC full-capacity battery chargers, meters, ground detectors, and distribution panels are supplied for balance-of-plant. Under normal operating conditions, the battery chargers supply DC power to the DC loads. The battery chargers receive 480-volt, three-phase AC power from the AC power supply (480-volt) system and continuously charge the battery while supplying power to the DC loads. The ground detection scheme detects grounds on the DC power supply system. Under abnormal or emergency conditions, when power from the AC power supply (480-volt) system is unavailable, the battery supplies DC power to the DC loads. Recharging of a discharged battery occurs whenever 480-volt power becomes available from the AC power supply (480-volt) system. The rate of charge depends on the characteristics of the battery, battery charger, and connected DC load during charging. The anticipated maximum recharge time will be 24 hours. The 125-volt DC system is also used to provide control power to the 4,160-volt switchgear, to the 480-volt load centers, and to critical control circuits. (Ex. 1, p. 2-10.)

Each CTG power block also has an essential-service 120-volt AC, single-phase, 60-Hz power source. This source supplies AC power to essential instrumentation, to critical equipment loads, and to unit protection and safety systems that require uninterruptible AC power. The essential service AC system and DC power supply system are designed to ensure that critical safety and unit protection control circuits have power and can take the correct action on a unit trip or loss of plant AC power. The essential-service AC system consists of one full-capacity inverter, a solid-state transfer switch, a manual bypass switch, an alternate source transformer and voltage regulator, and an AC panelboard. The normal source of power to the system will be the DC power supply system through the inverter to the panelboard. A solid-state static transfer switch will

monitor the inverter output and the alternate AC source continuously. The transfer switch will automatically transfer essential AC loads, without interruption from the inverter output to the alternate source upon loss of the inverter output. A manual bypass switch will also be included to enable isolation of the inverter-static transfer switch for testing and maintenance without interruption to the essential service AC loads. (Ex. 1, p. 2-10.)

The CTGs are designed to burn natural gas. Maximum natural gas requirements during operation are approximately 48,000 MMBTU/day (higher heating value [HHV] basis). The pressure of natural gas delivered to the facility via pipeline is approximately 250 to 400 pounds per square inch gauge (psig). The natural gas flows through a gas pressure control station and a flow metering station, then is pressurized by onsite compressors, as needed, and then flows through gas scrubber/filtering equipment, before entering the combustion turbines. (Ex. 1, p. 2-10.)

For Phase 1 operation, recycled water consumption includes cooling tower make-up for cooling from the following heat rejection sources: CTG lube oil system, fuel gas compressor cooling, recycle gas cooler, inlet air chiller condenser, and other minor sources. Additional make-up water is fed to the water treatment system for use in NO_x suppression injection water and compressor evaporative inter-cooling and fogging (SPRINT). The facility's Phase 1 peak water consumption is about 598 gallons per minute (gpm), based on hot day full load operation. Total daily peak water use is about 861,000 gallons per day (gpd), based on 24 hours operation at sustained peak hourly temperature. Generation of demineralized water quality is required to operate the CTG water injection systems and include micro filtration, reverse osmosis, and neutralization. Demineralization and water filtration equipment is provided on a leased basis from a local supplier. (Ex. 1, p. 2-10 to 2-11.)

The recycled water from the WPCP is treated for CTG water injection (NO_x suppression and SPRINT) and cooling tower make-up. Cooling tower make-up treatment includes the addition of chemicals such as a pH control agent (acid or caustic), a mineral scale dispersant (i.e. polyacrylate polymer), a corrosion inhibitor (phosphate based), and a biocide (hypochlorite or equivalent). The recycled water used for CTG water injection is treated to remove impurities. Microfiltration is used as pretreatment prior to the reverse osmosis (RO) system, as a precaution to prevent downstream membrane fouling. The RO product, or permeate, is stored in a product water storage tank. Discharges from the recycled water treatment processes are sent to the WPCP via the wastewater discharge line. (Ex. 1, p. 2-11.)

The Phase 1 heat rejection system consists of a one-cell, plume-abated, wet counter-flow cooling tower to remove the heat generated by the turbine inlet chillers and miscellaneous auxiliary heat loads such as lube oil coolers and gas compression cooling. The cooling tower cell utilizes treated recycled water as makeup, and has a continuous blowdown to maintain basin dissolved solids in the range of 3 to 4 cycles of concentration. (Ex. 1, p. 2-11.)

Waste management is the process whereby all wastes produced at the facility will be collected, treated if necessary, and disposed of properly. Wastes include waste lubricating oils and oily rags. Waste management is discussed in more detail, *supra*.

The LECEF produces minimal solid wastes typical of power generation operations. Maintenance is performed by an outside contractor that will remove all generated wastes to the contractor's establishment for ultimate disposal. Generation plant wastes include oily rags, broken and rusted metal and machine parts, defective or broken electrical materials, empty containers, and other miscellaneous solid wastes, including the typical refuse generated by workers. Several methods are used to properly manage and dispose of hazardous wastes

generated by the facility. Waste lubricating oil will be recovered and recycled by a waste oil recycling contractor. Spent lubrication oil filters will be disposed of by the maintenance contractor in a Class I landfill. Spent SCR catalysts will be recycled by the supplier. Waste water from the recycled water treatment process, cooling/process water blowdown, and sanitary sewer discharges are sent to the WPCP via a 2,000-foot pipeline that connects to an existing sewer main located on Zanker Road. (Ex. 1, pp. 2-11 to 2-12.)

Aqueous ammonia is stored in a 10,000-gallon tank in a secondary containment basin. Ammonia vapor detection equipment was installed to detect escaping ammonia and activate alarms and the automatic vapor suppression features. Portable safety showers and eyewashes are provided adjacent to the ammonia storage tank area. State-approved personal protective equipment is used by maintenance personnel during chemical spill containment and cleanup activities. Personnel are properly trained in the handling of these chemicals and instructed in the procedures to follow in case of a chemical spill or accidental release. Adequate supplies of absorbent material are stored onsite for spill cleanup. Electric equipment insulating materials have been and will be specified to be free of polychlorinated biphenyls (PCB). (Ex. 1, p. 2-12.)

Air emissions from the combustion of natural gas are controlled using state-of-the-art systems. In summary. water injection in the combustion turbines and SCR systems are used to control NO_x concentrations in the exhaust gas emitted to the atmosphere. The SCR process uses aqueous ammonia. The SCR equipment includes a reactor chamber, catalyst modules, ammonia storage system, ammonia vaporization and injection system, and monitoring equipment and sensors. CO and POC emissions are controlled at the combustors with advanced combustion control, and CO emissions are controlled further with oxidation catalyst systems. Particulate emissions are controlled using good combustion controls and natural gas as the sole fuel. A monitoring system records the fuel gas flow rate and monitors the emissions of NO_x, CO, and

oxygen in the exhaust gas. This system generates reports of emissions data in accordance with permit requirements and sends alarm signals to the control room when the level of emissions approaches or exceeds pre-selected limits. (Ex. 1, p. 2-12.)

Phase 1 was constructed between July 2002 and October 2003. There will be no new construction associated with Phase 1. The Phase 1 facility has been designed to operate to export electric power for 24 hours per day, 7 days per week, year-round, except as required for planned maintenance. (Ex. 1, p. 2-13.)

The testimony of record indicates the Conditions of Certification will ensure that the final design and construction of the proposed 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 elements of construction proceed without approval from the local building official and that qualified special inspectors perform appropriate inspections required by the California Building Code. (See Condition **STRUC-1**.)

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 adverse impacts. Finally, the testimony addresses potential project closures 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 our Conditions of Certification are sufficient to adequately address and minimize any potential adverse impacts associated with project closure.

FINDINGS AND CONCLUSIONS

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

1. The evidence of record contains sufficient information to establish that the proposed facility was appropriately designed and constructed and that any future design and construction will be in conformity with the applicable engineering laws, ordinances, regulations, and standards set forth in the appropriate portion of Appendix A of this Decision.

2. 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 concerns. Although the construction of LECEF is finished and the plant is operational, the Conditions of Certification set forth below will be useful should any additional work be required for any reason.

3. The Facility Design aspects of the proposed project do not create potential cumulative impacts.

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

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct and inspect the project in accordance with the 1998 California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations), which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (The CBSC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) The project owner shall insure that all the provisions of the above applicable codes be enforced during any construction, alteration, moving, demolition, repair, or maintenance of the completed facility [1998 CBC, Section 101.3, Scope]. All

transmission facilities (lines, switchyards, switching stations and substations) are handled in Conditions of Certification in the **Transmission System Engineering** section of this document.

In the event that the initial engineering designs are submitted to the CBO when a successor to the 1998 CBSC is in effect, the 1998 CBSC 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.

The project owner shall insure that all contracts with contractors, subcontractors and suppliers shall clearly specify that all work performed and materials supplied on this project comply with the codes listed above.

Verification: Within 30 days 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 Energy Commission's Decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [1998 CBC, Section 109 – Certificate of Occupancy].

Once the Certificate of Occupancy has been issued, the CPM shall be informed at least 30 days prior to any construction, alteration, moving, demolition, repair, or maintenance to be performed which may require CBO approval as a result of the above stated codes. The CPM will then determine the necessity of CBO approval on the work to be performed.

GEN-2 Prior to submittal of the initial engineering designs for CBO review, 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 list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM when requested.

Verification: At least 60 days prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List, and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in Table 1 below. Major structures and equipment shall be added to or deleted from the Table only with

CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Combustion Turbine Generator Foundation and Connections	4
SCR Unit Structure, Foundation and Connections	4
Transformer Foundation and Connections	4
CT Inlet Air Filter/Duct Structure, Foundation and Connections	4
Inlet Air Chillers Skid Foundation and Connections	4
Exhaust Stack Structure, Foundation and Connections	4
Fuel Gas Filter Foundation and Connections	4
Fuel Gas Compressor Foundation and Connections	1
Gas Turbine Enclosures Structure, Foundation and Connections	4
Potable Water Tank Foundation and Connections	1
Ammonia Storage Tank & Pump Foundation and Connections	1
Cooling Tower Foundation and Connections	1
Lube Oil Storage Room Structure, Foundation and Connections	1
Starting Hydraulic Skid Foundation and Connections	4
Performance Skid Foundation and Connections	4
Demineralized Water Filter Skid Foundation and Connections	4
Auxiliary Water Injection Pumps Foundation and Connections	4
Air Compressor/Air Dryer Foundation and Connections	1
Oil/Water Separator Foundation and Connections	2
Wash Water Drain Tank Foundation and Connections	2
Ammonia Vaporizer Skid Foundation and Connections	4
Switchgear Building Structure, Foundation and Connections	1
Black Start Generator Foundation and Connections	1
Fire Water Tank Foundation and Connections	1
Fuel Gas Metering Station Structure, Foundation and Connections	1
Fire Water Primary and Emergency Pump Foundation and Connections	1
Auxiliary Cooling Water Pump Foundation and	1

Equipment/System	Quantity (Plant)
Connections	
Service/Administration Building Structure, Foundation and Connections	1
Switchyard Control Room Structure, Foundation and Connections	1
115-kV Switchyard Building Structure, Foundation and Connections	1
Potable Water Systems	1 Lot
Drainage Systems (including sanitary drain and waste)	1 Lot
High Pressure and Large Diameter Piping	1 Lot
HVAC and Refrigeration Systems	1 Lot
Temperature Control and Ventilation Systems (including water and sewer connections)	1 Lot
Building Energy Conservation Systems	1 Lot
Switchyard, Buses and Towers	1 Lot
Electrical Duct Banks	1 Lot
Zero Liquid Discharge Facility Structure, Foundation, and Connections	1

GEN-3 The project owner shall make payments to the CBO for design review, plan check and construction inspection based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with 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], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be as otherwise agreed by the project owner and the CBO.

Verification: The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next Monthly Compliance Report indicating that the applicable fees have been paid.

GEN-4 Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer or civil engineer, as a Resident Engineer (RE), to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24, § 4-209, Designation of Responsibilities).]. All transmission facilities (lines, switchyards, switching stations, and

substations) are handled in Conditions of Certification **TSE-1, TSE-2 and TSE-3** in the **Transmission System Engineering** Section of this document.

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

The RE shall:

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

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

If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

Verification: At least 30 days prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the name, qualifications

and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.

If the RE or the delegated engineer(s) are subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-5 Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of 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.]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1, TSE-2 and TSE-3** in the **Transmission System Engineering** Section of this document.

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, 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:

Design, or be responsible for 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

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

This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations. [1998 CBC, section 104.2.4, Stop orders.]

Protocol: C: The design engineer shall:

1. Be directly responsible for the design of the proposed structures and equipment supports;

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

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

Protocol: E: The electrical engineer shall:

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

Verification: At least 30 days prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

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

Protocol: The special inspector shall:

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

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

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

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

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

Verification: The project owner shall submit monthly construction progress reports to the CBO and CPM. The project owner shall transmit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days. If disapproved, the project owner shall

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

GEN-8 The project owner shall obtain the CBO's final approval of all completed work. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. When the work and the "as-built" and "as graded" plans conform to the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up "as-built" drawings for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the "as-built" drawings [1998 CBC, Section 108, Inspections.] The project owner shall retain one set of approved engineering plans, specifications and calculations at the project site or at another accessible location during the operating life of the project [1998 CBC, Section 106.4.2, Retention plans.

Verification: Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing final approved engineering plans, specifications and calculations as described above, the project owner shall submit to the CPM a letter stating that the above documents have been stored and indicate the storage location of such documents.

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

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

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

CIVIL-2 The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible

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

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

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

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

Verification: Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR), and the proposed corrective action. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following Monthly Compliance Report.

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

Verification: Within 30 days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the

facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

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

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

Construction of any structure or component shall not commence until the CBO has approved the lateral force procedures to be employed in designing that structure or component.

Protocol: The project owner shall:

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

plans, calculations and specifications shall be signed and stamped by the responsible design engineer [1998 CBC, Section 106.3.4, Architect or Engineer of Record.]

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

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

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

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

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

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

chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

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

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

STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in Chapter 3, Table 3-E of the 1998 CBC shall, at a minimum, be designed to comply with Occupancy Category 2 of the 1998 CBC.

Verification: At least 30 days prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design 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 major piping or plumbing construction, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in **Table 1**, condition of certification **GEN 2**, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of

any such major piping or plumbing 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, Section 108.4, Approval Required; 1998 California Plumbing Code, Section 103.5.4, Inspection Request, Section 301.1.1, Approval].

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

1. The proposed final design plans, specifications and calculations conform with all of the piping requirements set forth in the Energy Commission's Decision; and
2. All of the other piping systems, except domestic water, refrigeration systems and small bore piping have been designed, fabricated and installed in accordance with all applicable ordinances, regulations, laws and industry standards, including, as applicable:

- American National Standards Institute (ANSI) B31.1 (Power Piping Code);
- ANSI B31.2 (Fuel Gas Piping Code);
- ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
- ANSI B31.8 (Gas Transmission and Distribution Piping Code);
- Title 24, California Code of Regulations, Part 5 (California Plumbing Code);
- Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);
- Title 24, California Code of Regulations, Part 2 (California Building Code); and
- Specific City/County code.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency [1998 CBC, Section 104.2.2, Deputies].

Verification: At least 30 days prior to the start of any increment of piping construction, the project owner shall submit to the CBO for approval, with a copy of the transmittal letter to the CPM, the above listed documents for that increment of construction of piping systems, including a copy of the signed and stamped engineer's certification of conformance with the Energy Commission's Decision.

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

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

Protocol: 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 30 days 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 transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.

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

Protocol: The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in

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

Verification: At least 30 days 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.

ELEC-1 Prior to the start of any increment of electrical construction for electrical equipment and systems 480 volts and higher, listed below, with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations [CBC 1998, Section 106.3.2, Submittal documents]. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS [1998 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the **Transmission System Engineering** section of this document.

Protocol: The following activities shall be submitted for CBO approval:

A. Final plant design plans to include:
   1. One-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems; and
   2. System grounding drawings.

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; and
6. lighting energy calculations.

C. The following activities shall be reported to the CPM in the Monthly Compliance Report:

1. receipt or delay of major electrical equipment;
2. testing or energization of major electrical equipment; and
3. a signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision.

Verification: At least 30 days prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for electrical equipment and systems 480 volts and greater, including a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and 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.[10] Nevertheless, the CEC is required to make findings concerning whether the project is likely to be operated in a safe and reliable manner. [Cal. Code of Regs., tit. 20, § 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 normally necessary to examine whether the LECEF is likely to achieve a level of reliability similar to that of other power plants on the system.

SUMMARY OF THE EVIDENCE

Applicant proposes to operate the LECEF throughout its actual life as a simple-cycle power plant. The Phase 1 facility has been designed to operate to export electric power for 24 hours per day, 7 days per week, year-round, except as required for planned maintenance. Applicant intends for the project to meet this same goal within the constraints of the deregulated merchant power market upon completion of Phase 2 combined-cycle conversion. (Ex. 2, p. 2-26.)

LECEF Phase 1 is a peaking facility and therefore does not have some redundancy that a base load plant may require. Phase 1 is designed to operate between approximately 25 and 100 percent of baseload to support California's electrical requirements. Phase 1 is designed for an operating life of 30 years. Reliability and availability projections are based on this operating life. Operation and maintenance procedures will be consistent with industry standard practices to maintain the useful life status of plant components. The LECEF Phase 1 simple-cycle power block consists of four natural gas-fired CTGs. The CTG power block is projected to operate between 25 and 100 percent of the time

[10] Staff views a project as acceptable if it does not degrade the reliability of the utility system to which it is attached—it exhibits reliability equal to that of other power plants on the system. (01-AFC-12, p. 69, *fn. 29*.)

during each year of its operating life. The percentage of time that the power block is projected to operate is defined as the "service factor." The service factor considers the amount of time that a unit is operating and generating power, whether at full or partial load. The projected service factor for the power block, which considers projected percentage of time of operation, differs from the "equivalent availability factor" (EAF), which considers the projected percentage of energy production capacity achievable. EAF is defined as a weighted average of the percentage of full energy production capacity achievable. The projected EAF for LECEF is estimated to be in the range of 94 to 98 percent. The EAF differs from the "availability of a unit," which is the percentage of time that a unit is available for operation, whether at full load or partial load or on standby.

Staff reviewed the **Power Plant Reliability** section of the original Commission Decision for the Los Esteros Critical Energy Facility (03-AFC-12, pp. 69-72) that concluded:

1. The equipment availability, redundancy, maintenance, quality assurance, and quality control factors will likely ensure that the LECEF meets industry norms for reliability.
2. The LECEF will likely be constructed to resist potential natural hazards such as flooding and seismic shaking.
3. Fuel supplies for the proposed project are available in quantities sufficient to ensure reliable project operation.
4. Water supplies for the proposed project are available in sufficient quantities to meet project needs.
5. The project will not degrade the overall reliability of the electrical system or contribute to a cumulative adverse impact to such system. (Ex. 3, p. 5.4-1.)

The evidence indicates that the LECEF will continue to operate in a manner consistent with industry norms for reliable operation and will continue to satisfy the project objectives of providing peaking, load following and/or baseload power. The conclusions and findings stated above will remain unchanged. The project has already been constructed to resist potential natural hazards. (Ex. 3, p. 5.4-1.)

As with the original license, no LORS apply to power plant reliability. There are no Conditions of Certification in the area of **Power Plant Reliability**. (Ex. 3, p. 5.4-1.)

The principal natural hazards associated with the project site are earthquakes and floods. The site is located in Seismic Risk Zone 4. Structures were designed to meet the seismic requirements of the California Code of Regulations (CCR) Title 24 and the 1998 Uniform Building Code (UBC). Section 8.4[11]. The project site is essentially flat, with an average elevation of approximately 15 feet above mean sea level (MSL). The plant facilities are at 14 feet MSL. According to the Federal Emergency Management Agency (FEMA), the project site is not within either the 100- or 500-year floodplain. (Ex. 2, p. 2-25; Ex. 3, p. 3-3.)

Moreover, the criteria specified in the original Decision (01-AFC-12) and adopted in this Decision will ensure that the LECEF will be reasonably resistant to natural hazards such as flooding and seismic shaking. Staff concluded that there is no special concern with power plant functionality affecting electric system reliability due to seismic events. (See also that portion of our Decision entitled **Facility Design**, *supra*, and the **Geological and Paleontology** portions, *infra*.)

[11] The 2001 California Building Code (CBC) has been adopted and supersedes the 1998 CBC. The project was originally permitted under the 1998 CBC, However, there are no significant changes to the 1998 CBC in the 2001 CBC with respect to geologic hazards that will affect the Phase I facility. (Ex. 3, p. 5.2-1.)

FINDINGS AND CONCLUSION

Based upon the uncontroverted evidence of record, we again 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 equivalent availability factor for the LECEF is from 92 to 98 percent.

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 LECEF will meet industry norms for reliability.

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

6. Water supplies for the proposed project are available in sufficient quantities to meet project needs.

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

We conclude, that the project is likely to operate in an acceptably reliable manner. There are no conditions associated with power plant reliability.

C. POWER PLANT EFFICIENCY

The California Environmental Quality Act (CEQA) 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; and
- compliance with existing energy standards
- whether there are any feasible alternatives that could reduce a wasteful, inefficient, and unnecessary consumption of energy. (Pub. Resources Code, § 21002.1; CCR, tit. 14, Appendix F.)

SUMMARY OF THE EVIDENCE

The evidence of record addresses:

- whether the LECEF 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. Staff has reviewed and adopted the **Power Plant Efficiency** section of the original Commission Decision for the Los Esteros Critical Energy Facility (01-AFC-12) that concluded that the LM6000 Sprint gas turbine model employed in the project, with its incorporation of water spray inter-cooling between the machine's two compressor stages, would yield the greatest net power output and the highest fuel efficiency among the various models available for simple-cycle plants (01-AFC-12, 75). The applicant, in Phase 1 of the new Application for Certification, is seeking to re-license the current simple-cycle project. Staff believes that the LM6000 Sprint model in simple-cycle configuration still

represents the most fuel efficient technology available to satisfy the project objectives of providing peaking and load following power. (Ex. 3, p.5.3-1.)

Phase 1 as proposed, operating with these LM6000 Sprint machines in the current simple-cycle configuration, will continue to meet the CEQA requirements and does not require any additional analysis from the standpoint of power plant efficiency. The project will not:

- create adverse effects on energy supplies and energy resources;
- require additional energy supply capacity; or
- consume natural gas in a wasteful, inefficient, or unnecessary manner. (Ex. 3, pp. 5.3-1, 5.3-2.)

Phase 1 has one of the highest thermal efficiency that can be expected from a natural gas-fired simple-cycle plant at approximately 38 percent. This level of efficiency is achieved when each combustion turbine operates at base-load (100 percent load). Other types of operations, particularly those at less than full gas turbine output, will result in lower efficiencies. The output of the plant and therefore the efficiency will be dictated by the dispatch requirements of the plant. Phase 1's net annual electrical production cannot be forecast accurately at the present time because the plant will operate in a deregulated environment. The maximum annual generation possible from the facility is estimated to be roughly 1,580 gigawatt hours (GWh). The number of hours LECEF will operate at various logical load points will depend ultimately on requirements of any power sales agreements or market conditions. (Ex. 2, p.10-3.)

FINDINGS AND CONCLUSION

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

1. Applicant 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 exceed the fuel requirements of the proposed project.

4. The proposed project's turbine configuration and generating equipment offer the most efficient, feasible combination available to satisfy project objectives.

5. The operational efficiency of the proposed project is substantially equal to or exceeds that of other available technologies and

6. The proposed project will not consume natural gas in a wasteful, inefficient, or unnecessary manner.

D. TRANSMISSION SYSTEM ENGINEERING

The Commission's analysis of the project's "Transmission System Engineering" factors includes evaluation of the outlet connecting lines, the power plant switchyard, termination facilities, and outlet alternatives. It also involves a determination of whether or not the project's 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, to determine appropriate mitigation measures. Under the California Environmental Quality Act (CEQA), the Commission must conduct an environmental review of the "whole of the action", which may include facilities not licensed by the Commission. (Cal. Code of Regs., tit. 14, § 15378.) This examination was coordinated with the evaluation performed by the California Independent System Operator (Cal-ISO) in order to determine the project's effects of the interconnected electrical grid.

SUMMARY OF THE EVIDENCE

The LECEF site was selected, in part, for its proximity to PG&E's Los Esteros Substation. The Los Esteros Substation serves as a connecting point between the Newark and Metcalf Substations at 230 kV and between the Nortech, Trimble, and Montague Substations and the Agnew Generating Plant at 115 kV. The 115 kV lines are part of PG&E's Mission Trail operating region. The Los Esteros Substation is also planned to serve as a connecting point to Silicon Valley Power's (SVP) Northern Receiving Station. This existing and planned transmission network will deliver the power generated at the LECEF to the electric grid. (Ex. 2, p. 5-1.)

The existing LECEF Phase 1 is interconnected to the PG&E system through a short (approximately 150 ft) overhead 115 kV line which taps PG&E's Los Esteros to Nortech 115 kV line. A selector switch has been installed which will

allow the LECEF to remain connected to the Los Esteros Substation if the remainder of the line to Nortech is de-energized. This interconnection has received PG&E and Cal-ISO approvals to remain in service until LECEF converts to combined cycle (Phase 2). (Ex. 1, p. 5-1.)

Staff reviewed the information presented for Phase1 contained in the current AFC (03-AFC-2). In addition to the current AFC, Staff reviewed the Commission Decision for the original LECEF (01-AFC-12), the Staff Assessment for that AFC dated December 31, 2001, and the Staff Assessment Supplement dated February 5, 2002. Staff also reviewed Commission Order 04-121-06 Approving Project Modification dated January 21, 2004, and recommended adding conditions of certification **TSE-A1** and **TSE-A2** to conform to that order. The order approving the tap interconnection required a new 3-phase selector/disconnect switch for operational reliability and flexibility (**TSE-A2**), and limited its use to July 2, 2005, due to concerns that operation beyond 2005 might cause system reliability violations. Applicant provided supporting information indicating that there are no system reliability violations so long as the project remains at or below 195 MW gross output. This information is contained in a System Impact/Facility Study issued by PG&E on March 24, 2003, for LECEF Alternative Temporary Interconnections, and a letter from the Cal-ISO dated May 20, 2003, as well as information in the new AFC (03-AFC-2). This information led Staff to conclude:

- Continuation of the current tap to the Los Esteros Substation-Nortech line will not have any unmitigated adverse impacts on the transmission system as long as the facility operates in simple-cycle mode with a gross output of 195 MW or less.

- The California Independent System Operator has concluded that the facility can remain on the 152 foot tap interconnection so long as it operates as a simple-cycle plant with an output of 195 MW or less. (ISO letter dated April 27, 2004.)

- The Cal-ISO letter, coupled with the installation of disconnect switches, results in no concern regarding system reliability violations beyond 2005.

- The existing LECEF interconnection tap line protection scheme is adequate to assure conformance with system reliability standards.

- The current interconnection tap line will continue to comply with LORS.

The Applicant will continue to use the current interconnection to PG&E so long as the facility remains in simple-cycle mode with a gross output of 195 MW or less.

Based upon review of the Commission Decision of July 2, 2002 for LECEF, Commission Order 04-121-06 approving a different tap line interconnection, related documents, and new information presented in the current LECEF AFC (03-AFC-2), staff concluded that no additional conditions of certification were needed to ensure that the project is properly maintained to assure public health and safety, and to ensure compliance with all applicable engineering LORS[12].

FINDINGS AND CONCLUSION

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

1. Applicant is seeking certification for a tap-line transmission line interconnection to the Los Esteros Substation-Nortech line.

2. The current interconnection tap line will continue to comply with LORS.

3. Continuation of the current tap to the Los Esteros Substation-Nortech line will not have any unmitigated adverse impacts on the transmission system as long as the facility operates in simple-cycle mode with a gross output of 195 MW or less.

[12] Commission order 04-121-06 for LECEF Phase 1 permits the current tap line interconnection to operate temporarily until July 2, 2005.

4. The California Independent System Operator has concluded that the facility can remain on the 152 foot tap interconnection so long as it operates as a simple-cycle plant with an output of 195 MW or less.

5. Coupled with the installation of disconnect switches, the interconnection results in no concern regarding system reliability violations beyond 2005.

6. The existing LECEF interconnection tap line protection scheme is adequate to assure conformance with system reliability standards.

7. Conditions of Certification enumerated below will ensure that the transmission aspects of the LECEF, Phase 1 project will be designed, constructed, and operated to conform with applicable LORS, which are identified in Appendix A of this Decision.

We therefore conclude that interconnection of the project through the tap-line to the Los Esteros Substation-Nortech line is acceptable, and that it will not result in the violation of any regulatory criteria pertinent to transmission system engineering.

CONDITIONS OF CERTIFICATION

TSE-1 The project owner shall furnish to the CPM and to the CBO a schedule of transmission facility design submittals, a Master Drawing List, a Master Specifications List, and a Major Equipment and Structure List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Verification: At least 60 days prior to the start of construction, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major equipment in **Table 1: Major Equipment List** below). Additions and deletions shall be made to the table only with CPM and CBO approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Equipment List
Breakers
Step-up transformer
Switchyard
Busses
Surge Arrestors
Disconnects
Take off facilities
Electrical Control Building
Switchyard control building
Transmission Pole/Tower

TSE-2 Prior to the start of construction the project owner shall assign an electrical engineer and at least one of each of the following to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; or D) a mechanical 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 civil, geotechnical or civil and design engineer assigned in conformance with Facility Design condition **GEN-5**, may be responsible for design and review of the TSE facilities.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all engineers assigned to the project. If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations.

The electrical engineer shall:

A. Be responsible for the electrical design of the power plant switchyard, outlet and termination facilities; and

B. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

TSE-3 The project owner shall keep the CBO informed regarding the status of engineering design and construction. If any discrepancy in design and/or construction is discovered, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification.

Verification: The project owner shall submit monthly construction progress reports to the CBO and CPM to be included in response to **TSE-3**. The project owner shall transmit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

TSE-4 For the power plant switchyard, outlet line and termination, the project owner shall not begin any increment of construction until plans for that increment have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the Monthly Compliance Report:

A. Receipt or delay of major electrical equipment;

B. Testing or energization of major electrical equipment; and

C. The number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: At least 30 days prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

TSE-5 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The substitution of Compliance Project Manager (CPM) and CBO approved "equivalent" equipment and an equivalent substation configuration is acceptable. The project owner shall submit the required number of copies of the design drawings and calculations as determined by the CBO.

A. The power plant switchyard and outlet line shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC), CPUC GO 128, Title 8 of the California Code and Regulations (Title 8), Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", National Electric Code (NEC) and related industry standards.

B. Breakers and buses in the power plant switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis.

C. Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner's standards.

D. Termination facilities shall comply with applicable PG&E interconnection standards.

E. The project conductors shall be sized to accommodate the full output from the project.

F. The project owner shall provide:

1. The final Detailed Interconnection Facility Study (DIFS) including a description of facility upgrades, operational mitigation measures, and/or Remedial Action Scheme (RAS) sequencing and timing if applicable,

2. Executed Generation Interconnection Facility Agreement,

3. Verification of Cal-ISO Notice of Synchronization.

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

Design drawings, specifications and calculations conforming with CPUC General Order 95 or NESC, CPUC GO 128, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.

For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[13] and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, CPUC GO 128, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards.

Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements TSE-5A through F above.

The Facilities Study and Generation Interconnection Facility Agreement shall be provided concurrently to the CPM and CBO.

TSE-6 The project owner shall inform the CPM and CBO of any impending changes, which may not conform to the requirements **TSE-5A** through **F**, and have not received CPM and CBO approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CBO and the CPM.

Verification: At least 60 days prior to the construction of transmission facilities, the project owner shall inform the CBO and the CPM of any impending changes which may not conform to requirements of **TSE-5** and request approval to implement such changes.

TSE-7 The applicant shall provide the following Notice to the California Independent System Operator (Cal-ISO) prior to synchronizing the facility with the California Transmission system:

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

A. At least one (1) week prior to synchronizing the facility with the grid for testing, provide the Cal-ISO a letter stating the proposed date of synchronization; and

B. At least one (1) business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 to 1530 at (916)-351-2300.

Verification: The applicant shall provide copies of the Cal-ISO letter to the CPM when it is sent to the Cal-ISO one (1) week prior to initial synchronization with the grid. A report of conversation with the Cal-ISO shall be provided electronically to the CPM one (1) day before synchronizing the facility with the California transmission system for the first time.

TSE-8 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC General Order 95 or NESC, CPUC GO 128, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

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

"As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC General Order 95 or NESC, CPUC GO 128, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards, and these conditions shall be provided concurrently.

An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. "As built" drawings of the mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the "Compliance Monitoring Plan;" and

A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.

The following conditions of certification were added as part of the order approving the project modification.

CONDITIONS OF CERTIFICATION

TSE-A1: The new temporary tap interconnection shall consist of an approximately 152 foot transmission line under-crossing of the two double circuit PG&E 115 kV steel pole lines (running generally North/South) immediately adjacent to the LECEF power plant switchyard to a hard wire tap of the Nortech-PG&E Los Esteros Substation circuit utilizing three wood poles. The cable size shall be 795 ACSS.

Verification: This configuration has been implemented and conforms to existing LORS.

TSE-A2: To provide adequate operational reliability and flexibility for the new temporary interconnection, a three-phase disconnect/selector switch shall be installed at the interconnection tap point with the Nortech-PG&E Los Esteros Substation 115 kV line to be coordinated between Calpine and PG&E. At the interconnection tap point the switch is required for the circuit to the Nortech Substation.

Verification: The three-phase disconnect/selector switch has been installed.

E. TRANSMISSION LINE SAFETY AND NUISANCE

SUMMARY OF THE EVIDENCE

Typical high-voltage overhead transmission lines are composed of bare conductors connected to supporting structures by means of porcelain, glass, or plastic insulators. The air surrounding the energized conductor acts as the insulating medium. Maintaining sufficient clearances, or air space, around the conductors to protect the public and utility workers is paramount to safe operation of the line. The safety clearance required around the conductors is determined by normal operating voltages, conductor temperatures, short-term abnormal voltages, wind-blown swinging conductors, contamination of the insulators, clearances for workers, and clearances for public safety. Minimum clearances are specified in the National Electric Safety Code (NESC). Electric utilities, state regulators, and local ordinances may specify additional (more restrictive) clearances. Typically, clearances are specified for:

- Distance between the energized conductors themselves
- Distance between the energized conductors and the supporting structure
- Distance between the energized conductors and other power or communication wires on the same supporting structure, or between other power or communication wires above or below the conductors
- Distance from the energized conductors to the ground and features such as roadways, railroads, driveways, parking lots, navigable waterways, airports, etc.
- Distance from the energized conductors to buildings and signs
- Distance from the energized conductors to other parallel power lines

The existing Phase 1 LECEF transmission interconnection has been designed to meet all national, state, and local code clearance requirements regarding aviation safety, interference with radio-frequency communication, audible noise, fire hazards, hazardous shocks, nuisance shocks, and electric and magnetic field exposure.. (Ex. 2, p. 5-5; Ex. 3, p. 4.11-1.)

The energy from the operating Los Esteros Critical Energy Facility (LECEF), originally permitted in July of 2002 (01-AFC-12), is being delivered to PG&E's power grid through a 152-ft, overhead, wood-pole 115 kV transmission line connecting the project's switchyard to PG&E's 115 kV Los Esteros Substation-Nortec transmission line immediately to the west of the switchyard. Phase 1 of the present LECEF2 application (03-AFC-2) requests recertification the existing 115 kV line for the life of the project. (Ex. 3, p. 4.11-1.)

The existing 115 kV Phase 1 line, with a lack of public access and nearby residences, means that the long-term residential field exposures and other field impacts will be insignificant during operations. These potential impacts are at the root of the present health and safety concern associated with high voltage transmission lines. The categories of impacts discussed above and related mitigation measures were addressed and incorporated into the earlier Commission Decision (01-AFC-12). A comprehensive discussion of these impacts in included in the AFC at pages 5-6 to 5-11.

Staff reviewed the Commission Decision 01-AFC-12, the Commission's Order 04-121-06 approving the existing overhead connecting line and the applicable laws, ordinances, regulations and standards (LORS) for any changes that might necessitate specific modifications to the LECEF-related recommendations. Based upon these reviews and the information in the current AFC (03-AFC-2), Staff concludes and we agree that there would be no unmitigated environmental impacts resulting from recertifying the current permitted 115 kV transmission lines as proposed by the applicant. The specific proposal to design, build and operate these 115 kV lines according to the listed CPUC requirements and industry practices constitutes compliance with the health and safety LORS of concern to staff. (Ex. 3, p. 4.11-1.)

Transmission lines have the potential to cause both safety hazards and nuisance impacts. These lines were evaluated during 01-AFC-12 to ascertain whether

they would create aviation safety hazards or interfered with radio frequency communication; or result in audible noise, fire hazards, nuisance shocks; or an undesirable level of exposure to electric and magnetic fields. In general, Staff found that these overhead lines were safe concerning these impacts. (01-AFC-12, pp. 89-91.)

Since the LECEF is currently operating, the transmission lines have been constructed, and the current interconnection has been approved by the Energy Commission and the California Independent System Operator, **TLSN-1** has been satisfied. In addition, measurements of magnetic fields associated with the existing lines as required by **TLSN-2** have been completed and no additional testing is expected to be required in relation to Phase 1. These Conditions of Certification remain sufficient to protect workers and the public should additional work or changes be initiated associated with the Phase 1 180 MW lines.

FINDINGS AND CONCLUSION

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

1. The proposed transmission line constructed in conjunction with the proposed project is not likely to create fire hazards nor to cause safety hazards to aviation.

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

3. The project's transmission lines will not cause an unacceptable interference with radio frequency communications, nor create significant shock hazards to humans.

4. The Conditions of Certification below will ensure that the transmission lines are 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 lines associated with this project will not create any significant safety or nuisance hazards.

CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall build any future underground interconnection lines according to the requirements of CPUC's GO-128.

Verification: Thirty days before line-related ground disturbance, 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 proposed line will be constructed according to the requirements of GO-128.

TLSN-2 The project owner shall engage a qualified consultant to measure the strengths of the magnetic fields from the interconnection point with PG&E to LECEF's switchyard. Measurements shall be made at the same points (identified as Points A, B, C, and D) for which calculated field strength measurements were provided by the applicant.

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

IV. PUBLIC HEALTH AND SAFETY ASSESSMENT

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

A. AIR QUALITY

This section would normally examine the potential adverse impacts of criteria air pollutant emissions resulting both from project construction and operation. The construction of the project is complete as to Phase 1 and therefore there are no adverse impacts of construction to consider. Only those potential adverse impacts of criteria air pollutant emissions resulting from project operation are examined herein. Even then, it is important to note that, for Phase 1, the emissions and impacts are identical to those considered in the previous Decision. (01-AFC-12; see also Ex. 3, p. 4.1-1.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Commission must examine whether the project complies with applicable laws, ordinances, regulations, and standards related to air quality. National (federal) ambient air quality standards (AAQS) have been established for six air contaminants identified as "criteria air pollutants." These include: (1) sulfur dioxide (SO_2), (2) carbon monoxide (CO), (3) ozone (O3); (4) nitrogen dioxide (NO_2), (5) lead (Pb); and (6) particulate matter less than 10 microns in diameter (PM_{10}). Also included in this review are the precursor pollutants for ozone, which are nitrogen oxides (NO_x) and volatile organic compounds (VOC) and the precursors for PM10, which are NO_x, VOC, and sulfates (SO_x). (Exs. 2, p. 8.1-3; 01-AFC-12, p. 93.)

The federal Clean Air Act[14] requires **new** major stationary sources of air pollution to comply with federal requirements in order to obtain authority to construct permits. The U.S. Environmental Protection Agency (USEPA), which administers the Clean Air Act, has designated all areas of the United States as attainment (air quality better than the (AAQS) or non-attainment (worse than the AAQS) for criteria air pollutants. There are two major components of air pollution law: New Source Review (NSR) for evaluating pollutants that violate federal standards; and Prevention of Significant Deterioration (PSD) to evaluate those pollutants that do not violate federal standards. Enforcement of NSR and PSD rules is typically delegated to local air districts that are established by federal and state law. Both USEPA and the California Air Resources Board (CARB) have established allowable maximum ambient concentrations for the six criteria pollutants listed above. The California standards are typically more stringent than federal standards. Federal and state ambient air quality standards are shown in Table 1 below. (Ex. 2, p 8.1-3; 01-AFC-12, pp. 93-94.)

[14] 42 U.S.C. § 7401 et seq.

AIR QUALITY Table 1
Source: Exhibit 2, p. 8.1-4
Federal and State Ambient Air Quality Standards

Table 8.1-1. Ambient air quality standards.

Pollutant	Averaging Time	California	National
Ozone	1 hour	0.09 ppm	0.12 ppm
	8 hours	-	0.08 ppm (3-year average of annual 4th-highest daily maximum)
Carbon Monoxide	8 hours	9.0 ppm	9 ppm
	1 hour	20 ppm	35 ppm
Nitrogen Dioxide	Annual Average	-	0.053 ppm
	1 hour	0.25 ppm	-
Sulfur Dioxide	Annual Average	-	80 µg/m^3 (0.03 ppm)
	24 hours	0.04 ppm (105 µg/m^3)	365 µg/m^3 (0.14 ppm)
	3 hours	-	1300[a] µg/m^3 (0.5 ppm)
	1 hour	0.25 ppm	-
Suspended Particulate Matter (10 Micron)	24 hours	50 µg/m3	150 µg/m^3
	Annual Arithmetic Mean	20 µg/m^3	50 µg/m^3
Suspended Particulate Matter (2.5 Micron)	Annual Arithmetic Mean	12 µg/m^3	15 µg/m^3 (3-year average)
	24 hours	-	65 µg/m^3 (3-year average of 98th percentiles)
Sulfates	24 hours	25 µg/m^3	-
Lead	30 days	1.5 µg/m^3	-
	Calendar Quarter	-	1.5 µg/m^3
Hydrogen Sulfide	1-hour	0.03 ppm	-
Vinyl Chloride	24-hour	0.010 ppm	-
Visibility Reducing Particles	8-hour (10am to 6pm PST)	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.	-

a. This is a national secondary standard, which is designed to protect public welfare.

Because recertification of this project involves many of the same factors considered in depth in our previous Decision, reference to that Decision is used rather than repeating the same analyses here. Most importantly, as noted by Staff, "the Air Quality emissions and impacts from the proposed Phase 1 project are identical to the previously analyzed impacts from the existing Los Esteros project." (Ex. 3, p. 4.1-1.)

The Los Esteros Critical Energy Facility (LECEF) is located in the city of San Jose within the Bay Area Air Basin (ambient air quality data has been collected extensively in the Bay Area Air Basin) and is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The Bay Area Air Basin is designated attainment for the state and federal NO_2, CO, and SO_2 AAQS standards, and nonattainment for the state and federal ozone AAQS standards and the state PM10 standard. (01-AFC-12, p.94.)

PM10 Mitigation:

This Commission originally granted a license for the Los Esteros Critical Energy Facility (LECEF) in July 2002. The Commission's Final Decision found that particulate emissions from the facility could contribute to violations of the state 24-hour average Ambient Air Quality Standard (AAQS) for particulate matter less than 10-microns in diameter (PM_{10}) during fall and winter months, and that such emissions thus contribute to a significant cumulative impact on air quality requiring mitigation. The PM_{10} mitigation required by that Decision was based on negotiations between Energy Commission staff and Applicant. Originally, Applicant had wanted to commit a specific dollar amount to the air district for unspecified PM_{10} abatement programs rather than identifying specific mitigation. Staff insisted that the mitigation should be specific emissions reductions rather than a simple monetary payment; only specific reductions could mitigate the project's contribution to the overall impact. (Ex. 3, p.4.1-1.)

The applicant provided funding for specific PM_{10} abatement programs administered by the air district, consistent with the strictures of the Final Decision. Staff asserts that the funded programs failed to sufficiently mitigate the contribution of the project. In summary, the evidence indicates that the woodstove/fireplace retrofit program resulted in approximately 5.7 tons per year (tpy) of PM_{10} reductions. Purchase of three new school buses resulted in a further 88 pounds per year of PM10 reductions. In Staff's view, that we adopt, this mitigation falls far short of offsetting the project's 21.9 tpy of fall/winter quarter PM10 emissions. Staff's finding was that the mitigation requirement in the original license was not fulfilled, and that any new license for the facility should correct the shortfalls of the earlier mitigation attempt. Accordingly, Staff proposed a Condition of Certification to require mitigation for the remaining 16.2 tpy of PM_{10} emissions. (Ex. 3, p.4.1-1.) This is elaborated below.

Although the Bay Area Air Basin is classified as nonattainment for the state PM_{10} AAQS, the project is not required by the BAAQMD to provide PM_{10} offsets because the 43.8 tons per year permit limit is below the district's PM_{10} Offset Threshold of 100 tons per year (as set by District Rule 2-6-212.1). However, as discussed below, the project's emissions would contribute to violations of the state 24-hour PM_{10} standard, contributing to a cumulative impact that requires mitigation pursuant to CEQA. As part of the Original Decision (01-AFC-12, pp. 130-131), Condition of Certification AQ-SC4 required Applicant to develop and implement a PM_{10} Mitigation Plan. To achieve these reductions, Applicant agreed to participate in an ongoing district woodstove replacement and fireplace retrofit program. This program provided a cash incentive to local residents who replace or retrofit their wood burning stove or fireplace with a less polluting natural gas burning device. However, since the approval of the original mitigation plan, Applicant has achieved only a portion of the PM_{10} mitigation required by that Decision. The following contains Staff's calculation of the outstanding PM_{10} emissions reductions required to mitigate the effects of the operation of the Phase 1 project. (Ex. 3, p. 4.1-2.)

On July 16, 2004, the District submitted a status report to the Commission detailing the retrofits and replacements funded thus far through the program. The data is summarized in AIR QUALITY Table 2 below, along with the calculated emissions reductions achieved from the program.

AIR QUALITY Table 2
Total Emissions Reductions from the Woodstove/Fireplace Retrofit Program (July 2004) (lbs)

Device	NOx	SOx	CO	POC	PM_{10}
84 Replacement Stoves	650.0	100.8	46,869.8	7,811.4	7,836.6
570 Fireplace Retrofits	420.7	56.8	43,191.2	5,296.9	5,923.8
Total Reductions (lbs)	1,070.7	157.5	90,061.0	13,108.3	13,760.4
Total Reductions (tons)	**0.54**	**0.08**	**45.03**	**6.55**	**6.88**

Source: Exhibit 3, AIR QUALITY Table 1, p. 4.1-2.

Because Applicant provided only 81.64%of the wood stove and fireplace retrofit program funding, it can be credited only with 81.64%of the achieved reductions of PM_{10}, NO_x and SO_x. That 81.64% corresponds to 5.62 tons of PM_{10}, 0.44 tons of NO_x, and 0.06 tons of SO_x. (Ex. 3, p. 4.1-2.)

In addition to the woodstove and fireplace program, Applicant arranged to replace three local diesel school buses with alternative diesel school buses that emit significantly less criteria pollutants. Applicant funded the purchase of three model year 2002 school buses; each equipped with catalytic soot filters and new low emissions engines. These buses replaced a 1988 model year bus at the Santa Clara Unified School District, and two buses (a 1981 and a 1977 model year) at the East Side Union High School district. All three old school buses were scrapped. These replacements provided a total of 88 lbs of PM10 credit and 933 lbs of NO_x credit. (Ex. 3, pp. 4.1-2 to 4.1-3.)

Because SO_x is a precursor pollutant to PM_{10}, staff proposes that we accept SO_x reductions for PM_{10} credit at a trading ratio of 3:1. This is based on District Rule 2-2-301.1, which allows SO_x emission reduction credits (ERCs) to be used in place of PM_{10} ERCs at a trading ratio set by the Air Pollution Control Officer

(APCO). The most recent case where such a ratio was set was the East Altamont case (CEC Publication No. P800-03-012), where the 3:1 ratio was proposed and accepted. Thus, staff is proposing that an interpollutant trade of 3 pounds of SO_x reductions be accepted for each pound of PM_{10} emissions required to mitigate the computed impacts. In addition, because NO_x is a precursor pollutant to PM_{10}, staff proposes to accept the NO_x reductions from both the wood burning retrofits and the school bus replacements as PM_{10} credit at a 2:1 ratio (*i.e*. 2 lbs of NO_x offset 1 lb of PM_{10}). (Ex. 3, p. 4.1-3.)

Combining the PM_{10}, SO_x and NO_x reductions from both the wood burning retrofits and the school bus replacements yields the total Equivalent PM_{10} credited to Applicant for Los Esteros. This data is presented in AIR QUALITY Table 3 below:

AIR QUALITY Table 3
Total Equivalent PM_{10} Credited to Los Esteros

Source	%[1]	Reductions Achieved (lbs)	Credit Ratio	Equivalent PM_{10} (lbs)
Wood Burning Retrofits (PM_{10})	81.64	11,234.0	1:1	11,234.0
Wood Burning Retrofits (SO_x)	81.64	128.6	3:1	42.9
Wood Burning Retrofits (NO_x)	81.64	874.1	2:1	437.0
School Bus Replacement (PM_{10})		88.0	1:1	88.0
School Bus Replacement (NO_x)		933.0	2:1	466.5
Total Equivalent PM_{10} Credited (lbs)				12,268.4
Total Equivalent PM_{10} Credited (tons)				**6.13**

1. Reductions Achieved are 81.64 percent of the total from AIR QUALITY Table 2

Subtracting this Equivalent PM_{10} from the 17.50 tons of PM_{10} reductions specified in the original PM_{10} Mitigation Plan yields an outstanding need of 11.37 tons of PM_{10}. Applicant indicated that the required PM_{10} mitigation could be provided in the form of SO_x Emissions Reduction Credits (ERC) at the 3:1 interpollutant trading ratio proposed by staff. Staff thus proposes a revised AQ-SC4 that requires surrender of 34.11 tons of SO_x ERCs (11.37x3=34.11) as a condition of recertification. (Ex. 3, p. 4.1-2.)

The Applicant disagreed with Staff regarding the need for additional PM_{10} mitigation for the existing project and with Staff's characterization of events and analyses in this area, but agreed with the additional mitigation requirement set forth in AQ-SC4 "as a means of fully resolving this issue." (Ex. 1, p. 5.) By way of explanation of these differences, Mr. Rubenstein testified on behalf of Applicant:

> In summary, the disagreement was that we believed, and we continue to believe, that the emission reductions that were achieved in the mitigation program required, under the original licensing, provided benefits greatly in excess of the direct tons of emissions reductions that were documented. In particular we believe that because of both the different dispersion characteristics between simple cycle gas turbine and the mitigation sources, which, in this case, were diesel school buses and fireplaces and wood stoves; and also because of the increased toxicity of the pollutants coming from, for example, diesel school buses as compared with the toxicity of the particulates coming from this gas-fired powerplant, that the benefits were greater, as I said, than just the direct reductions in emissions.
>
> In the mitigation plan that was submitted to the Commission and approved in 2002, we actually quantified what we believe those benefits to be. And based on the quantification techniques included in that analysis we believe that the PM10 impacts from the project were, in fact, fully mitigated.
>
> The nature of the dispute with the CEC Staff is that they believe that only the direct reductions in emissions on a tonnage basis are providing mitigation benefits. And the additional emission reduction credits that we proposed to surrender, as documented in the staff assessment, represents a compromise in an effort to resolve the issue, with both parties agreeing to disagree on whether in fact that additional mitigation was required. (12/06/04 RT 13:19-15:4.)

Greenhouse Gas Emissions Reporting: In addition to regulated criteria pollutants, the combustion of natural gas produces air emissions known as greenhouse gases. These include primarily carbon dioxide and methane (unburned natural gas). Greenhouse gases are known to contribute to the warming of the earth's atmosphere. Climate change from rising temperatures

represents a risk to California's economy, public health, and environment due to changes in sea levels that could lead to flooding of coastal communities, drought, forest fires, decline of fish populations, reduced hydropower opportunities, and loss of habitat.

In 1998 the Energy Commission identified a range of strategies to prepare for an uncertain climate future, including a need to account for the environmental impacts associated with energy production, planning, and procurement. In 2003 the Energy Commission recommended that the state require reporting of greenhouse gas emissions as a condition of state licensing of new electric generating facilities. Condition of Certification **AQ-SC6** requires the project owner to report the quantities of each greenhouse gas emitted as a result of facility operation. Such reporting would be done in accordance with accepted reporting protocol as specified.

Changes in the Environment: There were no significant changes in the ambient air quality environment since the original permit was issued.

COMMISSION DISCUSSION

Mr. Sarvey offered Exhibit 5 (marked for identification only) in a purported attempt to establish BACT in the BAAQMD for simple cycle turbines[15]. (12/06/04 RT 18:4-19.) There was considerable doubt expressed by the parties as to authenticity and relevance of this exhibit. Mr. Sarvey explained that he obtained it from the website of the BAAQMD, but did not have the complete document. (12/06/04 RT 18:20-19:25.) Mr. Rubenstein, for the Applicant, testified that there

[15] This attempt to challenge the mitigation proposed by Staff is somewhat contradictory in that CARE, in its Prehearing Conference Statement, agreed with and supported Staff's analysis in the FSA. In any event, our conclusions below reject any such challenge. In addition, CARE seeks mitigation of ammonia slip, but there has been no showing of any increased ammonia emissions since the original licensing. We therefore also reject this request.

"was no reference to NOx emissions[16] or best available control technology as part of the PM10 requirements in the original decision," although BACT is required under the District's regulatory program. (12/06/04 RT 21:7-14.)

Both Mr. Rubenstein for the Applicant and Mr. Taylor for Staff testified that there is no disagreement between Staff and Applicant and that the PM_{10} and $PM_{2.5}$ emissions from this project have been fully mitigated by the Conditions of Certification contained herein. (12/06/04 RT 24:24-25:4; 12/06/04 RT 29:14-19.)

Mr. Taylor testified that there was a seeming disagreement between Exhibit 5 and the information provided to staff by BAAQMD. (12/06/04 RT 30:19-23) He further testified that Exhibit 5 does not have any application to the recertification of this facility and explained that application of BACT contains a two-part trigger. (12/06/04 RT 42:21-24.) First, the facility must emit more than 10 pounds per hour and second, there must be an increase in emissions. This facility did not increase emissions from the time of original licensing and so did not trigger the requirement to comply with BACT. (12/06/04 RT 42:9-20.)

CARE argues that recertifying the facility triggers the requirement for BACT under §25552. Section 25552(e)(5)(B), as amended (and before its self-repeal date), read as follows:

> That the thermal powerplant will be recertified, modified, replaced, or removed within a period of three years with a cogeneration or combined-cycle thermal powerplant that uses best available control technology and obtains necessary offsets, as determined at the time the combined-cycle thermal powerplant is constructed, and that complies with all other applicable laws, ordinances, and standards.

Before §25552 was amended[17], however, it read:

---

[16] NO_x emissions are a recognized precursor and contribute to secondary formation of $PM_{2.5}$ (12/06/04 RT 21:21-24.).

[17] SB 28x, effective May 22, 2001.

> That the thermal powerplant will be modified, replaced, or removed within a period of three years with a combined-cycle thermal powerplant that uses best available control technology and obtains necessary offsets, as determined at the time the combined-cycle thermal powerplant is constructed, and that complies with all other applicable laws, ordinances, and standards.

The only changes to this sub-section were the insertion of "recertified" as a fourth option at the end of the license term and the addition of a cogeneration powerplant as a possible replacement. The words *"that uses best available control technology"* follow *"combined-cycle thermal powerplant*." We hold that the sub-section did not intend to apply best available control technology (BACT) to a recertified powerplant. This view is supported by the Legislative history of SB 28x and the analyses of it. An excellent review of this history is contained in the "Commission Staff Brief Regarding Recertification Of Existing Facility" docketed herein on June 7, 2004[18].

We accept the testimony of these witnesses and agree that offered Exhibit 5 has no relevance to this proceeding. We also find that the authenticity of Exhibit 5 has not been established. Accordingly, Exhibit 5 is not admitted into evidence.

We are persuaded that with adoption of the Conditions of Certification contained herein, air quality impacts are minimized to a level of insignificance. Condition of Certification AQ-1 through AQ-11 proposed by Staff are all commissioning conditions. The facility has been built and all commissioning activities have occurred. All of those conditions have been deleted from the BAAQMD permit on June 22, 2004. (Ex. 3, p.4.1-4.) We see no need for them here and we also delete them. We adopt the remaining proposed Conditions of Certification.

[18] We also note that this issue was before the Committee last year and fully briefed by the parties at that time under a Briefing Schedule set by the Committee. CARE's agreement to take the case as they found it in November 2004 arguably precludes raising the matter at this time. Because we reject CARE's argument in this matter, no prejudice occurs to the other parties.

FINDINGS AND CONCLUSIONS

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

1. Ambient Air Quality Standards (AAQS) have been established for six air contaminants identified as criteria air pollutants, including Sulfur Dioxide (SO_2) Carbon Monoxide (CO), Carbon Dioxide (CO_2), Ozone (O3), Nitrogen Dioxide (NO_2), and particulate matter less than 10 microns in diameter (PM_{10}).

2. The Bay Area Air Quality Management District (BAAQMD) is the air quality regulatory agency for the area where the project site is located.

3. The LECEF project is not a major stationary subject to Prevention of Significant Determination (PSD) permitting because it does not trigger the emission limits for such a review.

4. The Bay Area air basin is a non-attainment area for both the state and federal 1-hour ozone standards and the state 24-hour PM_{10} standard, but in attainment for all other criteria pollutants.

5. In the present circumstance, the BAAQMD does not require offsets for PM_{10} emissions. However, Staff and Applicant have agreed and we have imposed additional mitigation measures for the monitoring and control of PM_{10} emissions at the project site.

6. Applicant will obtain, by direct transfers or legally enforceable option contracts, Emission Reduction Credits (ERCs) sufficient to fully offset the emissions of PM_{10} due to project operation.

7. Applicant has carried its burden of proof to demonstrate that with implementation of the Conditions of Certification specified below, the LECEF will 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 with implementation of the Conditions of Certification below, the LECEF project will not create any significant direct, indirect, or cumulative adverse air quality impacts; and will conform with all applicable LORS relating to air quality as set forth in the pertinent portions of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

AQ-SC1 The project owner shall prepare a Fugitive Dust Mitigation Plan (FDMP) that will specifically identify fugitive dust mitigation measures that will be employed for the construction of the Los Esteros Critical Energy Facility and related facilities. The CEC shall approve a Fugitive Dust Mitigation Manager(s) (FDMM) who shall be onsite during all construction activities until released by the CPM. The FDMM shall be responsible for monitoring and enforcing the effectiveness of all mitigation measures for construction as outlined in conditions of certification AQ-SC1 and AQ-SC5. The owner/operator shall be responsible for funding the costs of the FDMM, however, the FDMM shall report to the CPM.

Construction mitigation measures that shall be addressed in the FDMP include, but are not limited to, the following:

1. the identification of the employee parking area(s) and the surface composition of those parking area(s);
2. the frequency of watering of unpaved roads and disturbed areas;
3. the application of chemical dust suppressants;
4. the use of gravel in high traffic areas;
5. the use of paved access aprons;
6. the use of posted speed limit signs;
7. the use of wheel washing areas prior to large trucks leaving the project site;
8. The methods that will be used to clean up mud and dirt that has been tracked-out from the project site onto public roads;
9. The use of windbreaks at appropriate locations;
10. The suspension of all earth moving activities under windy conditions; and
11. The use of on-site monitoring devices.

In monitoring the effectiveness of all mitigation measures included in the FDMP, the FDMM shall take into account the following:

a. Onsite spot checks of soil moisture content at locations where soil disturbance, movement and/or storage is occurring;
b. Visual observations of all construction activities; and
c. The results of measurements by portable PM10 instruments (as described in AQ-SC5).

The FDMM shall implement the following procedures for additional mitigation measures if the FDMM determines that the existing mitigation measures are not resulting in adequate mitigation:

- The FDMM shall direct more aggressive application of the existing mitigation methods within fifteen (15) minutes of making such a determination;
- The FDMM shall direct implementation of additional methods of dust suppression if the step specified above fails to result in adequate mitigation within thirty (30) minutes of the original determination;
- The FDMM shall direct a temporary shutdown of the source of the emissions if both steps specified above fail to result in adequate mitigation within one (1) hour of the original determination. The activity shall not restart until one (1) full hour after the shutdown. The owner/operator may appeal a directive from the FDMM to shutdown a source to the CPM, provided that the shutdown shall remain in effect unless reversed by the CPM.

Verification: At least fifteen (15) days prior to site mobilization, the project owner shall provide the CEC Compliance Project Manager (CPM) with a copy of the Fugitive Dust Mitigation Plan (FDMP) for approval. Ground breaking shall not commence until the project owner receives approval of the FDMP from the CPM.

AQ-SC2 The project owner shall mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired construction equipment. Available measures which may be used to mitigate construction impacts include the following:

- Catalyzed Diesel Particulate Filters (CDPF);
- Ultra-Low-Sulfur Diesel fuel, with a sulfur content of 15 ppm or less (ULSD);
- Diesel engines certified to EPA and CARB 1996 or newer off-road equipment emission standards.

Additionally, the project owner shall restrict idle time, to the extent practical, to no more than 10 minutes.

The use of each mitigation measure is to be determined in advance by a Construction Mitigation Manager (CMM), who will be available at the project site(s). The CMM must be approved by the CPM prior to the submission of any reports.

The CMM shall submit the following reports to the CPM for approval:

- Construction Mitigation Plan;

- Reports of Change and Mitigation Implementation;
- Reports of Emergency Termination of Mitigation, as necessary

Diesel Construction Equipment Mitigation Plan

The Construction Mitigation Plan shall be submitted to the CPM for approval prior to rough grading on the project site, and must include the following:

1. A list of all diesel-fueled, off-road, stationary or portable construction-related equipment to be used either on the project construction site or the construction sites of the related linear facilities. Equipment used less than a total of 10 consecutive days need not be included in this list.
2. Each piece of construction equipment listed under item (1) must demonstrate compliance with the following mitigation requirements:

Engine Size (BHP)	1996 CARB or EPA Certified Engine	Required Mitigation
< or =100	Yes or No	ULSD
>100	Yes	ULSD
>100	No	ULSD and CDPF, if suitable as determined by the CMM

If compliance cannot be demonstrated as specified under item (2), then the project owner may appeal for relief to the CPM. However, the owner must demonstrate that they have made a good faith effort to comply as specified under item (2).

Report of Change and Mitigation Implementation

Following the initiation of construction activities, and if changes to mitigation measures are necessary, the CMM shall submit a Report of Change and Mitigation Implementation to the CPM for approval. This report must contain at a minimum the cause of any deviation from the Construction Mitigation Plan, and verification of any Construction Mitigation Plan measures that were implemented. The following is acceptable proof of compliance, other methods of proof of compliance must be approved by the CPM.

1. EPA or CARB 1996 off-road equipment emission standards:
   a. A copy of the certificate from EPA or CARB.
2. Purchase and use of ultra-low-sulfur fuel (15 ppm or less).

a. Receipt or other documentation indicating type and amount of fuel purchased, from whom, where delivered and on what date; and

b. A copy of the text included in the contract agreement with all contractors and sub-contractors for use of the ultra-low-sulfur fuel in diesel burning construction equipment as identified in the Construction Mitigation Plan.

3. Installation of CDPF:

a. The suitability of the use of CDPFs is to be determined by a qualified LECEF mechanic or engineer who must submit a report to the CPM for approval.

b Installation is to be verified by a qualified LECEF mechanic or engineer.

4. Construction equipment engine idle time:

a. A copy of the text included in the contract agreement with all contractors and sub-contractors to keep engine idle time to 10 minutes or less to the extent practical.

Report of Emergency Termination of Mitigation

If a specific mitigation measure is determined to be detrimental to a piece of construction equipment or is determined to be causing significant delays in the construction schedule of the project or the associated linear facilities, the mitigation measure may be terminated immediately. However, notification containing an explanation for the cause of the termination must be sent to the CPM for approval. All such causes are restricted to one of the following justifications and must be identified in any Report of Emergency Termination of Mitigation.

1. The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or power output due to an excessive increase in back pressure.

2. The measure is causing or is reasonably expected to cause significant engine damage.

3. The measure is causing or is reasonably expected to cause a significant risk to nearby workers or the public.

4. Any other seriously detrimental cause which has approval by the CPM prior to the change being implemented.

Verification: The project owner will submit to the CPM for approval the qualifications of the CMM at least 15 days prior to the due date for the Diesel Construction Equipment Mitigation Plan. The project owner will submit the Diesel Construction Equipment Mitigation Plan to the CPM for approval 10 calendar

days prior to rough grading on the project site or start of construction on any associated linear facilities. The project owner will submit the Report of Change and Mitigation Implementation to the CPM for approval no later than 10 working days following the use of the specific construction equipment on either the project site or the associated linear facilities. The project owner will submit a Report of Emergency Termination of Mitigation to the CPM for approval, as required, no later than 10 working days following the termination of the identified mitigation measure. The CPM will monitor the approval of all reports submitted by the project owner in consultation with CARB, limiting the review time for any one report to no more than 20 working days.

AQ-SC3 The project owner shall require as a condition of its construction contracts that all contractors/subcontractors ensure that all heavy earthmoving equipment, including but not limited to bulldozers, backhoes, compactors, loaders, motor graders, trenchers, cranes, dump trucks and other heavy duty construction related trucks, have been properly maintained and the engines tuned to the engine manufacturer's specifications. The project owner shall further require as a condition of its construction contracts, that all heavy construction equipment shall not remain running at idle for more than five minutes, to the extent practical.

Verification: The project owner shall submit to the CPM, via the Monthly Compliance Report, a list of all heavy equipment used on site during that month including the owner of that equipment responsible for its maintenance and a letter from each owner indicating that the heavy equipment in question is properly maintained and tuned to manufacturer's specifications. The project owner shall maintain construction contracts on-site for six months following the start of commercial operation.

AQ-SC4 The project owner/operator shall surrender 34.11 tons of SOx Emissions Reduction Credits.

Verification: The owner/operator shall surrender all ERCs within three months of the date of the Final Commission Decision or the effective date of the license, whichever is later. The owner/operator shall submit all documentation of the surrender to the CPM by the same date. Copies of documentation from the district proving permanent withdrawal of any submitted ERCs from the district bank shall be submitted by the owner/operator to the CPM as soon as issued by the district.

AQ-SC5 The project owner shall prepare and implement a Construction Monitoring Demonstration Program (CMDP) to measure PM10 emissions during excavation, earthmoving and grading activities. The project owner shall submit the CMDP to the CPM for review and approval. The CMDP shall include, at a minimum, the following:

1. The use of real-time PM10 monitoring instruments;

2. The simultaneous use of upwind and downwind monitors continuously during these activities;
3. Description of how the monitors will be used to assess the effectiveness of the mitigation measures implemented under the FDMP, including assessing the potential need for monitoring multiple activities on site simultaneously;

Verification: At least 15 days prior to site mobilization, the project owner shall provide the CMDP to the CPM for review and approval. Monitoring records, including monitoring data from all upwind and downwind monitors, and records of dust suppression measures implemented, shall be maintained on-site throughout construction and shall be made available to the CPM upon request. A summary of the monitoring records and the dust suppression activities shall be included in each Monthly Compliance Report. Any changes to the CMDP or associated protocols require written approval from the CPM.

AQ-SC6 The project owner shall report to the CPM the quantities of each greenhouse gas (GHG) emitted on an annual basis as a result of facility operation. GHG emissions shall be reported as equivalent CO_2 pounds and the method shall conform to the California Climate Action Registry General Reporting Protocol.

Verification: GHG emissions shall be reported to the CPM once per calendar year, as part of the first quarterly compliance report submitted each year as required in Condition of Certification AQ-34.

OPERATIONS CONDITIONS OF CERTIFICATION

Conditions AQ-1 through AQ-11 are omitted. The below conditions begin with AQ-12 to maintain internal consistency.

AQ-12 Consistency with Analyses: Operation of this equipment shall be conducted in accordance with all information submitted with the application (and supplements thereof) and the analyses under which this permit is issued unless otherwise noted below.

Verification: This Condition of Certification shall be verified in the quarterly reports required under Condition of Certification AQ-34.

AQ-13 Conflicts Between Conditions: In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible. All such conflicts must be reported as they are discovered to the CPM.

Verification: This Condition of Certification shall be verified in the quarterly reports required under Condition of Certification AQ-34 and as needed on an interim basis.

AQ-14 Reimbursement of Costs: All reasonable expenses, as set forth in the District's rules or regulations, incurred by the District for all activities that follow the issuance of this permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by the owner/operator as required by the District's rules or regulations.

Verification: The owner/operator shall maintain records for a minimum of five (5) years and provide access to records and facilities as requested by the CARB, EPA, District and CEC.

AQ-15 Access to Records and Facilities: As to any condition that requires for its effective enforcement the inspection of records or facilities by representatives of the District, the Air Resources Board (ARB), the U.S. Environmental Protection Agency (U.S. EPA), or the California Energy Commission (CEC), the owner/operator shall make such records available or provide access to such facilities upon notice from representatives of the District, ARB, U.S. EPA, or CEC. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.

Verification: The owner/operator shall maintain records for a minimum of five (5) years and provide access to records and facilities as requested by the CARB, EPA, District and CEC.

AQ-16 Notification of Commencement of Operation: The owner/operator shall notify the District and CPM of the date of anticipated commencement of turbine operation not less than 10 days prior to such date. Temporary operations under this permit are granted consistent with the District's rules and regulations.

Verification: The owner/operators shall notify the District and CPM of the date of anticipated commencement of turbine operation not less than 10 days prior to such date.

AQ-17 Operations: The gas turbine, emissions controls, CEMS and associated equipment shall be properly maintained and kept in good operating condition at all times when the equipment is in operation.

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-18 **Visible** Emissions: 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 or darker than Ringelmann 1 or equivalent 20 percent opacity.

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-19 Emissions Limits:

a. Oxides of nitrogen (NOx) emissions from the gas turbine shall not exceed 5.0 ppmvd @ 15 percent O_2 (three-hour rolling average), except during periods of startup and shutdown as defined in this permit. The NOx emission concentration shall be verified by a District-approved continuous emission monitoring system (CEMS) and during any required source test. (basis: BACT)

b. Ammonia emissions from the gas turbine shall not exceed 10 ppmvd @ 15 percent O_2 (three -hour rolling average), except during periods of startup and shutdown as defined in this permit. The ammonia emission concentration shall be verified by the continuous recording of the ratio of the ammonia injection rate to the NOx inlet rate into the SCR control system (molar ratio). The maximum allowable NH_3/NOx molar ratio shall be determined during any required source test, and shall not be exceeded until reestablished through another valid source test. (basis: BACT)

c. Carbon monoxide (CO) emissions from the gas turbine shall not exceed 4 ppmvd @ 15 percent O_2 (three-hour rolling average), except during periods of startup and shutdown as defined in this permit. The CO emission concentration shall be verified by a District-approved CEMS and during any required source test. (basis: BACT)

d. Precursor organic compound (POC) emissions from the gas turbine shall not exceed 2 ppmvd @ 15 percent O_2 (three -hour rolling average), except during periods of startup and shutdown as defined in this permit. The POC emission concentration shall be verified during any required source test. (basis: BACT)

e. Particulate matter emissions less than ten microns in diameter (PM10) from the gas turbine shall not exceed 2.5 pounds per hour, except during periods of startup and shutdown as defined in this permit. The PM10 mass emission rate shall be verified during any required source test. (basis: BACT & cumulative increase)

f. Oxides of sulfur emissions (SOx) from the gas turbine shall not exceed 0.33 pounds per hour, except during periods of startup and shutdown as defined in this permit. The SOx emission rate shall be verified during any required source test. (basis: BACT & cumulative increase)

g. The total NOx emissions from the exhaust emission stacks associated with gas turbines S-1, S-2, S-3 and S-4 shall not exceed 34.20 lbs in any one clock hour, excluding those hours in which a startup or shutdown has occurred. (Basis: CEC Requirement).

Verification: The project owner/operator shall verify all emission limits specified in this Condition of Certification as part of each quarterly report required in Condition of Certification AQ-34

AQ-20 Turbine Startup: Startup of the gas turbine shall not exceed a time period of 60 minutes each per occurrence, or another time period based on good engineering practice and approved in advance by the District. The startup clock begins with the turbine's initial firing and continues until the unit meets the emission concentration limits. (Basis: Cumulative increase)

Verification: The project owner/operator shall identify the occurrence of any startup as part of the quarterly report required in Condition of Certification AQ-34.

AQ-21 Turbine Shutdown: Shutdown of the gas turbine shall not exceed a time period of 30 minutes each per occurrence, or another time period based on good engineering practice and approved in advance by the District. Shutdown begins with initiation of the turbine shutdown sequence and ends with the cessation of turbine firing. (Basis: Cumulative increase)

Verification: The project owner/operator shall identify the occurrence of any shutdown as part of the quarterly report required in Condition of Certification AQ-34.

AQ-22 Mass Emission Limits: Total mass emissions from the exhaust emission stacks associated with S-1, S-2, S-3 and S-4 Gas Turbine shall not exceed the daily, and annual mass emission limits listed in Table 1 below. The owner/operator shall implement process computer data logging including running totals to demonstrate compliance with Table 1 limits without further calculations.

Table 1–Mass Emission Limits (Including Startups and Shutdowns)

Pollutant	Each turbine lb./day	Daily (4 units) (lb.)	Annual (tons)
NOx (as NO_2)	205.2	821	74.9
POC	28.3	113	20.8
CO	99.8	399	72.9
SOx (as SO_2)	7.9	32	5.8
PM10	60.0	240	43.8
NH_3	151.7	607	110.7

The daily mass limits are on a Calendar Day basis as defined under Permit Conditions. The Annual Mass Limit is based on a rolling 8760-hour period ending on the last hour. Compliance shall be based on calendar average one-hour readings through the use of process monitors (e.g., fuel use meters), CEMS, and source test results; and the monitoring, record keeping and reporting conditions of this permit. If any part of the CEM, involved in the mass emission calculations, is inoperative for more then three hours of plant operation, the mass data for the inoperative period shall be calculated using a District approved Alternate Calculation. (Basis: Cumulative increase & record keeping)

Verification: The project owner/operator shall verify all emission limits in this Condition of Certification as part of the quarterly report required in Condition of Certification AQ-34.

AQ-23 Acid Limit: The sulfuric acid emissions (SAM) from S-1 through S-4 combined shall not exceed seven tons in any consecutive four quarters. (Basis: PSD)

Verification: The project owner/operator shall verify all emission limits in this Condition of Certification as part of the quarterly report required in Condition of Certification AQ-34.

AQ-24 Operational Limits: In order to comply with the emission limits of this rule, the owner/operator shall comply with the following operational limits:

a) The heat input to any gas turbine shall not exceed:

Hourly: 472.6 MMBtu/hr
Daily: 11,342 MMBtu/day
Four Turbines
Annual: 16,560,000 MMBtu/year

b) Only PUC Quality natural gas (General Order 58-a) shall be used to fire the gas turbine. The natural gas shall not contain total sulfur in concentrations exceeding 0.25 gr./100 scf.

c) The owner/operator of the gas turbine shall comply with the daily and annual emission limits listed in Table 1 by keeping running totals based on CEM data. (Basis: Cumulative increase)

Verification: The project owner/operator shall verify all limits in this Condition of Certification as part of the quarterly report required in Condition of Certification AQ-34.

AQ-25 Monitoring Requirements: The owner/operator shall comply with the following monitoring requirements for each gas turbine:

a) The gas turbine exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods.

b) The ammonia injection system shall be equipped with an operational ammonia flowmeter and injection pressure indicator accurate to plus or minus five percent at full scale and calibrated once every twelve months.

c) The gas turbine exhaust shall be equipped with continuously recording emissions monitor(s) for NOx, CO and O_2. Continuous emissions monitors shall comply with the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and shall be

capable of monitoring concentrations and mass emissions during normal operating conditions and during startups and shutdowns.

d) The fuel heat input rate shall be continuously recorded using District-approved fuel flow meters along with quarterly fuel compositional analyses for the fuel's higher heating value (wet basis).

e) The total sulfur content of the fuel gas shall be analyzed on a quarterly basis. (Basis: Monitoring & record keeping)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-26 Source Testing/RATA: Within 60 days after startup of the gas turbines, and at a minimum on an annual basis thereafter, a relative accuracy test audit (RATA) must be performed on the CEMS in accordance with 40 CFR Part 60 Appendix B Performance Specifications and a source test shall be performed. Additional source testing may be required at the discretion of the District or Energy Commission to address or ascertain compliance with the requirements of this permit. The written test results of the source tests shall be provided to the District and CPM within thirty days after testing. A complete test protocol shall be submitted to the District and CPM no later than 30 days prior to testing, and notification to the District and CPM at least ten days prior to the actual date of testing shall be provided so that a District or Energy Commission observer may be present. The source test protocol shall comply with the following: measurements of NOx, CO, POC, and stack gas oxygen content shall be conducted in accordance with ARB Test Method 100; measurements of PM10 shall be conducted in accordance with ARB Test Method 5; and measurements of ammonia shall be conducted in accordance with Bay Area Air Quality Management District test method ST-1B. Alternative test methods, and source testing scope, may also be used to address the source testing requirements of the permit if approved in advance by the District and CPM. The initial and annual source tests shall include those parameters specified in the approved test protocol, and shall at a minimum include the following:

a) NOx– ppmvd at 15 percent O_2 and LB/MMBtu (as NO_2);

b) Ammonia – ppmvd at 15 percent O_2 (Exhaust);

c) CO – ppmvd at 15 percent O_2 and LB/MMBtu (Exhaust);

d) POC – ppmvd at 15 percent O_2 and LB/MMBtu (Exhaust);

e) PM10 – LB/hr (Exhaust);

f) SOx – LB/hr (Exhaust);

g) Natural gas consumption, fuel High Heating Value (HHV), and total fuel sulfur content;

h) Turbine load in megawatts;

i) Stack gas flow rate (SDCFM) calculated according to procedures in U.S. EPA Method 19;

j) Exhaust gas temperature (°F);

k) Ammonia injection rate (LB/hr or moles/hr); (Basis: source test requirements & monitoring)

l) l. Water injection rate for each turbine at S-1, S-2, S-3, & S-4.

Verification: The owner/operator shall submit to the District and the CPM for approval a RATA within 60 days after first fire and annually thereafter. The owner/operator submit to the District and the CPM for approval a source test protocol at least 30 days prior to the date of the source test. The owner/operator shall notify the District and the CPM of the date of the source test no later than 10 days prior the testing date. The owner/operator shall submit to the District and the CPM for approval the results of the source test no later than 30 days following the date of the source test.

AQ-27 Within 60 days of start-up of the LECEF and on a semi-annual basis thereafter, the owner/operator shall conduct a District approved source test on exhaust points for S-1 through S-4 while each Gas Turbine is operating at maximum load to demonstrate compliance with the SAM levels in AQ-23. The owner/operator shall test for (as a minimum) SO_2, SO3 and SAM. After acquiring one year of source test data on these units, the owner/operator may petition the District to switch to annual source testing if test variability is low. (Basis: PSD Avoidance, SAM Periodic Monitoring)

Verification: The project owner/operator shall verify all emission limits in this Condition of Certification as part of the quarterly report required in Condition of Certification AQ-34.

AQ-28 A written quality assurance program must be established in accordance with 40 CFR Part 75, Appendix B and 40 CFR Part 60 Appendix F. (Basis: continuous emission monitoring)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-29 The owner/operator shall comply with the applicable requirements of 40 CFR Part 60 Subpart GG. (Basis: NSPS)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-30 The owner/operator shall notify the District and the CPM of any breakdown condition consistent with the District's breakdown regulations. (Basis: Regulation 1-208)

Verification: The project owner/operator shall notify the CPM and the District of all breakdowns as required and include all break down reports as part of the quarterly report required in Condition of Certification AQ-34.

AQ-31 The District and the CPM shall be notified in writing in a timeframe consistent with the District's breakdown regulations following the correction of any breakdown condition. The breakdown condition 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 actions taken to restore normal operations. (Basis: Regulation 1-208)

Verification: The project owner/operator shall notify the CPM and the District of all breakdowns as required and include all break down reports as part of the quarterly report required in Condition of Certification AQ-34.

AQ-32 Record Keeping: The owner/operator shall maintain the following records:

a) hourly, daily, quarterly and annual quantity of fuel used and corresponding heat input rates;

b) the date and time of each occurrence, duration, and type of any startup, shutdown, or malfunction along with the resulting mass emissions during such time period;

c) emissions measurements from all source testing, RATAs and fuel analyses;

d) daily, quarterly and annual hours of operation;

e) hourly records of NOx and CO, emission concentrations and hourly ammonia injection rates and ammonia/NOx ratio; and

f) for the continuous emissions monitoring system; performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period of non-operation of any continuous emissions monitor. (Basis: record keeping).

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-33 All records required to be maintained by this permit shall be retained by the permittee for a period of five years and shall be made readily available for District inspection upon request. (Basis: record keeping)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-34 Reporting: The owner/operator shall submit to the District and the CPM for approval, a written report for each calendar quarter, within 30 days of the end of the quarter, which shall include:

a) Daily and quarterly fuel use and corresponding heat input rates;

b) Daily and quarterly mass emission rates for all criteria pollutants during normal operations and during other periods (startup/shutdown, breakdowns);

c) Time intervals, date, and magnitude of excess emissions;

d) Nature and cause of the excess emission, and corrective actions taken;

e) 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;

f) f. A negative declaration when no excess emissions occurred;

g) g. Results of quarterly fuel analyses for HHV and total sulfur content. (Basis: record keeping & reporting).

Verification: The owner/operator shall submit to the District and the CPM for approval, written reports for each calendar quarter, within thirty (30) days of the end of the quarter.

AQ-35 Emission Offsets: The owner/operator shall offset the project emissions in the amount and at the ratios outlined in Table 2 below.

Table 2 – Emission Offsets

Pollutant	Emissions Requiring Offsets (tons/yr.)	Offset Ratio	Total ERCs Required (tons/yr.)
NOx (as NO_2)	75.4	1.15	86.7
POC	21.0	1.00	21.0

The ERC certificates must be delivered to the District and copies to the CPM ten days prior to the issuance of the ATC. (Basis: Emission Offsets)

Verification: The project owner/operator shall submit all necessary ERC certificates to the District and copies to the CPM ten days prior to the issuance of the ATC.

AQ-36 District Operating Permit: The owner/operator shall apply for and obtain all required operating permits from the District according to the requirements of the District's rules and regulations. (Basis: Regulations 2-2 & 2-6)

Verification: The owner/operator shall submit all operating permits required to the CPM in the quarter that they were acquired as part of the quarterly report for Condition of Certification AQ-34.

AQ-37 Title IV and Title V Permits: The applications for the Title IV and Title V permits must be delivered to the District prior to first-fire of the turbines. Also the acid rain monitors (Title IV) must be certified within 90 days of first-fire. (Basis: Regulation 2-6)

Verification: The owner/operator shall submit all operating permits required to the CPM in the quarter that they were acquired as part of the quarterly report for Condition of Certification AQ-34.

AQ-38 Deleted

AQ-39 The S-5 Fire Pump Engine shall be fired exclusively on diesel fuel having a sulfur content no greater than 0.05 percent by weight. (Toxics, Cumulative Increase)

Verification: The project owner/operator shall include the diesel fuel use of the S-5 fire pump engine as part of the quarterly report required in Condition of Certification AQ-34.

AQ-40 a. The owner/operator shall operate the S-5 Fire Pump Engine for no more than 100 hours per year for the purpose of reliability testing and non-emergency operation. (Cumulative Increase, Regulation 9-8-231 & 330)

b. The testing of S-5 Fire Pump Engine shall not occur on the same day as the testing of S-6 Emergency Generator. (CEC Requirement)

Verification: The project owner/operator shall include the operational hours of the S-5 fire pump engine as part of the quarterly report required in Condition of Certification AQ-34.

AQ-41 The S-5 Fire Pump Engine shall be equipped with a non-resettable totalizing counter that records hours of operation. (BACT)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-42 The following monthly records shall be maintained in a District-approved log for at least 5 years and shall be made available to the District upon request: (BACT)

a) Total number of hours of operation for S-5;

b) Fuel usage at S-5.

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-43 The S-6 Emergency Generator shall be fired exclusively on natural gas. (Toxics, Cumulative Increase).

Verification: The project owner/operator shall include the natural gas fuel use of the S-6 emergency generator as part of the quarterly report required in Condition of Certification AQ-34.

AQ-44 The S-6 Emergency Generator shall be operated for no more than two hours per day and 100 hours per year for the purpose of reliability testing or in anticipation of imminent emergency conditions. Emergency conditions are any of the following: (1) loss of regular natural gas supply, (2) failure of regular electric power supply, (32) flood mitigation, (4) sewage overflow mitigation, (5) fire, (6) failure of a primary motor, but only for such time as needed to repair or replace the primary motor. The testing of S-6 Emergency Generator shall not occur on the same day as the testing of S-5 Fire Pump Engine. (BACT, Cumulative Increase)

Verification: The project owner/operator shall include the operational hours of the S-6 emergency generator as part of the quarterly report required in Condition of Certification AQ-34.

AQ-45 The S-6 Emergency Generator shall be equipped with a non-resettable totalizing counter that records hours of operation. (BACT)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-46 The following monthly records shall be maintained in a District-approved log for at least five years and shall be made available to the District upon request: (BACT)

a) Total number of hours of operation for S-6;

b) Fuel usage at S-6.

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-47 The project owner shall submit drift eliminator design details -52 to the CPM for approval. (Basis: CEC Condition)

Verification: Thirty days prior to commencement of construction of the cooling towers, the project owner shall submit the information required above to the CPM for approval.

AQ-48 The project owner shall submit cooling tower design details including the cooling tower type and materials of construction to the CPM for approval at least 30 days prior to commencement of construction, and at least 90 days before the tower is operated. (Basis: CEC Condition)

Verification: Thirty days prior to commencement of construction of the cooling towers, the project owner shall submit the information required above to the CPM for approval.

AQ-49 No hexavalent chromium containing compounds shall be added to cooling tower circulating water. (Basis: CEC Condition)

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission per Condition of Certification AQ-15. (Basis: CEC Condition)

AQ-50 Drift eliminator drift rate shall not exceed 0.0005 percent.

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

AQ-51 PM10 emission rates from the cooling towers shall not exceed 2.16 lb/day. (Basis: CEC Condition)

Verification: Please refer to Condition AQ-52.

AQ-52 Compliance with the PM10 daily emission limit shall demonstrated as follows: PM10 lb/day = circulating water recirculation rate * total dissolved solids concentration in the blowdown water * design drift rate *. (Basis: CEC Condition)

Verification: The project owner shall compile the required daily PM10 emissions data and maintain the data for a period of five years. The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission per Condition of Certification AQ-15.

AQ-53 Compliance with PM10 emission limit shall be determined by conductivity analysis of the circulating water performed at least once daily . (Basis: CEC Condition)

Verification: The project owner shall compile the required daily PM10 emissions data and maintain the data for a period of five years. The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission per Condition of Certification AQ-15.

AQ-54 The owner/operator shall operate the facility such that maximum projected annual toxic air contaminant emissions (per AQ-55) from the gas turbines combined (S-1, S-2, S-3 and S-4) shall not exceed the following limits:

6000 pounds of formaldehyde per year;
3000 pounds of acetaldehyde per year;
1.7 pounds of specified polycyclic aromatic hydrocarbons (PAHs) per year;

60 pounds of acrolein per year

Unless the following requirement is satisfied:

The owner/operator shall perform a health risk assessment using the emission rates determined by source test and the most current Bay Area Air Quality Management District approved procedures and unit risk factors in effect at the time of the analysis. This analysis shall be submitted to the District and the CPM within 60 days of the source test date. The owner/operator may request that the District and CPM revise the carcinogenic compound emission limits specified above. If the owner/operator demonstrates to the satisfaction of the APCO that these revised emission limits will result in a cancer risk of not more than 1.0 in one million, the District and CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (TRMP)

Verification: See Condition of Certification AQ-55. The owner/operator shall submit any health risk assessment performed to the District and the CPM within 60 days of the source test date.

AQ-55 To demonstrate compliance with AQ-54, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions. These calculations shall be based on the maximum Heat Input of 16,560,000 MM Btu/year and the highest emission factor (pound of pollutant per MM Btu of Heat Input) determined by any source test of the S-1, S-2, S-3 & S-4 Gas Turbines. If this calculation method results in an unrealistic mass emission rate (the highest emission factor occurs at a low firing rate) the applicant may use an alternate calculation, subject to District and CPM approval. (TRMP)

Verification: The owner/operator shall submit these calculations and a summary of the results as part of each 4th quarter report to the CPM.

AQ-56 Within 60 days of start-up of the Los Esteros Critical Energy Facility, and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test at exhaust point P-1, P-2, P-3, or P-4 while the Gas Turbines are at maximum allowable operating rates to demonstrate compliance with AQ-54. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to AQ-54, for any of the compounds listed above, are less than the BAAQMD Toxic Risk Management Policy trigger levels shown here, then the owner/operator may discontinue future testing for that pollutant:

Formaldehyde	132 lbs./yr.
Acetaldehyde	288 lbs./yr.
Specified PAHs	0.18 lbs./yr.
Acrolein (TRMP)	15.6 lbs./yr.

Verification: The owner/operator shall submit a source testing methodology to the District and CPM for approval not more than 20 working days prior to the intended source test date. The owner/operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District and the CEC CPM within 30 days of the source testing date.

B. PUBLIC HEALTH

The public health analysis supplements the previous discussion on air quality by examining potential public health effects from project emissions of toxic air contaminants. In this analysis, the Commission considers whether such emissions will result in significant adverse public health impacts that violate standards for public health protection.[19]

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project construction and operation will result in routine emissions of toxic air contaminants (TACs).[20] These substances are categorized as noncriteria pollutants because there are no ambient air quality standards, established to regulate their emissions.[21] (01-AFC-12, p.149.)

The purpose of the Public Health analysis is to determine if toxic emissions from the Los Esteros Critical Energy Facility (LECEF) would have the potential to cause significant adverse public health impacts or violate standards for public health protection in the project's impact area. If potentially significant health impacts are identified, staff evaluates mitigation measures to reduce such impacts to insignificant levels.

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

[20] For a list of TAC's that were addressed by Applicant and Staff in the original LECEF analysis, see **Table 1** in the Decision in that proceeding. 01-AFC-12, p. 158.

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

A review of the Commission Decision of July 2, 2002 (01-AFC-12) and new information presented in the current AFC (03-AFC-2, Ex. 2, §8.9), leads us to conclude (as Staff did) that there will be no unmitigated environmental impacts resulting from the recertification of the LECEF simple-cycle 180 MW power plant and the project will comply with all LORS. Staff proposed one Condition of Certification for inclusion in our decision and that condition was acceptable to Applicant. (Ex. 3, p. 4.7-1; Ex. 1, p.22.) No conditions of certification were proposed in the July 2002 Commission's Decision.

Continued operation of the LECEF as a simple-cycle powerplant will involve no new construction or ground-breaking activities. Therefore, the continued operation of the facility would not have an adverse effect on public health and mitigation measures are not required. (Ex. 1, p.23.)

COMMISSION DISCUSSION

There has been a great deal of interest and, in some cases, concern regarding bacterial growth in cooling systems, including but not limited to industrial cooling towers. Much of the concern centers on Legionella, a bacterium that causes Legionnaires' disease, which is similar to pneumonia. Legionella is ubiquitous in natural aquatic environments and is also widely distributed in man-made systems. The most common pathway through which an individual can acquire the disease is through inhalation or aspiration of aerosolized Legionella contaminated water. Recent research has correlated outbreaks of Legionnaires' disease with untreated or inadequately treated cooling systems. In order to ensure public health protection, it is important to control Legionnaires disease by effective treatment and disinfection, combined with appropriate equipment maintenance. (Ex. 3, p. 4.7-1.)

The Commission has recognized that untreated or inadequately treated cooling towers at power plants can potentially pose risks to the public from Legionnaires'

disease. Adopting a conservative approach, the Commission has started to mandate that power plant licensees design and implement programs to abate such risks. The proposed Condition of Certification, **PH-1**, will therefore ensure that any Legionella based health risks from the cooling tower at LECEF will not constitute an actual or potential endangerment of public health.

FINDINGS AND CONCLUSIONS

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

1. Normal operation of the proposed project will result in the routine release of criteria and noncriteria pollutants that have the potential to adversely impact public health.

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

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

The Commission therefore concludes that project emissions of non-criteria pollutants do not pose a significant direct, indirect, or cumulative adverse public health risk. With the Condition of Certification set forth below, the project will comply with all applicable federal, state and local laws, ordinances, regulations and standards, and remaining potential impacts, if any, are mitigated to a level that is less than significant. Other Conditions of Certification that control project emissions are specified in the **Air Quality** section of this Decision.

CONDITIONS OF CERTIFICATION

PH-1: The project owner shall develop and implement a Cooling Water Management Plan to ensure that the potential for bacterial growth in cooling water is kept to a minimum. The Plan shall be consistent with either Staff's "Cooling Water Management Program Guidelines" or with the Cooling Technology Institute's "Best Practices for Control of Legionella" guidelines.

Verification: Within 30 days of the final Commission Decision, the project owner shall provide the Cooling Water Management Plan to the CPM for review and approval.

C. HAZARDOUS MATERIALS MANAGEMENT

Public safety concerns may arise from the construction and operation of a proposed project, especially with respect to the handling, transportation, and storage of hazardous materials. 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). A list of hazardous materials and a summary of special handling precautions to be used by Applicant may be found in the AFC. (Ex. 2, Table 8.5-1.)

SUMMARY OF THE EVIDENCE

Hazardous materials will be used during LECEF's operation. The California Accidental Release Prevention Program (Cal-ARP) directs facility owners storing or handling acutely hazardous materials in reportable quantities, to develop a Risk Management Plan (RMP).[22] (Health and Safety Code, § 25531.) RMP's must be submitted to appropriate local authorities, the United States Environmental Protection Agency (EPA), and the designated local Administering Agency for review and approval. (01-AFC-12, p. 166.)

In Phase 1, Applicant seeks recertification of the license originally granted in July 2002 for the LECEF. Public health and safety concerns relating to the transportation, handling and storage of hazardous materials during the construction and operation of power plants are a part of the Energy Commission's analysis. Concern for safety requires that the staff analysis examine planned transportation, facility design for storage, lists of materials, and plans for handling hazardous materials in a manner to ensure public and worker

[22] The RMP must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any preexisting evaluations or studies of the material, the likelihood of the substance being handled in the manner indicated, and the accident history of the material.

safety. The analysis conducted during the initial proceeding was thorough, and the implementation of the conditions of certification contained in the Energy Commission Decision of July 2, 2002 (01-AFC-12) are adequate to ensure that the LECEF operates in a safe and efficient manner regarding hazardous materials used during operations and maintenance activities. Continued compliance with the existing conditions of certification will ensure that recertification of the LECEF license for the simple-cycle facility will not have any adverse impacts from hazardous materials, and the project will continue to comply with all LORS. (Ex. 3, p. 4.4-1.)

The Hazardous Materials Management section of the original Decision includes Conditions of Certification Haz-1 through Haz-10. Conditions of Certification Haz-2 through Haz-7, and Haz-10 focus on the construction of the LECEF, or on activities that must be carried out before operation of the LECEF can begin. Though construction of LECEF Phase 1 is complete and the plant is operational, these conditions of certification have been retained, on Staff's recommendation, should additional activities be initiated in the future. Conditions of Certification Haz-1, Haz-8, and Haz-9 focus on ongoing operational requirements of inspections or reporting.

FINDINGS AND CONCLUSIONS

Based on the evidence of record concerning the topic area of Hazardous Materials Management, we find and conclude as follows:

1. LECEF will use hazardous materials at the facility.

2. The analysis conducted during the initial LECEF AFC was thorough, and the implementation of the conditions of certification contained in the Energy Commission Decision of July 2, 2002 are adequate to ensure that the LECEF operates in a safe and efficient manner regarding hazardous materials used during operations and maintenance activities.

3. Continued compliance with the existing conditions of certification will ensure that recertification of the LECEF license for the simple-cycle facility

will not have any adverse impacts from hazardous materials, and the project will continue to comply with all LORS.

We therefore conclude that the LECEF's use of hazardous materials will not create or contribute to any significant adverse public health and safety impacts from the handling or storage of hazardous materials.

CONDITIONS OF CERTIFICATION

HAZ-1 The project owner shall not use any hazardous material in any quantity or strength not listed in AFC Table 8.12-2 of 01-AFC-12 unless approved in advance by the CPM.

Verification: The project owner shall provide to the (CPM), in the Annual Compliance Report, a list of all hazardous materials contained at the facility.

HAZ-2 The project owner shall provide a Risk Management Plan RMP (if required by regulation) to the CUPA and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). A Hazardous Materials Business Plan HMBP (which shall include the proposed building chemical inventory as per the UFC) shall also be submitted to the CUPA for review and to the CPM for review and approval prior to construction of hazardous materials storage and containment structures. The project owner shall include all recommendations of the CUPA and the CPM in the final HMBP. A copy of the final RMP, including all comments, shall be provided to the CUPA and the CPM once it gets EPA approval.

Verification: At least 30 days prior to the commencement of construction of hazardous materials storage and containment structures, the project owner shall provide the final plans (RMP and HMBP) listed above to the CPM for approval.

HAZ-3 The project owner shall develop and implement a Safety Management Plan (SMP) for delivery of ammonia. The plan shall include procedures, protective equipment requirements, training and a checklist. It shall also include a section describing all measures to be implemented to prevent mixing of aqueous ammonia with incompatible hazardous materials.

Verification: At least 60 days prior to the delivery of aqueous ammonia to the ammonia storage tanks, the project owner shall provide a safety management plan as described above to the CPM for review and approval.

HAZ-4 The aqueous ammonia storage facility shall be designed to either the ASME Pressure Vessel Code and ANSI K61.6 or to API 620. In either

case, the storage tank shall be protected by a secondary containment basin capable of holding 150 percent of the storage volume plus the 24-hour rainfall from the 25-year storm event.

Verification: At least sixty 60 days prior to delivery of aqueous ammonia to the storage tanks, the project owner shall submit final design drawings and specifications for the ammonia storage tank, the secondary containment basin, and the secondary containment building to the CPM for review and approval.

HAZ-5 The project owner shall ensure that no combustible or flammable material is stored, or used within 100 feet of the sulfuric acid tank.

Verification: At least 30 days prior to receipt of sulfuric acid onsite, the Project Owner shall provide to the CPM for review and approval copies of the facility design drawings showing the location of the sulfuric acid storage tank and the location of any tanks, drums, or piping containing any combustible or flammable material and the route by which such materials will be transported through the facility.

HAZ-6 The project owner shall direct all vendors delivering aqueous ammonia to the site to use only tanker truck transport vehicles, which meet or exceed the specifications of DOT Code MC-307.

Verification: At least 30 days prior to receipt of aqueous ammonia onsite, the project owner shall submit copies of the notification letter to supply vendors indicating the transport vehicle specifications to the CPM for review and approval.

HAZ-7 The project owner shall direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM (SR237 to Zanker Road to the facility).

Verification: At least 60 days prior to receipt of any hazardous materials onsite, the project owner shall submit to the CPM for review and approval, a copy of the letter to be mailed to the vendors. The letter shall state the required transportation route limitation.

HAZ-8 The project owner shall require that the gas pipeline undergo a complete design review and detailed inspection 30 years after initial startup and each 5 years thereafter.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide an outline of the plan to accomplish a full and comprehensive pipeline design review to the CPM for review and approval. The full and complete plan shall be amended, as appropriate, and submitted to the CPM for review and approval, not later than one year before the plan is implemented by the project owner. For subsequent inspections, the project owner shall provide to the CPM for review and approval any plan amendments, or a letter indicating there are none, at least one year before implementing the subsequent inspections.

HAZ-9 After any significant seismic event in the area where surface rupture occurs within one mile of the pipeline, the gas pipeline shall be inspected by the project owner.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide to the CPM a detailed plan to accomplish a full and comprehensive pipeline inspection in the event of an earthquake for review and approval. This plan shall be amended, as appropriate, and submitted to the CPM for review and approval, at least every five years.

HAZ-10 The natural gas pipeline shall be designed to meet CPUC General Order 112-D&E and 58 A standards, or any successor standards, and will be designed to meet Class III service. The pipeline will be designed to withstand seismic stresses and will be leak surveyed annually for leakage. The project owner shall incorporate the following safety features into the design and operation of the natural gas pipeline: (1) butt welds will be x-rayed and the pipeline will be pressure tested prior to the introduction of natural gas into the line; (2) the pipeline will be surveyed for leakage annually; (3) the pipeline route will be marked to prevent rupture by heavy equipment excavating in the area; and (4) valves will be installed to isolate the line if a leak occurs.

Verification: Prior to the introduction of natural gas into the pipeline, the project owner shall submit design and operation specifications of the pipelines to the CPM for review and approval.

D. WORKER SAFETY AND FIRE PROTECTION

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 OF THE EVIDENCE

Worker safety and fire protection is enforced by laws, ordinances, regulations, and standards (LORS), and implemented at the federal, state, and local levels. Worker safety is of utmost priority at the project location and is documented through worker safety practices and training. Industrial workers at the facility operate process equipment and handle hazardous materials daily and may face hazards that can result in accidents and serious injury. Protection measures are employed to either eliminate these hazards or minimize the risk through special training, protective equipment, or procedural controls. Los Esteros Critical Energy Facility (LECEF) was permitted, constructed, and began commercial operation on March 7, 2003. (Ex. 3, p. 4.14-1.)

After review of the Commission Decision of July 2, 2002 for LECEF, related documents, and new information presented in the current AFC (03-AFC-2), staff concluded, and we agree, that there will be no unmitigated environmental impacts resulting from the recertification of the LECEF simple-cycle 180 MW power plant (03-AFC-2, Phase 1), and the project will comply with all LORS, given the following conditions of certification. (Ex. 3, p. 4.14-1.)

Operational Mitigation: During general operation of LECEF, workers may be exposed to various health and safety hazards. Operational hazards will be managed through the implementation of a comprehensive Operational Health and Safety Program. The major elements of this program include:

- Injury and Illness Prevention
- Emergency Action
- Fire Protection
- Personal Protective Equipment
- Confined Space Entry
- Fall Protection
- Electrical Safety
- Materials Handling, Storage, Use and Disposal
- Tools – Hand and Power
- Welding and Cutting
- Scaffolds
- Ladders
- Hazard Communication
- Unfired Pressure Vessel
- General Operations and Maintenance (i.e., how to safely operate and maintain the plant).

All of the applicable training requirements have been implemented. With the implementation of the above mitigation measures, in combination with the proposed Conditions of Certification contained in the FSA, the project will comply with the applicable federal, state, and local laws, ordinances, regulations, and standards, and potential impacts, if any, are mitigated to a level of less than significant. (Ex. 1, p. 38.)

The Conditions of Certification include Conditions **Worker Safety-1** through **Worker Safety-3**. Condition of Certification **Worker Safety-1** focuses on the construction of the LECEF. Now that construction of LECEF Phase 1 is complete and the plant is operational, this condition of certification may no longer apply. Conditions of Certification **Worker Safety-2** and **Worker Safety-3** focus on activities that must be carried out before operation of the LECEF can begin. These conditions have been satisfied, and the plant is in operation. Because additional work may be initiated at a later time, these conditions are left in force.

COMMISSION DISCUSSION

Having reviewed the testimony, the Committee is persuaded that this Decision requires no change to our Decision in 01-AFC-12 and we incorporate it herein.

FINDINGS AND CONCLUSIONS

Based upon the evidence of record regarding the topic of worker safety, we find and conclude as follows:

1. No construction or operation will commence on the LECEF project until all applicable training and risk management plans are implemented.

2. Compliance with existing applicable LORS will adequately assure protection of worker health and safety during LECEF's construction and operation phases.

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

4. The Conditions of Certification below require the submission and review of safety and health programs for LECEF's construction and operation phases.

5. Assuming compliance with the Conditions of Certification contained in this Decision, the LECEF project will comply with all LORS intended to protect worker health and safety and identified in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the LECEF project will adequately address worker safety and fire protection matters during the construction and operation phases.

CONDITIONS OF CERTIFICATION

WORKER SAFETY–1 The project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program containing the following:

Injury and Illness Prevention Program
a Construction Safety Program;
a Construction Personal Protective Equipment Program;

a Construction Exposure Monitoring Program;
a Construction Emergency Action Plan; and
a Construction Fire Protection and Prevention Plan.

Protocol: The Safety Program, the Personal Protective Equipment Program, and the Exposure Monitoring Program shall be submitted to the CPM for review and approval concerning compliance of the program will all applicable Safety Orders. The Construction Fire Protection and Prevention Plan and Emergency Action Plan shall be submitted to the City of San Jose Fire Department for review and comment prior to submittal to the CPM.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval copy of the Project Injury and Illness Prevention Program. The project owner shall provide a letter from the City of San Jose Fire Department stating that the department has reviewed and accepted the Construction Fire Protection and Prevention Plan and the Emergency Action Plan.

WORKER SAFETY–2 The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

an Operation Injury and Illness Prevention Plan;
an Emergency Action Plan;
a Hazardous Materials Management Program;
a Operations and Maintenance Safety Program;
a Fire Protection and Prevention Program (8 CFR § 3221); and
a Personal Protective Equipment Program (8 CFR § 3401-3411).

Protocol: The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the 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 also be submitted to the City of San Jose Fire Department for review and acceptance.

Verification: At least 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 Operations and Maintenance Safety & Health Program. It shall incorporate Cal/OSHA Consultation Service's comments, stating that the service has reviewed and accepted the specified elements of the proposed Operations and Maintenance Safety and Health Plan.

WORKER SAFETY–3 The project owner shall prepare and submit to the CPM an Operations Fire Prevention Plan describing the onsite fire protection system that will be provided in this project. Specifically, information must be included on employee alarm/communication system, portable fire extinguisher placement and operation, fixed fire fighting equipment placement and operation, fire control methods and techniques, flammable and combustible liquid storage methods, methods for servicing and refueling vehicles and fire prevention training programs and requirements. Additionally, information should be provided regarding the source of the onsite firewater, including storage if applicable and fire department hook-ups.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the City of San Jose Fire Department a copy of the final version of the Operations Fire Prevention Plan for review and comment and to the CPM for review and approval.

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.

SUMMARY OF THE EVIDENCE

We have reviewed the Commission Decision of July 2, 2002, for LECEF and compared it to the evidence presented in this proceeding. We are persuaded that, except where the contrary is set forth herein, the prior Decision is valid and relevant. Accordingly, we incorporate it herein.

In its review, Staff concluded that there will be no unmitigated Biological Resources impacts resulting from the recertification of the LECEF simple-cycle 180 MW power plant (03-AFC-2, Phase 1), and the project will comply with all LORS provided the following conditions of certification are adopted as part of our decision. (Ex. 3, p. 4.2-1.)

Staff has identified changes to the existing environment, to the originally permitted project based upon actual construction and operation data, and staff has identified new permitting requirements for the project, as described below.

The operation of the proposed facility will emit several air pollutants, including nitrogen dioxide and ammonia, into the atmosphere. These chemical components often react with the atmosphere to form fertilizing agents (e.g., HNO3). Nitrogen deposition is the amount of nitrogen that converts to particulates and accumulates on soil or other surfaces. The nitrogen deposition rate considered sufficient to affect ecosystem structure and diversity is 3 to 10 kilograms nitrogen per hectare per year (kg-N/ha-yr) depending on vegetation type. At the time of the original analysis, the best estimate of nitrogen deposition in the vicinity of San Jose was 8.4 kg/ha-yr and air dispersion models indicated that most of the project's emissions would deposit south of the power plant site. Recent research completed for the Metcalf Energy Facility (99-AFC-3), also in San Jose, indicates that nitrogen deposition is higher than estimated. Nitrogen deposition at sites north of the power plant had depositional values of 5 to 15 kg-N/ha-yr, while areas south of the power plant, such as Tulare Hill, had depositional values between 10 and 20 kg-N/ha-yr. The depositional values varied based on the site's location relative to heavily traveled roads (e.g., upwind or downwind) and distances from major nitrogen emission sources. (Ex. 3, p. 4.2-1.)

To offset nitrogen based emissions and to determine the amount of the mitigation lands needed, the applicant followed the U.S. Fish and Wildlife Service (USFWS) approved calculation methods which compares the annual power plants depositional values to the best known ambient nitrogen deposition levels (e.g., 8.4 kg-N/ha-yr). As a result, the applicant has protected more land than if the new ambient figure was used. Staff did not propose a change in calculation or amount of mitigation land since the calculation was known to be conservative and the purchase of this excess land mitigates the emission impact of the power plant without also needing to purchase nitrogen-based Emission Reduction Credits (see discussion below). (Ex. 3, pp. 4.2-1 to 4.2-2.)

There are currently at least 20 other industrial sites emitting ammonia into the air basin within a 75 mile radius, and four of these have higher emission limits than the simple-cycle facility. Based on the operational data for last quarter 2003 and first quarter 2004, the applicant has lower ammonia emissions than all 20 other facilities. Regional trends are that NOx emissions will be reduced in the next decade, but ammonia emissions may increase as vehicles equipped with three-way catalyst exhaust systems (catalytic converters) enter the fleet. Staff expects the applicant to remain within the ammonia emission limits of 10 parts per million (ppm) as regulated in the Bay Area Air Quality Management District (BAAQMD) permit over the lifetime of the project, but notes that the ammonia slip limit in some air districts has been limited to 5 ppm. Because the power plant is already built and engineered with the 10 ppm standard and the BAAQMD is currently not regulating ammonia, staff did not propose a change to Conditions of Certification. However, future projects in nitrogen-sensitive areas may be required to achieve a stricter standard to reduce the ammonia levels. (Ex. 3, p. 4.2-2.)

The U.S. Fish and Wildlife Service continues its efforts to recover several species that are found solely on serpentine soils in the San Jose area. The USFWS indicated in a letter to Staff that an application for "take" authorization is necessary, and should include a thorough analysis of the effects of the power plant's operation on listed serpentine species and any conservation measures necessary to offset these effects. The applicant has taken initial steps to enter into a consultation for the operation of the simple-cycle plant, and for eventual operation of a combined cycle plant. The USFWS also requested the Commission decision on the adequacy of mitigation be delayed until the USFWS staff has had an opportunity to review the modeling data and LECEF has obtained their permit for "take" under the Endangered Species Act. This would cause a significant delay for the Commission Decision since the USFWS permit could take up to two years. Staff has determined the mitigation is adequate to mitigate the cumulative impact in a CEQA context. (Ex. 3, p. 4.2-2.)

Nevertheless, the potential for this change creates a need for the addition of Condition of Certification BIO-18. Compliance with Condition of Certification BIO-18 will assure this Commission that the applicant cannot be found in violation of the Act in the future. Staff did not recommend delaying the Commission Decision. (Ex. 3, p. 4.2-2.) We agree.

No other new biological resources permits are required for continued operation of Phase 1. Phase 1 continued operation will take place under permits to construct and operate a permanent storm water outfall in Coyote Creek. These permits include a permit under §404 of the Clean Water Act from the U.S. Army Corps of Engineers to construct and operate the outfall and a water quality certification under §401 of the Clean Water Act from the San Francisco Bay Regional Water Quality Control Board. These permits are in process as part of the original licensing proceeding and the permanent outfall will be constructed in 2005. Biological resources issues are being addressed for these permits as part of the existing operating license. Nevertheless, the continued operation of LECEF under a recertified license will take place in accordance with these permits, once they are in effect. (Ex. 1, p.8.)

Electrical lines to connect the plant's substation to PG&E's Los Esteros Substation were to be placed underground in PVC conduit encased in concrete duct banks within the boundaries of the existing power plant complex. However, the project was constructed with above-ground lines that extended outside of the existing lot. The aboveground construction increases the collision risk to migratory birds, but the impact remains less than significant and no Conditions of Certification are required. (Ex. 3, p. 4.2-3.)

Primary access to LECEF will be from the 2,700 foot road, Thomas Foon Chew Way, within the WPCP buffer lands, west of the site. The construction of the road surface caused the permanent removal of potential burrowing owl foraging habitat. Conditions of Certification required this impact be mitigated by the

creation of burrowing owl mitigation lands. Staff did not anticipate that the applicant would both be the leasee and manager of their own burrowing owl mitigation area at the time of the initial analysis. However, the applicant has been approved as the leasee and manager of a nearly five acre burrowing owl preserve along the southern edge of the primary access road. This change results in the addition of Condition of Certification BIO-19 to ensure that the mitigation package accepted by staff under the previous proceeding will continue to benefit the species during the operation of the simple cycle power plant. The change does not increase the risk to burrowing owls after implementation of the proposed Condition of Certification. (Ex. 3, p. 4.2-3.)

The staff analysis of the power plant assumed there would be 74.9 tons per year of NOx emissions and 110.9 tons per year of NH3 emissions as a result of continual operation of the simple cycle facility. Applicant originally proposed to create and surrender nitrogen oxide (NOx) offsets to minimize the impacts their NOx and ammonia (NH3) emissions from the simple cycle facility would have on the air basin. However, Applicant ultimately decided to not to create credits by retrofitting Gilroy Energy Center and instead purchased existing Emission Reduction Credits (ERCs) as offsets for pollutant emissions.

To offset their NOx emissions, Applicant elected to purchase precursor organic compound (POC, sometimes called VOC) credits, which are primarily hydrocarbons. Air District Regulation 2-2-302 allows for the use of these credits because they are also precursors to ozone. CEQA defines mitigation as actions that avoid, minimize, rectify, reduce or compensate the impact (see Title 14, California Code of Regulations, Article 20, section 15370). Applicant has committed to a mitigation package (the purchase and management of 40 acres of serpentine habitat) that rectifies the indirect and cumulative NOx and NH3 emission impacts to sensitive species to less than significant levels. Staff did not propose changes to the Conditions of Certification for the simple cycle facility as

a result of the change in emission offsets, nor do we see the need to do so. (Ex. 3, p. 4.2-3.)

To evaluate the applicant's claim that the previous analysis "substantially overstated emissions" and no new modeling is required (Data Response 16), Staff reviewed current operations data. Under Condition of Certification AQ-34, the power plant makes quarterly reports to the Energy Commission on their operational emissions and data for the last quarter of 2003 and first quarter 2004 are summarized below in Table BIO-1. The power plant is not operating under the conditions modeled for the evaluation of nitrogen emission impacts. The power plant operated more days in the last quarter of 2003 (31 of 92 days) than the first quarter of 2004 (17 of 91 days), but never ran for a full 24 hours of any given day. In the first quarter of 2004, the power plant operated on average only 7 hours in a 24-hour period, with the maximum of 15 hours. The power plant is operating much less than the 24-hour, 7- day-a-week scenario that staff analyzed in the previous proceeding and it is misleading to compare this fact pattern to the permit limits which are for continuous operations.

If the power plant were to run continuously, it may exceed the annual limits (see Table BIO-1), but the power plant does seem to be operating within their annual limits, and if it continues to do so, then the model done to date is adequate to estimate the nitrogen deposition impact. In evaluation of actual operations data, Staff determined the nitrogen deposition modeling was conservative for the impact of the power plant. Thus, staff does not propose any additional Conditions of Certification nor request a new modeling analysis. (Ex. 3, p. 4.2-4.)

Table BIO-1 Summary of Last Quarter 2003 and First Quarter 2004 Nitrogen Emissions in Comparison to Permitted Emission Levels (Source Exhibit 3, p. 4.2-4)

Month	Daily Totals[a], Single Turbine, lbs				Monthly Totals, All Four Turbines, lbs	
	NO_x Max	NO_x Min	NH_3 Max[b]	NH_3 Min	NO_x	NH_3
Oct. 2003	183.8	3.5	15.3	3.8	4267.00	556.43
Nov. 2003	310.8	24.9	7.8	0.6	1661.60	109.32
Dec. 2003	165.4	19.8	14.6	1.9	2434.10	227.84
Jan. 2004	112.0	34.4	13.5	6.4	1084.70	150.74
Feb. 2004	453.4	36.4	22.1	0.1	1846.60	230.57
March 2004	105.1	29.2	17.8	0.1	1072.80	185.47
6-Month Total when operating less than 25% of capacity (tons)					**6.18**	**0.73**
Est. Yearly Total if the plant continues to operate at less than 25% capacity (tons)					**12.36**	**1.46**
Est. Yearly Total if the plant operates at 100% Capacity (tons)					**161[c]**	**24[b,d]**
Annual Permit Limit for the Simple Cycle Facility operating at 100% Capacity (tons)					**74.9**	**110.9**

[a] Excludes days with no operation when emissions are equal to zero

[b] Ammonia emissions will increase over time as the catalyst becomes less effective, but this will be several years into the future.

[c] Staff calculated a median value of 220 lbs of NO_x from one turbine if it ran 24 hours, based on data provided for 1st quarter 2004 which only had partial days of operation. This is higher than the 205.2 lbs of NOx per day that are allowed per turbine in Condition of Certification AQ-22 (Mass Emission Limits).

[d] Staff calculated a median value of 33.1 lbs of NH_3 from one turbine if it ran 24 hours, based on data provided for 1st quarter 2004 which only had partial days of operation. This is lower than the 151.7 lbs of NH_3 per day that are allowed per turbine in Condition of Certification AQ-22 (Mass Emission Limits).

Modification or additions to the conditions of certification are required to ensure continued compliance with LORS, and/or to assure that impacts of LECEF Phase 1 will not have any significant impact on the environment. Staff proposed the modification of Conditions of Certification BIO-1, BIO-4, BIO-8 to BIO-13, BIO-16, and BIO-17. Staff also proposed the addition of Conditions of Certification BIO-18 and BIO-19. (Ex. 3, p. 4.2-5.)

FINDINGS AND CONCLUSIONS

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

1. Applicant's compliance with the mitigation measures set forth in the environmental documents for the USD and Los Esteros Substation projects, along with our Conditions will ensure that cumulative impacts are mitigated to less than significant levels.

2. 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.

3. The Conditions of Certification assure that the LECEF Project will cause no significant unmitigated adverse impacts to biological resources in the project area.

4. The Conditions of Certification, if properly implemented, ensure that the LECEF Project will comply with applicable LORS, which are set forth in the pertinent portion of Appendix A of this Decision.

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

CONDITIONS OF CERTIFICATION

DESIGNATED BIOLOGIST

BIO-1 Site and related facilities (including any access roads, transmission lines, water and gas lines, storage areas, staging areas, pulling sites, substations, wells, etc) mobilization activities for the simple-cycle facility shall not begin until an Energy Commission CPM approved Designated Biologist is available to be on-site.

Protocol: The Designated Biologist must meet the following minimum qualifications:

1. 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. At least one year of field experience with biological resources found in or near the project area; and
4. An ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation.

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 habitat 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 35 days prior to the start of any site and related facilities mobilization activities for the simple-cycle facility, 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 10 working days prior to the termination or release of the preceding Designated Biologist.

DESIGNATED BIOLOGIST DUTIES

BIO-2 The CPM approved Designated Biologist shall perform the following during any site and related facilities mobilization, construction, and operation activities for the simple-cycle facility:

1. Advise the project owner's Construction/Operation Manager, supervising construction and operations engineer on the implementation of the biological resources Conditions of Certification;
2. Supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species; and
3. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification.

Verification: During site and related facilities mobilization and construction for the simple-cycle facility, 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.

DESIGNATED BIOLOGIST AUTHORITY

BIO-3 The project owner's Construction/Operation Manager shall act on the advice of the Designated Biologist to ensure conformance with the Biological Resources Conditions of Certification.

Protocol: The project owner's Construction/Operation Manager for the simple-cycle facility shall halt, if necessary, all construction or operation activities in areas specifically identified by the

Designated Biologist as sensitive to assure that potential significant biological resource impacts are avoided.

The Designated Biologist shall:

1. Inform the project owner and the Construction/Operation Manager when to resume construction or operation, and
2. Advise the Energy Commission CPM if any corrective actions are needed or have to be instituted.

Verification: Within 2 working days of a Designated Biologist notification of non-compliance with a Biological Resources Condition of Certification or a halt of construction or operation, 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 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-4 The project owner shall develop and implement a CPM approved Worker Environmental Awareness Program in which each of its employees for the simple-cycle facility, as well as employees of contractors and subcontractors who work on the project or related facilities during site mobilization, construction and operation of the simple-cycle facility, are informed about sensitive biological resources associated with the project.

Protocol: The Worker Environmental Awareness Program must:

1. Be developed by or in consultation with 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 30 days prior to the start of any site and related facilities mobilization for the simple-cycle facility, the project owner shall provide two copies of the Worker Environmental Awareness Program and all supporting written materials reviewed or 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 for the simple-cycle facility 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 mobilization and 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 months after the start of commercial operation of the simple-cycle facility. During project operation, signed statements for active project operational personnel shall be kept on file for six months, following the termination of an individual's employment.

STREAMBED ALTERATION AGREEMENT

BIO-5 Prior to start of any site or related facilities mobilization activities of the interior side of the levee, the project owner shall acquire a Streambed Alteration Agreement from the CDFG if required, or show CDFG correspondence that indicates no permit is required. The project owner will implement the agreement terms and conditions.

Protocol: Provisions in the CDFG Streambed Alteration Agreement include (typical measures are):

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: At least 30 days prior to the start of any site or related facilities mobilization activities on the interior side of the levee the project owner shall submit to the CPM a copy of the final CDFG Streambed Alteration Agreement or applicable CDFG correspondence. Agreement terms and conditions will be incorporated into the BRMIMP.

REGIONAL WATER QUALITY CONTROL BOARD CERTIFICATION

BIO-6 The project owner will acquire and implement the terms and conditions of the Regional Water Quality Control Board Section 401 State Clean Water Act certification, if required.

Verification: No less than 30 days prior to the start of any site or related facilities mobilization activities on the interior side of the levee, the project owner will provide the CPM with a copy of the final Regional Water Quality Control Board (RWQCB) certification. The terms and conditions of the certification will be incorporated into the project's BRMIMP.

U. S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT

BIO-7 The project owner shall provide a final copy of the Section 404 permit, if required. The project owner will implement the terms and conditions contained in the permit.

Verification: No less than 30 days prior to the start of any site and related facilities mobilization of the interior side of the levee, the project owner shall submit to the CPM a copy of the permit required to fill on-site wetlands. Permit terms and conditions will be incorporated into the BRMIMP.

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN

BIO-8 The project owner shall submit to the CPM for review and approval a copy of the final BRMIMP and shall implement the measures identified in the plan. Any changes to the adopted BRMIMP must be made by the Energy Commission staff, in consultation with the USFWS and CDFG.

Protocol: The final BRMIMP shall identify:

1. All biological resources mitigation, monitoring, and compliance measures recommended by the Applicant, as well as those contained in the BIO-Condition of Certification (and other mitigation requirements);
2. All provisions specified in a CDFG Streambed Alteration Agreement;
3. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
4. All required mitigation measures for each sensitive biological resource;
5. Required habitat compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;
6. A detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities;
7. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;
8. Aerial photographs of all areas to be disturbed during project construction activities - one set prior to any site mobilization disturbance and one set after completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;
9. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
10. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
11. All performance standards and remedial measures to be implemented if performance standards are not met;

12. A discussion of biological resources related facility closure measures;
13. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and
14. A detailed plan of the management of top soil (from onsite, laydown, and linear areas) during the construction phase.
15. All provisions from the USFWS Permit.

Verification: At least 30 days prior to start of any site or related facility mobilization activities for the simple-cycle, the project owner shall provide the CPM with 2 copies of the draft final version of the BRMIMP for this project, and provide copies to the USFWS and CDFG. The CPM, in consultation with the USFWS and CDFG, will determine the plan's acceptability within 15 days of receipt. If some construction has been authorized by the CPM to start, and if there are any permits that had not yet been received when the BRMIMP was first submitted, then these permits shall be submitted to the CPM, the CDFG and USFWS within five (5) days of their receipt and the BRMIMP shall be revised or supplemented to reflect the permit condition within 10 days of their receipt by the project owner. The project owner shall notify the CPM no less than 5 working days before implementing any modifications to the BRMIMP to obtain CPM approval. Two copies of the CPM approved BRMIMP must be provided to the CPM and copies provided to the USFWS and CDFG.

Within 30 days after completion of project construction of the simple-cycle facility, 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.

CLOSURE PLAN MEASURES

BIO-9 The project owner will incorporate into the planned permanent or unexpected permanent closure plan measures that address the local biological resources.

Protocol: The planned permanent or unexpected permanent closure plan will address the following biological resources related mitigation measures (typical measures are):

1. Removal of transmission conductors when they are no longer used or useful;
2. Removal of all power plant site facilities and related facilities;
3. Measures to restore wildlife habitat to promote the re-establishment of native plant and wildlife species; and,

4. Revegetation of the plant site and other disturbed areas utilizing appropriate seed mixture.

Verification: At least 12 months (or a mutually agreed upon time) prior to the commencement of closure activities for the simple-cycle facility, 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. The biological resources facility closure measures will also be incorporated into the BRMIMP.

MITIGATION MEASURES

BIO-10 The project owner will implement the mitigation measures identified below.

Protocol: 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. Implement the terms and conditions of a current CDFG Streambed Alteration Agreement (if required);
5. Implement a Worker Environmental Awareness Program during construction of the simple-cycle facility;
6. 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/modernization. All equipment storage will be restricted to designated construction zones or areas that are currently not considered sensitive species habitat. Parking will not be allowed below the canopy of trees;
7. Provide a Designated Biologist to monitor all activities that may result in incidental take of listed species or their habitat during construction of the simple-cycle facility;
8. Fence and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches. Fence will be hardware cloth or similar materials that are approved for use by the USFWS and CDFG;

9. Inspect trenches every 12 hours for entrapped animals and prior to the beginning of construction in an area that has been unattended for over 3 hours during the night. Inspections will be made by someone specially trained by the Designated Biologist in the proper handling of wildlife. Construction will be allowed to begin only after trapped animals are able to escape voluntarily or in a safe and humane manner.

10. Inspect all construction pipes, culverts, or similar structures with diameter of 4-inches or for sensitive species (such as foxes) prior to pipe burial. Pipes to be left in trenches for more than eight 8 hours will be capped.

11. Provide a post-construction compliance report, within 45 calendar days of completion of the project, to the Energy Commission CPM;

12. 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;

13. Report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals will be reported to the CDFG, and the project owner will follow instructions that are provided by the CDFG;

14. Limit the use of biocides in project areas (see BIO-17 for more detail); and

15. Implement erosion control in the temporary impact areas, especially near wetlands and waterways;

16. Any fixed lighting used during construction activities must be designed to be directed downward and away from riparian areas;

17. No construction activity shall be allowed within 500 feet of the levee wall from one (1) hour before sunset until one (1) hour after sunrise (as defined by a California solar timetable); and

18. Contact the San Francisco Bird Observatory (Sherry Hudson at 408-946-6548 or shudson@sfbbo.org) two weeks prior to beginning construction of the stormwater outfall at the levee wall to arrange alternative access to the Observatory's long-term bird banding site.

19. Follow the management plan for the burrowing owl mitigation site (see BIO-19 for more detail).

Verification: All mitigation measures and their implementation methods will be included in the BRMIMP. Two copies of the CPM approved BRMIMP must be provided to the CPM five days prior to site mobilization and copies provided to the USFWS and CDFG.

SURVEY AND PROVIDE HABITAT COMPENSATION FOR BURROWING OWLS

BIO-11 The applicant shall survey for burrowing owl activities on the 34-acre parcel and along all ancillary linear facilities prior to site mobilization to assess owl presence and need for further mitigation. All survey results shall be submitted to the CDFG. If owls are present, and nesting is not occurring, owls are to be removed per CDFG-approved passive relocation. Passive relocation is recommended from September 1 to January 31, to avoid disruption of breeding activities. If owls are nesting, nest(s) should be avoided by a minimum of a 250-foot buffer until fledging has occurred (February 1 through August 31). Following fledging, owls may be passively relocated.

If burrowing owls are found on the site or along all ancillary linear facility corridors on-site or off-site compensation for losses will be required, whichever is feasible. CDFG recommends 6.5 acres of protected lands for each pair of owls or unpaired resident bird. Foraging habitat should be replaced at 0.5:1 (mitigation: impacts). Mitigation lands bought outside of Santa Clara County shall be purchased at a 0.75:1 (mitigation: impacts) for contiguous counties and 1.5:1 for all other California counties. In addition, existing unsuitable burrows on the protected lands should be enhanced (e.g., cleared of debris or enlarged) or new burrows installed at a ratio of 2:1. If off-site compensation is the only option, the mitigation ratios will increase depending on the distance from the site and burrowing presence on or near the mitigation parcel.

Verification: Burrowing owl surveys shall be conducted 20 days prior to any project-related ground disturbance activities. At least 15 days prior to project related ground disturbance the project owner shall provide the CPM and CDFG with the burrowing owl survey results and identify any lands proposed for mitigation (if applicable). The land purchase shall be approved by the CPM and reviewed by CDFG. The project owner shall notify the CPM five working days before implementing any modifications to the BRMIMP.

REPLACEMENT OF ORDINANCE AND NATIVE MATURE TREES

BIO-12 Prior to the start of any site mobilization for the simple-cycle facility, the project owner shall develop the Ordinance and Native Mature Tree Replacement Plan for inclusion into the BRMIMP. The protocol shall include a thorough discussion of methods, species, and location for plantings, criteria for success, a monitoring program for 5 years, and a reporting requirement. If the CPM determines that the plan requires modification, the project owner shall modify the report based on the CPM's comments.

Verification: At least 30 day prior to the start of any site and related facilities mobilization, the project owner shall provide to the CPM for review and approval, and to CDFG for review, a Ordinance and Native Mature Tree Replacement Plan as part of the BRMIMP.

CITY OF SAN JOSE ORDINANCE TREE

BIO-13 The project owner will acquire a City of San Jose permit to remove any remaining ordinance trees from the simple-cycle facility site. The number of trees removed will be minimized and construction equipment and linear corridors in the drip line of these trees will be avoided. The applicant will be required to replace any trees removed at a ratio of 4:1 (mitigation: impact) per the U.S. Data Port EIR.

Verification: The terms and conditions of the City of San Jose permit(s) will be incorporated into the project's BRMIMP and submitted at least 90 days prior to removal of any remaining ordnance trees (or those not covered by the City of San Jose Planned Development Permit). A copy of the permit(s) should be included as an appendix to the BRMIMP.

REVEGETATION OF TEMPORARY DISTURBANCE

BIO-14 After construction, the laydown area will be stripped of any armoring material, the surface scarified, and topsoil restored. Barley seed will be sowed as a temporary cover crop, but native seeds from the topsoil will be allowed to sprout and grow.

Verification: The applicant shall provide the revegetation plan in the BRMIMP and submit it within 60 days after the start of any site and related facilities mobilization.

AVOID IMPACTS TO RIPARIAN COMMUNITIES

BIO-15 Construction of the permanent outfall to Coyote Creek shall be scheduled to avoid critical seasons. Surveys by a qualified biologist will be conducted prior to any construction activities on the interior side of the levee to locate nests and other resources in/or adjacent to the stormwater right-of-way. Designated existing roads will be used, and if such roads are not present, flagged routes that have been surveyed by a biologist will be used. If nests are observed, an avoidance period and buffer area shall be followed by all construction personnel. Construction plans will be submitted with a photo alignment sheet to the Energy Commission CPM for approval and to CDFG for review.

Verification: The Applicant shall provide this measure as an amendment to the BRMIMP and as part of the roles for the Designated Biologist. Submittals of construction plans must occur 30 days prior to site mobilization on the interior side of the levee wall, but does not preclude the start of construction on the

facility site. In lieu of CDFG review, the applicant may submit a copy of their final Streambed Alteration Agreement permit.

HABITAT COMPENSATION FOR SERPENTINE ENDEMICS

BIO-16 To compensate for impacts to serpentine soils and associated endemic species, the project owner shall provide a minimum of 40-acres of land within a high priority (as defined by USFWS) or occupied USFWS Critical Habitat Unit, the name of the entity that will be managing the land in perpetuity, and the endowment funds in the amount determined suitable from the Center for Natural Lands PAR analysis to administer and manage in perpetuity. Each of these must have been pre-approved by Energy Commission staff.

Verification: Within one month of project certification, the project owner must provide to the CPM for approval, the name of the management entity, written verification that the compensation lands have been purchased and written verification that the appropriate endowment fund (determined by the PAR analysis) has been received by the approved management entity.

LANDSCAPING PLAN

BIO-17 The applicant will complete a Landscaping Plan for review by the CPM. The project owner shall follow the approved Landscaping Plan during the lifetime of the power plant.

Protocol: The Landscaping Plan must include measures which:

1. Direct landscaping lights away form the riparian area;
2. Limit the amounts of biocides used on the project site;
3. Remove invasive, non-native plants (e.g., yellow star thistle) whenever possible to avoid the spread of weeds to the riparian corridor buffer zone. Employ the most effective aspects of the following control methods: 1) manual removal and, 2) mechanical control through soil disturbance. If the previous two methods are unsuccessful in controlling the problem, the following method could be used: 3) herbicides with low environmental persistence, applied from ground-based equipment. These products should only be used within the parameters presented on the label;
4. Avoid plant species that are not already found within the Coyote Creek watershed to avoid potentially new hybrids from cross-pollination;
5. Select a drought-tolerant mix of native species for ground cover;
6. Select a drought-tolerant mix of native tree species to the extent possible, particularly along the eastern edges of the landscaped areas (facing Coyote Creek);

7. .Avoid long-term irrigation and limit short-term irrigation;
8. Avoid landscaping species/design(s) which would require initial and/or future maintenance equipment that contribute to noise and/or air pollution; and
9. Avoid the use of non-native ground cover (e.g., bark, rocks, soils).

Verification: At least 45 days prior to LECEF landscape installation, a Landscaping Plan will be sent to the CPM. All mitigation measures and their implementation methods will be included in the BRMIMP. Two copies of the BRMIMP must be provided to the CPM and one copy each provided to both the USFWS and CDFG five days prior to landscape installation.

U. S. Fish and Wildlife Service PERMIT

BIO-18 The project owner shall provide a final copy of the Section 10 permit from the U.S. Fish and Wildlife Service (if required) to the CPM. The project owner will implement the terms and conditions contained in the permit and incorporate these into the BRMIMP.

Verification: The applicant shall provide the CPM with a status report of the Section 10 permit every six months beginning January 2005 until the permit is obtained. The status report shall include a table of milestones and the dates milestones were completed or are expected to be completed. No less than 30 days after receiving the permit (if required), the project owner shall provide two unbound copies of the Section 10 permit to the CPM.

Burrowing Owl Management PLAN

BIO-19 The project owner shall create a Burrowing Owl Management Plan and incorporate the protocols into the BRMIMP for review by the CPM. The project owner shall be responsible for ensuring the power plant employees and contractors (most notably the landscape maintenance crew) are aware of the special provisions within the Burrowing Owl Management Plan, and shall make reasonable efforts to ensure these provisions are being followed during the operational lifetime of the power plant. Limit the use of biocides in the burrowing owl management area (see **BIO-17** for more detail).

Verification: All mitigation measures and their implementation methods will be included in the BRMIMP. The annual compliance report shall provide the CPM with the name and phone number of the landscape maintenance crew supervisor. The CPM reserves the right to inspect the burrowing owl management area and to contact the landscape maintenance crew supervisor to correct problems.

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. Information that can be used to determine the sequence of past human occupation and use of an area is provided by the spatial relationships between an undisturbed resource site and the surface environmental resources and features, and an analysis of the locational context of the resource materials within the site and beneath the surface.

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 prehistoric human behavior. Historic archaeological resources are those materials usually associated with non-Native-American exploration and settlement of an area, and correlates with the beginning of a written historical record. Such resources include deposits, sites, structures, traveled ways, artifacts, documents, or other indicia of human activity. Ethnographic resources are those materials important to the heritage of a particular ethnic or cultural group such as Native Americans, or African, European, or Asian immigrants. These materials include:

- traditional collecting areas,
- ceremonial sites,
- topographic features,
- cemeteries,
- shrines, or
- ethnic neighborhoods and structures.

SUMMARY OF THE EVIDENCE

The LECEF project, including all linears, and access routes, is located within the Alviso area of the City of San Jose, California. The project is situated in an area that is highly sensitive for cultural resources due to its location near coyote creek to the east. The potential to discover buried archaeological deposits throughout the adjacent floodplain of Coyote Creek is very high.[23] (01-AFC-12, p. 219.)

Ethnographically, the project site is located within the Tamyen territory of the Costanoan, or Ohlone. Based on Spanish mission records and archaeological data, researchers estimated the Tamyen to be about 1,000 to 2,000 individuals in 1770. Within the Tamyen territory the population was further sub-divided into Tribelet territories, which were defined by physiographic features and usually had one or more permanent villages surrounded by a number of temporary camps.

The Port of Alviso was founded in the late 1840's and is not only one of the oldest ports on the West Coast, but was one of the first cities to be incorporated into California after it became a state.

In 1876 an early farmer-settler named William Boots owned over 650 acres in the area, including the easternmost portion of the proposed USD/LECEF project site. His residence was located off the site, just south of State Route 237. However, a former structure of this era was, at one time, located on the site. Thus, buried historical remains such as privies, trash dumps, and wells associated with this structure could potentially exist on site.

[23] The area in prehistoric times was floodplain grassland, perhaps characterized by scattered oak, sycamore, and willow trees, especially along the Coyote Creek corridor. Watercourses were favored locations for pre-historic occupation in the Santa Clara Valley. From such spots, Native Americans could exploit a variety of ecological niches on the alluvial plain, the nearby foothills, and the productive marshes of Southern San Francisco Bay. Over time, however, pre-historic settlements were forced to relocate in response to flooding and changes in the course of the river.

In total there are three unoccupied residences located within the USD project site. They include (1) the Cilker residence, built in 1923, at 1657 Alviso-Milpitas Road (2) 1591 Alviso-Milpitas Road, built in the 1940's which is located in the Cilker Orchard warehouse complex, and (3) 1515A Alviso-Milpitas Road, built in the 1940's, located in the southwestern corner of the project site.

During previous surveys, both prehistoric and historic cultural resources were identified. However, the cultural analysis of impacts from the proposed Los Esteros Critical Energy Facility (LECEF) and the proposed U.S. Dataport (USDP) Facility did not identify any significant cultural resources. Subsurface presence/absence testing was recommended in the City of San Jose's USDP EIR, required by **CUL-7** and was conducted by LECEF prior to ground disturbance (Ex. 3, p. 4.3-1.)

The subsurface testing included the project footprint, linear facilities and access road. No significant cultural resources were identified. Despite the absence of discoveries during presence/absence testing, a potential still existed for discovering subsurface cultural resources. A variety of historic debris was identified during construction. Although a formal evaluation was not conducted, the Cultural Resource Specialist determined that the discoveries were not significant. Conditions of Certification **CUL-1** through **CUL-11** were applied to the project to ensure that any potential adverse impacts would be mitigated to below a level of significance. (Ex. 3, p. 4.3-1.)

There do not appear to be any changes to the cultural resources analysis resulting from final design and current operations. (Ex. 3, p. 4.3-1.)

Minor changes have been made to the Conditions of Certification to clarify meaning and to address problems that might arise in a project during the operations, or should additional ground disturbance activity be initiated.

Although the project has successfully fulfilled most of the conditions, the conditions shall be retained as part of this relicense effort. With the conditions retained, cultural resource protection would remain in place during physical project changes in the future. The conditions will continue to mitigate potential adverse impacts; and only those changes that appear to be essential to ensure that any adverse impacts will be mitigated to below a significant level were made. **CUL-3** has been revised to allow for amendments to the approved CRMMP. Changed language in **CUL-6** clarifies Compliance Project Manager (CPM) responsibility.

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. The evidence establishes the likelihood that significant historical resources are present surrounding areas that may be disturbed by project construction.

3. Construction-related disturbance to historical resources would likely have a significant impact if not mitigated.

4. Adverse impacts may be satisfactorily mitigated by implementation of appropriate mitigation measures.

5. The Conditions of Certification contain measures that will ensure that construction of the proposed project and its related facilities will not create significant direct, indirect, or cumulative adverse impacts to cultural resources.

6. Implementation of the Conditions of Certification below will assure that the proposed project will comply with all applicable LORS pertaining to Cultural Resources set forth in the appropriate portion of Appendix A of this Decision.

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

CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of ground disturbance, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with the name and resume of its Cultural Resources Specialist (CRS), and an alternate CRS, if an alternate is proposed, who will be responsible for implementation of all cultural resources conditions of certification.

Protocol: 1. The resume for the CRS and alternate, if an alternate is proposed, shall include information that demonstrates that the CRS meets the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61.

The technical specialty of the CRS shall be appropriate to the needs of this project and shall include a background in anthropology, archaeology, history, architectural history or a related field.

The background of the CRS shall include at least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California;

The resume shall include the names and phone numbers of contacts familiar with the CRS's work on referenced projects.

1. The resume shall also demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during project ground disturbance, construction and operation.
2. The CRS may obtain qualified cultural resource monitors to monitor as necessary on the project. Cultural resource monitors shall meet the following qualifications.
   - A BS or BA degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or
   - An AS or AA in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or
   - Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology or a

related field and two years of monitoring experience in California.

3. The project owner shall ensure that the CRS completes any monitoring, mitigation and curation activities necessary to this project and fulfills all the requirements of these conditions of certification. The project owner shall also ensure that the CRS obtains additional technical specialists, or additional monitors, if needed, for this project. The project owner shall also ensure that the CRS evaluates any cultural resources that are newly discovered or that may be affected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR).

Verification: 1. At least 45 days prior to the start of ground disturbance, the project owner shall submit the name and statement of qualifications of its CRS and alternate CRS, if an alternate is proposed, to the CPM for review and approval.

2. If the CPM determines the proposed CRS to be unacceptable, the project owner shall submit another individual's name and resume for consideration. If the CPM determines the proposed alternate to be unacceptable, the project owner may submit another individual's name and resume for consideration. At least 10 days prior to the termination or release of the CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval.

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

4. At least 10 days, prior to the start of ground disturbance, the project owner shall confirm in writing to the CPM that the approved CRS will be available for onsite work and is prepared to implement the cultural resources conditions of certification.

CUL-2 Prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps will include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting individual artifacts. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide them

with copies to the CPM. If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes, to the CRS and the CPM. Maps shall identify all areas of the project where ground disturbance is anticipated.

If construction of this project will proceed in phases, maps and drawings may be submitted in phases. A letter identifying the proposed schedule of each project phase shall be provided to the CPM.

Prior to implementation of additional phases of the project, current maps and drawings shall be submitted to the CPM.

At a minimum, the CRS shall consult weekly with the project superintendent or construction field manager to confirm area(s) to be worked during the next week, until ground disturbance is completed. A current schedule of anticipated project activity shall be provide to the CRS on a weekly basis during ground disturbance and provided to the CPM in each Monthly Compliance Report (MCR).

Verification: 1. At least forty days prior to the start of ground disturbance, the project owner shall provide the designated cultural resources specialist and the CPM with the maps and drawings.

2. If this is to be a phased project, a letter identifying the proposed schedule of the ground disturbance or construction phases of the project shall also be submitted.

3. At least 30 days prior to the start of ground disturbance on each phase of the project, following initial ground disturbance, copies of maps and drawings reflecting additional phases of the project, shall be provided to the CPM for review and approval.

4. If there are changes to the scheduling of the construction phases of the project, a letter shall be submitted to the CPM within 5 days of identifying the changes.

5. A copy of the current schedule of anticipated project activity.

CUL- 3 Prior to the start of project construction-related vegetation clearance or earth disturbing activities or project site preparation; the designated cultural resources specialist shall prepare, and the project owner shall submit to the CPM for review and written approval a A Cultural Resources Monitoring and Mitigation Plan (CRMMP) identifying general and specific measures to minimize potential impacts to sensitive cultural resources has been approved by the CPM. If changes to the project, make it necessary to amend the CRMMP, the amendment shall be submitted to the CPM for review and approval. Copies of the CRMMP shall reside with the CRS, alternate CRS, each monitor, and the project owner's on-site manager.

The CRMMP shall be submitted to the CPM for review, and must approve the plan in writing, prior to any construction-related vegetation clearance

or earth disturbing activities or project site preparation. After CPM approval of the plan, the project owner shall make the designated cultural resource specialist and designated cultural resource team available to implement the CRMMP 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:

1. 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.
2. 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.
3. Identification of the person(s) expected to perform each of the tasks; a description of each team member's qualifications and their responsibilities; and the reporting relationships between project construction management and the mitigation and monitoring team.
4. A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities.
5. Incorporation of the Applicant's mitigation measures, as mandated by the USDP Draft EIR (2000).
6. A discussion of any measures such as flagging or fencing, to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and 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.
7. A discussion of the requirement that all cultural resources encountered will be recorded and mapped (may include photos) and that 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 U.S. Secretary of Interior standards requirements for the curation of cultural resources.

8. A description of the 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 cultural resource discoveries during project construction.
9. A description of the work curtailment procedures prepared in concert with the project owner, to be used by all project personnel in the event of unexpected cultural resource discoveries during project construction.
10. 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.

Verification: At least 10 days prior to the start of project construction or changes related to vegetation clearance or earth disturbing activities or project site preparation, the project owner shall provide an amendment to the Cultural Resources Monitoring and Mitigation Plan, prepared by the designated CSR, to the CPM for review and approval.

CUL-4 Worker Environmental Awareness Training for all new employees shall be conducted prior to and during periods of ground disturbance. New employees shall receive training prior to starting work at the project site or linear facilities. The training may be presented in the form of a video. The training shall include a discussion of applicable laws and penalties under the law. Training shall also include samples or visuals of artifacts that might be found in the project vicinity. The training should inform workers that the CRS, alternate CRS or monitor has the authority to halt construction in the event of a discovery or unanticipated impact to a cultural resource. The training shall also instruct employees to halt or redirect work in the vicinity of a find and to contact their supervisor and the CRS or monitor. An informational brochure shall be provided that identifies reporting procedures in the event of a discovery. Workers shall sign an acknowledgement form that they have received training and a sticker shall be placed on hard hats indicating that environmental training has been completed.

Verification: At least 30 days prior to ground disturbance, the project owner shall provide a letter to the CPM stating that employees will not begin work until they have completed environmental training and that a sticker on hard hats will identify workers who have received training. Copies of acknowledgement forms signed by trainees shall be provided in the MCR.

CUL-5 1. The project owner shall ensure that the CRS, alternate CRS, or monitors shall monitor ground disturbance full time in the vicinity of the project site, linears and ground disturbance at laydown areas to ensure there are no impacts to undiscovered resources. In the event that the

CRS determines that full-time monitoring is not necessary in certain locations, a letter providing a detailed justification for that decision to reduce the level of monitoring shall be provided to the CPM for review and approval prior to any reduction in monitoring.

2. Those individuals conducting cultural resources monitoring shall keep a daily log describing the construction activities, areas monitored, soils observed, and any cultural materials observed. The CRS may informally discuss cultural resource monitoring and mitigation activities with Energy Commission technical staff.

3. The CRS shall notify the project owner and the CPM, by telephone or e-mail, of any incidents of non-compliance with any cultural resources conditions of certification within 24hrs. of becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the conditions of certification.

4. A Native American monitor shall be obtained to monitor activities if a Native American archeological site is discovered. Informational lists of concerned Native Americans and Guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that will be monitored.

Verification: 1. During the ground disturbance phases of the project, if the CRS wishes to reduce the level of monitoring occurring at the project, a letter or e-mail identifying the area(s) where the CRS recommends the reduction and justifying the reductions in monitoring shall be submitted to the CPM for review and approval.

2. During the ground disturbance phases of the project, the project owner shall include in the MCR to the CPM copies of the daily cultural resource monitoring reports. Copies of daily logs shall be retained.

3. Within 24 hours of recognition of a non-compliance issue, the CRS shall notify the CPM by telephone of the problem and of steps being taken to resolve the problem. The telephone call shall be followed by an e-mail or fax detailing the non-compliance issue and the measures necessary to achieve resolution of the issue. Daily logs shall include forms detailing any instances of non-compliance with conditions of certification. In the event of a non-compliance issue, a report written no sooner than two weeks after resolution of the issue that describes the issue, resolution of the issue and the effectiveness or the resolution measures, shall be provided in the next MCR.

4. When a Native American archeological site is discovered, the project owner shall send notification to the CPM identifying the person(s) retained to conduct Native American monitoring. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM who will initiate a resolution process.

CUL-6 The designated cultural resource specialist or the specialist's delegated monitor(s) shall have the authority to halt or redirect construction if previously unknown cultural resource sites or materials are encountered during project construction related vegetation clearance or earth disturbing activities or project site preparation or if known cultural resources will be affected in an unanticipated manner.

1. If any cultural resources are encountered, the project owner shall notify the CPM within 24 hours. Construction will not resume at the discovery site until all of the following have occurred:
2. The specialist has notified the CPM of the find and the work stoppage;
3. The CRS, and the project owner have consulted with the CPM and the CPM has concurred with the recommended eligibility of the discovery and proposed data recovery or other mitigation, and;
4. Any needed data recovery and mitigation has been completed.

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

If data recovery or other mitigation measures are required, the specialist and team members shall monitor construction activities and implement data recovery and mitigation measures as needed.

All required data recovery and mitigation shall be completed expeditiously unless all parties agree to additional time.

Verification: At least 30 days prior to the start of project construction-related vegetation clearance or earth disturbing activities and site preparation; the project owner shall provide the CPM with a letter confirming that the designated cultural resources specialist and delegated monitor(s) have the authority to halt construction activities in the vicinity of a cultural resource find. The project owner shall also provide to the CPM, for review and written approval, a set of work curtailment procedures to be followed in the event that previously unknown cultural resources are discovered during construction.

CUL-7 Prior to the start of project construction related vegetation clearance or earth disturbing activities or project site preparation, the project owner shall implement the archeological testing program. If resources are found, the applicant will notify the CPM in accordance with **CUL-6**. A complete DPR 523 form will be prepared. All testing and data recovery will be completed prior to the start of construction related ground disturbance.

Verification: Seven days prior to implementing the testing program, the project owner shall provide the CPM with letter indicating the schedule of the proposed testing, including maps showing were test trenches will be placed.

CUL-8 The project owner shall ensure that the designated cultural resource specialist performs the testing, recovery, preparation for analysis, analysis, preparation for curation, and delivery for curation of all cultural resource materials encountered and collected during pre-construction surveys, testing and during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: If archeological materials are found, 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. The project owner shall maintain these files for the life of the project and the files shall be kept available for periodic audit by the CPM. Information as to the specific location of sensitive cultural resource site shall be kept confidential and accessible only to qualified cultural resource specialists.

CUL-9 After completion of the project, the project owner shall ensure that the CRS prepares a Cultural Resources Report (CRR) according to the Archaeological Resource Management Reports (ARMR) Guidelines as recommended by the California Office of Historic Preservation. The project owner shall submit the report to the CPM for review and approval. The report shall be considered final upon approval by the CPM.

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

A. For all projects:

1. Description of pre-project literature search, surveys, and any testing activities;
2. Maps showing areas surveyed or tested;
3. Description of any monitoring activities;
4. Maps of any areas monitored; and
5. Conclusions and recommendations.

B. For projects in which cultural resources were encountered, include the items specified under “a” and also provide:

1. Site and isolated artifact records and maps;
2. Description of testing for, and determinations of, significance and potential eligibility; and
3. Research questions answered or raised by the data from the project.

C. For projects regarding which cultural resources were recovered, include the items specified under “a” and “b” and also provide:

1. Descriptions (including drawings and/or photos) of recovered cultural materials;
2. Results and findings of any special analyses conducted on recovered cultural resource materials;
3. An inventory list of recovered cultural resource materials; and
4. The name and location of the public repository receiving the recovered cultural resources for curation.

Verification: After completion of the project, the project owner shall ensure that the CRS completes the CRR within ninety days following completion of the analysis of the recovered cultural materials. Within seven days after completion of the report, the project owner shall submit the CRR to the CPM for review and approval. Within 30 days after receiving approval of the CRR, the project owner shall provide to the CPM documentation that the report has been sent to the SHPO and the appropriate archaeological information center(s).

CUL-10 If significant cultural resource deposits are encountered through testing or project monitoring, the project owner shall ensure that all cultural resource materials, maps, and data collected during data recovery and mitigation for the project are delivered to a public repository that meets the US Secretary of Interior requirements for the curation of cultural resources following the filing of the CPM-approved CRR with the appropriate entities. The project owner shall pay any fees for curation required by the repository.

Verification: The project owner shall ensure that all significant recovered cultural resource materials and a copy of the CRR are delivered for curation. Significance will be determined after consultation with the CPM. The project owner shall provide a copy of the transmittal letter received from the curation facility and provide a copy to the CPM within thirty days after receipt.

For the life of the project, the project owner shall maintain in its compliance files copies of signed contracts or agreements with the public repository to which the project owner has delivered for curation all cultural resource materials collected during testing, data recovery and mitigation for the project.

CUL-11 Prior to any additional project related activities which may result in ground disturbance, the project owner must ensure that the area(s) to be impacted have been subject to a cultural resource surveys for this project, if current (within 5 years) surveys for those areas do not already exist.

The responsibility for the evaluation must be taken by persons meeting the Secretary of the Interior's Professional Qualification Standards in a discipline appropriate to the historic context within which the resource is being considered (OHP 1995).

If significant cultural resources will be affected, then mitigation measures will be determined in consultation with the CPM.

Verification: The project owner shall provide the results of any additional cultural resource surveys and evaluations in the form of a technical report (with request for confidentiality if needed), along with any associated maps, to the CPM at least thirty (30) before any project related construction is to take place. All required mitigation will be completed prior to construction of the project related activities.

C. GEOLOGY AND PALEONTOLOGY

This section addresses potential impacts from geological hazards, and on geological and 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.

The purpose of the geological and paleontological analysis is to verify that: applicable laws, ordinances, regulations, and standards (LORS) have been identified, and the project can be designed and constructed in accordance with all applicable LORS in a manner that protects environmental quality and assures public health and safety.

SUMMARY OF THE EVIDENCE

The LECEF site, located within the City of San Jose, is at the northern end of the Santa Clara Valley at the south end of the San Francisco Bay. The Santa Cruz Mountains to the west and the Coast Ranges to the east border the valley. The facility site is flat and is underlain by thick alluvial sediments. The site has historically been affected by regional seismicity. Liquefaction is also a potential hazard that may affect the site. (01-AFC-12, p. 235.)

Liquefaction is a nearly complete loss of soil shear strength that can occur during a seismic event. During the seismic event, cyclic shear stresses cause the development of excessive pore water pressure between the soil grains, effectively reducing the internal strength of the soil. This phenomenon is generally limited to unconsolidated, clean to silty sand (up to 35 percent non-plastic fines) and very soft silts lying below the ground water table. The higher the ground acceleration caused by a seismic event, the more likely liquefaction is

to occur. Severe liquefaction can result in catastrophic settlements of overlying structural improvements and lateral spreading of the liquefied layer when confined vertically but not horizontally. Soil borings contained in the AFC indicate ground water is most likely present at depths between 7 and 10-1/2 feet below existing grade. The borings also indicate the site is underlain by sandy to silty clay soils to the depths explored (60 feet). Applicant has identified a potentially liquefiable sand layer at approximately 23 feet from the ground surface. Staff verified that this layer is likely susceptible to liquefaction; however, impacts to the surface and proposed structures is considered low due to the presence of over 20 feet of overlying, non-liquefiable clay soils. Based on the depth of this layer in relation to any free-face exposure in the area, the potential for lateral spreading is considered low. (01-AFC-12, p. 236.)

Surficial sedimentary units of predominately Pleistocene and Holocene age underlie the entire project area. These sediments include deposits that range from continental alluvial and fluvial fan-derived sediments, to subaerial flood plain (tule and cattail swamp) and near-shore bay deposits (mudflat, channel fill, tidal marsh, and estuary). Lithologies include sand, gravel, silt, and clay; all of which are potentially favorable to the preservation of paleontological resources. Two known paleontological sites exist within one-mile of the project area. Several other fossil assemblages have been collected from quaternary sediments bordering southern San Francisco Bay. These fossiliferous Quaternary sediments are the same age and are lithologically similar to those present at the LECEF site. (01-AFC-12, p. 236.)

There have not been any appreciable changes in the environment, final design, and current operations of Phase 1 as originally permitted that require any significant adjustment to the existing Conditions of Certification. There are, however, changes in LORS are applicable to the Phase I facility.

Changes in Laws, Ordinances, Regulations, and Standards

The 2001 California Building Code (CBC) has been adopted and supersedes the 1998 CBC. The project was originally permitted under the 1998 CBC, whereas the 2001 CBC is now in effect; however, there are no significant changes to the 1998 CBC, which have been incorporated into the 2001 CBC, with respect to geologic hazards that will affect the Phase I facility.

The site has recently been identified by the California Geological Survey (CGS, 2004) as being located in an area of possible liquefaction as defined by the Seismic Hazards Mapping Act (1998). This delineation requires that a site-specific investigation be performed to determine whether a significant hazard exists and, if so, recommendations to mitigate its effect on a structure before a permit can be issued. Since a site-specific geotechnical investigation that includes a liquefaction analysis of the site was and is required by the 1998 and 2001 CBC, respectively, the CBC standards satisfy the requirements of the Seismic Hazards Mapping Act.

Conditions of Certification found in the Facility Design section, specifically, **GEN-1, GEN-5, and CIVIL-1** address CBC requirements concerning engineering geology and site specific geological hazards. These Conditions of Certification, adopted in the July 2, 2002, Commission Decision, are expected to mitigate potential project impacts outlined above to a less than significant level. As a result, no additional Conditions of Certification with respect to geologic hazards are considered necessary.

FINDINGS AND CONCLUSIONS

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

1. Paleontological resources exist in the area of the project.

2. Construction and ground disturbance activities associated with the construction of the proposed project can potentially impose direct, indirect, and cumulative impacts to paleontological resources.

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

4. The proposed project will have no significant adverse impact on geological or paleontological resources.

5. Implementation of the Conditions of Certification will ensure that the project is constructed and operated in compliance with 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 geological or paleontological resources.

CONDITIONS OF CERTIFICATION

PAL-1 Prior to ground disturbance, the project owner shall ensure that the designated paleontological resource specialist approved by the CPM is available for field activities and prepared to implement the conditions of certification.

The designated paleontological resources specialist shall be responsible for implementing all the paleontological conditions of certification and for using qualified personnel to assist in this work.

Protocol: The project owner shall provide the CPM with the name and statement of qualifications for the designated paleontological resource specialist.

The statement of qualifications for the designated paleontological resources specialist shall demonstrate that the specialist meets the following minimum qualifications: a degree in paleontology or geology or paleontological resource management and at least three years of paleontological resource mitigation and field experience in California, including at least one year's experience leading paleontological resource mitigation and field activities.

The statement of qualifications shall include a list of specific projects the specialist has previously worked on; the role and

responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.

If the CPM determines that the qualifications of the proposed paleontological resource specialist do not satisfy the above requirements, the project owner shall submit another individual's name and qualifications for consideration.

If the approved, designated paleontological resource specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontological resource specialist by submitting the name and qualifications of the proposed replacement to the CPM, at least 10 days prior to the termination or release of the preceding designated paleontological resource specialist.

Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

The PRS shall obtain qualified paleontological resource monitors to monitor as necessary on the project. Paleontologic resource monitors (PRMs) shall have the equivalent of the following qualifications:

1) BS or BA degree in geology or paleontology and one year experience monitoring in California; or
2) AS or AA in geology, paleontology or biology and four years experience monitoring in California; or
3) Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.

Verification: 1) At least sixty (60) days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CPM), the project owner shall submit the name, statement of qualifications, and the availability for its designated paleontological resource specialist, to the CPM for review and approval. The CPM shall approve or disapprove of the proposed paleontological resource specialist.

2) At least twenty (20) days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project and stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters

and resumes to the CPM for approval. The letter shall be provided to the CPM no later than one week prior to the monitor beginning on-site duties.

3) 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 site mobilization, the designated paleontological resource specialist shall prepare a Paleontological Resources Monitoring and Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive paleontological resources, and submit this plan to the CPM for review and approval. After CPM approval, the project owner's designated paleontological resource specialist shall be available to implement the Monitoring and Mitigation Plan, as needed, throughout project construction.

Protocol: The project owner shall develop a Paleontological Resources Monitoring and Mitigation Plan in accordance with the guidelines of the Society of Vertebrate Paleontologists (SVP, 1994) that shall include, but not be limited to, the following elements and measures:

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 within this condition for certification, 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 resource specialist shall have the authority to halt or redirect construction in the immediate vicinity of a vertebrate fossil find until the significance of the find can be determined.

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; and,

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 forty-five (45) days prior to the start of construction, the project owner shall provide the CPM with a copy of the Paleontological Resources Monitoring and Mitigation Plan prepared by the designated paleontological resource specialist for review and approval. If the plan is not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes.

PAL-3 Prior to the ground disturbance, and throughout the project construction period as needed for all new employees, the project owner and the designated paleontological resource specialist shall prepare, and the owner shall conduct, CPM-approved training to all project managers, construction supervisors, and workers who operate ground disturbing equipment. The project owner and construction manager shall provide the workers with the CPM-approved set of procedures for reporting any sensitive paleontological resources or deposits that may be discovered during project-related ground disturbance.

Protocol: The paleontological training program shall discuss the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall also include the set of reporting procedures that workers are to follow if paleontological resources are encountered during project activities. The training program shall be presented by the designated paleontological resource specialist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

Verification: At least thirty (30) days prior to site mobilization, the project owner shall submit to the CPM for review and approval the proposed employee

training program and the set of reporting procedures the workers are to follow if paleontological resources are encountered during project construction.

If the employee-training program and set of procedures are not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes before the beginning of construction.

Documentation for training of additional new employees shall be provided in subsequent Monthly Compliance Reports, as appropriate.

PAL-4 The PRS and PRM(s) shall monitor consistent with the PRMMP, all construction-related grading, excavation, trenching, and augering in areas where potentially fossil-bearing materials have been identified. In the event that the PRS determines full time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the PRS shall notify and seek the concurrence of the CPM.

The PRS and PRM(s) shall have the authority to halt or redirect construction if paleontological resources are encountered. The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows:

1. Any change of monitoring different from the accepted schedule presented in the PRMMP shall be proposed in a letter from the PRS and the project owner to the CPM prior to the change in monitoring. The letter shall include the justification for the change in monitoring and submitted to the CPM for review and approval.
2. PRM(s) shall keep a daily log of monitoring of paleontological resource activities. The PRS may informally discuss paleontological resource monitoring and mitigation activities with the CPM at any time.
3. The PRS shall immediately notify the project owner and the CPM of any incidents of non-compliance with any paleontological resources conditions of certification. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the conditions of certification.
4. For any significant paleontological resources encountered, either the project owner or the PRS shall notify the CPM immediately (no later than the following morning after the find, or Monday morning in the case of a weekend) of any halt of construction activities.

The PRS shall prepare a summary of the monitoring and other paleontological activities that will be placed in the Monthly Compliance Reports. The summary will include the name(s) of PRS or monitor(s)

active during the month; general descriptions of training and construction activities and general locations of excavations, grading, etc. A section of the report will include the geologic units or subunits encountered; descriptions of sampling within each unit; and a list of fossils identified in the field. A final section of the report will address any issues or concerns about the project relating to paleontologic monitoring including any incidents of non-compliance and any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the project shall include a justification in summary as to why monitoring was not conducted.

Verification: The PRS shall submit the summary of monitoring and paleontological activities in the Monthly Compliance Report.

PAL-5 The project owner, through the designated paleontological resource specialist, shall ensure recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: The project owner shall maintain in its compliance files copies of signed contracts or agreements with the designated paleontological resource specialist and other qualified research specialists who will ensure the necessary data and fossil recovery, mapping, preparation for analysis, analysis, identification and inventory, and preparation for and delivery of all significant paleontological resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resources Report and shall keep these files available for periodic audit by the CPM.

PAL-6 The project owner shall ensure preparation of a Paleontological Resources Report by the designated paleontological resource specialist. The Paleontological Resources Report shall be completed following completion of the analysis of the recovered fossil materials and related information. The project owner shall submit the paleontological report to the CPM for approval.

Protocol: The report shall include (but not be limited to) a description and inventory list of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the paleontological resource specialist that project impacts to paleontological resources have been mitigated.

Verification: 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 under a cover letter stating that it is a confidential document.

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.

SUMMARY OF THE EVIDENCE

Staff found no significant physical changes to soil or water resources since the original decision regarding this project. (Ex. 3, p. 4.9-1.) Insofar as it is not inconsistent with this Decision, we incorporate our prior Decision herein (01-AFC-12).

1. Water Use

LECEF, a simple-cycle power plant licensed by the Energy Commission on July 2, 2002 (01-AFC-12), uses recycled water supplied by the South Bay Water Recycling (SBWR) Program for the project's various water processes (emissions control, power augmentation, equipment and inlet air cooling and other miscellaneous plant processes). Potable water for drinking is trucked to the site and no municipal potable supply is used. LECEF's effluent collection system combines process wastewater streams and discharges this waste to the City of San Jose (City) sewer system. A system of drains, swales and other drainage features collect surface runoff, which is then pumped to nearby Coyote Creek. (Ex. 3, p. 4.9-1.)

Staff reviewed the information presented for LECEF recertification, Phase 1 in the current AFC (03-AFC-2), as well as other documents provided by the project owner. Staff requested additional information regarding current plant operation, and this information was provided by Applicant. Staff's assessment and our review is limited to changes in laws, ordinances, regulations and standards

(LORS), the environment, and the project since the original Energy Commission assessment and decision in 01-AFC-12. (Ex. 3, p. 4.9-1.)

Staff found no changes in applicable laws, ordinances, regulations or standards. Subsequent to the decision, however, the Energy Commission adopted the 2003 Integrated Energy Policy Report (IEPR) containing a policy for power plants to use Zero Liquid Discharge (ZLD) technologies unless such technologies are shown to be environmentally undesirable or economically unsound. The intent of this policy is to reduce adverse impacts associated with wastewater discharges from power plants and increase the efficiency of water use by power plants by maximizing the recycling of wastewater streams within power plants. (Ex. 3, p. 4.9-1.)

Tertiary treated recycled water from the South Bay Water Recycling (SBWR) program is used for the vast majority of LECEF's water requirements and is delivered via an 18-inch, 1,500 foot pipeline from the San Jose/Santa Clara Water Pollution Control Plant (WPCP). **SOIL AND WATER Table 1** below summarizes the originally permitted water use and wastewater discharge rates associated with the LECEF as contained in the Recycled Water Use and Wastewater Discharge Permit applications filed by the project owner with the City. Table 1 also summarizes updated water use and wastewater discharge rates as recently provided by the project owner to the City to support a revised permit application. The updated data supporting a revised permit application is based on actual LECEF performance data and reflects additional improvements for water efficiency in-progress and planned by the project owner. (Ex. 3, pp. 4.9-1 to 4.9-2.)

SOIL AND WATER Table 1
LECEF Phase I – City Permitted & Revised Permit Water Usage and Discharge

Gallons per Day (gpd)

	Average Day (gpd)		Peak Day (gpd)	
Component Stream	**Original Permit**	**Revised Permit**	**Original Permit**	**Revised Permit**
Water Losses to Air and Land:				
Cooling Tower Evaporation	51,892	23,000	64,761	137,152
Combustion Turbine Evaporation*	144,319	89,401	180,110	178,115
Landscape Irrigation	Not Included	3,600	Not Included	3,600
Total Evap. Loss & Irrigation**	**196,211**	**116,001**	**244,871**	**318,867**
Wastewater Streams:				
Micro Filter Backwash	9,626	0	12,014	0
Blowdown Cooling Tower	12,665	5,720	15,806	34,491
Oil/Water Separator Effluent	1,512	2,817	1,887	2,817
Reverse Osmosis Reject Water	48,132	29,902	60,069	60,033
Sanitary Wastewater	841	1,560	1,050	1,560
Total Wastewater Discharge	**72,776**	**39,999**	**90,826**	**98,901**
Subtotal – Water Use	**268,987**	**156,000**	**335,697**	**419,341**
Water Supply:				
Recycled Makeup Water	268,490	154,427	335,075	417,768
Potable Water	841	1,573	1,050	1,573
Total Water Supply	**269,331**	**156,000**	**336,125**	**419,341**

Source: Exhibit 3, SOIL AND WATER Table 1, P. 4.9-2;
*Combustion Turbine evaporation includes inlet cooling, emission control and power augmentation.
**Evaporative Loss & Irrigation is water consumed by the project.
Under the Revised Permit, microfilter backwash is being recycled to the Cooling Tower, rather than being discharged as wastewater.
While for the Original Permit condition the Water Use does not quite equal the Total Water Supply, this inconsistency is moot, as it is being superseded by a New Permit, which does balance.
All conditions assume 5 cycles of concentration in the cooling tower.

The revisions to the recycled water supply permit would result in a 42% decrease for the average day condition and a 25% increase for the peak day condition. The revisions to the wastewater discharge permit would result in a 45% decrease for the average day condition and a 9% increase for the peak day condition. (Ex. 3, pp. 4.9-2 to 4.9-3.)

SOIL AND WATER Table 2 shows the projected worst-case scenario for recycled water use and wastewater discharge as provided in this AFC during 2003 (03-AFC-2), and later updated in 2004. In comparing these values to **SOIL AND WATER Table 1**, it is important to recognize the differences in assumptions between the permitted condition and worst-case (AFC) scenario are as follows:

- Average Day – The permitted condition assumes 8 hours operation at 59°F compared to the worst-case condition of 24 hours operation at 59°F.
- Peak Day – The permitted condition assumes 8 hours operation at 109°F and 8 hours operation at 59°F compared to the worst-case scenario of 24 hours at 109°F. (Ex. 3, p. 4.9-3.)

SOIL AND WATER Table 2
AFC Defined & Revised Worst Case LECEF Water Usage and Discharge
Gallons per Day (gpd)

Component Stream	Average Day (gpd)		Peak Day (gpd)	
	2003 AFC	2004 AFC Revision	2003 AFC	2004 AFC Revision
Total Evap. Loss & Irrigation*	324,000	339,236	523,000	646,127
Total Wastewater Discharge	176,000	111,178	297,000	189,964
Total Water Demand	500,000	450,414	820,000	836,091

Source: Exhibit 3, SOIL AND WATER Table 2, P. 4.9-3;
Note that several values are provided for both peak and average water demand and wastewater discharge in the AFC.
Staff used numbers found on page 8.15-11.
*Evaporative Loss & Irrigation is water consumed by the project.

Staff also compared the actual LECEF water use with the peak and average water balance diagrams contained in the AFC. The diagrams show five cycles of concentration in the cooling towers. Staff observed a difference between the expected and actual water use and discharge quantities, which may, in part, be related to the difference between expected and actual cycles of concentration or other plant operating conditions and equipment performance. Staff informed the city and the applicant of its concern for the higher recycled water use and apparent non-compliance with the city permit (San Jose/Santa Clara Water

Pollution Control Plant Industrial Wastewater Discharge Permit No. SJ-488A, as amended October 3, 2003). The project owner has been working with the city to resolve these issues. (Ex. 3, p. 4.9-3.)

As a result of these discussions, the project owner has reviewed its plant performance with respect to recycled water use and wastewater discharge, and is proposing measures that will more efficiently utilize water supply and minimize wastewater discharge as follows:

- Rerouting the microfilter backwash to the cooling tower for reuse rather than discharging as wastewater;
- Working with the equipment vendor to achieve the design ratings for the LECEF wastewater treatment equipment;
- Installing additional instrumentation and valving to better monitor the LECEF wastewater system;

During the October 22, 2004 Staff Assessment Workshop in San Jose, the project owner advised staff that rerouting of the microfilter backwash had been accomplished, and that the two other tasks were in-progress and scheduled to be completed during 2005. (Ex. 3, p. 4.9-4.)

Originally, the LECEF design included two cooling towers and recirculation of cooling water as many as five times. After the Energy Commission approved LECEF, the project owner determined that only one tower would be necessary for the cooling system. However, the project has not achieved the number of cycles of concentration (recirculation of cooling water) originally expected because of the concentration of silica and phosphate in the recycled water. Information provided to staff regarding actual operating performance indicates that actual cycles of concentration are fewer than three. Staff noted that the updated water balance and water use/wastewater discharge projections continue to assume 5 cycles of concentration, and staff will continue to monitor actual cooling system performance through reports submitted annually metering recycled water use and wastewater discharge. (Ex. 3, p. 4.9-4.)

The WPCP treats wastewater to California Code of Regulations Title 22 standards for unrestricted use for customers of the SBWR program administered by the City of San Jose. At most ten percent (or 10 million gallons per day <gpd>) of the water treated by WPCP is used to supply the SBWR program and the rest (or 90 mgd) is discharged to the Bay. Although the WPCP has a rated treatment capacity of 167 mgd, its existing NPDES permit requires the WPCP to maintain discharges to the San Francisco Bay below 120 mgd. Currently, flows treated by the WPCP are approximately 100 mgd. As shown in **SOIL & WATER Table 1** and the revised permit conditions, of the 10 mgd treated by WPCP for recycled water use, LECEF Phase I will utilize from about 0.2 to 0.4 mgd. The City has adequate supply to meet these demands, and providing the recycled water to LECEF for this industrial purpose is consistent with its objectives for increasing its customer base and utilization of recycled water to further reduce its discharge to the Bay. (Ex. 3, p. 4.9-4.)

Discharge of waste is not defined by water agencies as a beneficial use of water, but rather a permitted activity. Applicant submitted an original application to the City that specified the LECEF would discharge an average of 72,776 gpd and a peak of 90,826 gpd to the City sewer system (see **SOIL AND WATER Table 1**, above). The permit issued by the City, and required by the Energy Commission's original Decision (Condition of Certification Soil & Water-8), also included these volumes (Permit No. SJ-488A, issued October 3, 2003). (Ex. 3, p. 4.9-5.)

In addition to the discharge volumes, the Industrial Wastewater Discharge Permit also imposes limits for various constituents and, as part of the self-monitoring program, directs the project owner to perform periodic sampling for a subset of the regulated constituents in the discharge. The self-monitoring analysis shows that LECEF discharges regulated constituents below the specified concentration limits, but discharges more wastewater than specified in the permit for peak conditions. This information shows that the project is not complying with their current Industrial Wastewater Discharge Permit. As a result of this Phase I

Recertification process, the project owner has revised its estimates of wastewater discharge to an average of 39,999 gpd and a peak of 98,901 gpd. The City has indicated that it will revise the Wastewater Discharge Permit accordingly. (Ex. 3, p. 4.9-5.)

The estimated quality of the wastewater discharge from LECEF has also changed since the project was originally approved. Specifically and according to Exhibit 3 as filed in 2003, the concentrations for silicon and total dissolved solids (TDS, analogous to salinity) in the wastewater appeared about three and two times higher than originally estimated in 2001, although the estimates of the source water quality have not changed (see **SOIL AND WATER Table 3**). The Applicant provided an updated projection in 2004 as a revision to the 2003 AFC data, and now projects an increase in silicon and TDS on the order of 3 and 1.5 times higher, respectively, than originally projected in 2001. While neither of these projections violates specific wastewater quality discharge criteria according to the City's permit, the concern is for LECEF's contribution to an incremental increase in TDS to the quality of the City's recycled water product overall. Staff's original analysis found that LECEF's wastewater had the potential to adversely impact the quality of the recycled water produced for the SBWR program by increasing concentration of certain constituents at the WPCP, specifically TDS. (Ex. 3, p. 4.9-5.)

SOIL AND WATER Table 3
LECEF Effluent Discharge Concentrations

Constituent	Source Water	2001	2003	2004
Max Makeup Flow (gpm)		207	207	290
Silicon (mg/L)	11.7	31.5	107	93.5
TDS (mg/L)	869	2,232	4,328	3,394

Source: Exhibit 3, SOIL AND WATER Table 3, P. 4.9-5;
All silicon assumed to be in SiO_2 form.

Based upon information available at the time of the original proceeding, staff recommended (with the City's concurrence) that mitigation of these impacts be addressed through a Salinity Control Program then being developed by the City of San Jose. This position was similar to that taken by Staff in other projects proposed in the San Jose area (Metcalf Energy Center and Pico Power Combined Cycle). However, over the last two years, efforts to develop the Salinity Control Program have progressed slowly. As a result, water quality degradation caused by LECEF to the SBWR recycled water product has not been mitigated. Mr. Randolph Shipes with the City of San Jose informed Energy Commission Staff that it may be ten years before a centralized salinity control system is in place. Staff then became aware that it could no longer rely on the Salinity Control Program to mitigate any adverse impacts caused by the LECEF wastewater to the SBWR recycled water product. (Ex. 3, p. 4.9-6.)

Staff consulted with the City regarding the severity of the increased impacts on the recycled water product. The City determined that the effect of the LECEF wastewater discharge to the City's recycled water product results in an increase in TDS of about 1.5%, from about 719 mg/l to 730 mg/l under peak conditions (revised permit conditions). The City concluded that this incremental effect is **not** a significant impact to its recycled water quality or marketability. (Ex. 3, p. 4.9-6.) In light of the City's analysis, which estimates that the incremental effect of continuing LECEF wastewater discharge results in a TDS increase of 1.5% during peak conditions, and the City's conclusion that this will not be a significant impact on recycled water quality or marketability, Staff supported LECEF's continued discharge of wastewater to the City's WPCP. The continued wastewater discharge operation also supports the City's objectives for industrial customers to more fully utilize its recycled water supply. (Ex. 3, p. 4.9-8.) Nevertheless, Staff presented an excellent discussion on the alternative use of a Zero Liquid Discharge (ZLD) system that may have been applicable absent the City's impact determination. (See Ex. 3, pp. 4.9-6 to 4.9-8.)

Given the City's analysis the deference it is due, we, too, agree with Staff and find that this incremental effect is not a significant impact to its recycled water quality or marketability.

2. Stormwater Discharges

LECEF originally incorporated a temporary storm water outfall to the high flow channel of Coyote Creek. The Energy Commission's July 2002 Decision included conditions that addressed the compliance of LECEF's temporary and permanent outfall with federal and state requirements. As required under Soil & Water-3, the project developer was required to submit specific information regarding the storm water outfall to Coyote Creek approximately 220 feet from the project site. (Ex. 3, pp. 4.9-8 to 4.9-9.)

The project developer obtained a permit from the Santa Clara Valley Water District for the temporary stormwater outfall in the high flow channel of Coyote Creek (issued July 30, 2002, Permit No. 02464). Other permits obtained for this high flow channel outfall included a conditional waiver of Waste Discharge Requirements from the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB - July 26, 2002); a Section 1601 Lake and Streambed Alteration Agreement (R3-2002-0037) issued by the Department of Fish and Game; and a permit from the Santa Clara Valley Water District for the outfall construction (July 30, 2002 Permit No. 02464). However, since the original decision, the City decided that the outfall should be relocated and the permanent outfall is to be constructed to the edge of the low flow channel of Coyote Creek. As a result, these permits and agreements will either need to be modified or re-issued. The project owner has already obtained most of the permits for the permanent outfall as follows: 1) Water Quality Certification from the SFBRWQCB (3-1-04); 2) Section 1601 Lake and Streambed Alteration Permit from the California Department of Fish and Game (CDFG – 10-29-03); and 3) Authorization from the Army Corps of Engineers for use of Nationwide Permits Nos. 7 – Outfall

Structures and Maintenance, and 33 – Temporary construction Access and Dewatering pursuant to Section 404 of the Clean Water Act. The only outstanding permit is the Stormwater Discharge Permit from SCVWD in compliance with **Soil & Water-4,** for which the project owner has made application and expects the permit in the near future. In addition, the project owner will need to request an extension of time from CDFG for the Section 1601 Permit, which expired December 31, 2004. Once all permits are finalized, but prior to the start of construction for the permanent low flow channel outfall, the project owner will need to submit the outstanding SCVWD Stormwater Discharge Permit to the Energy Commission Compliance Project Manager (CPM) (see **SOIL & WATER-4**). (Ex. 3, p. 4.9-9.)

Conveyance or discharge of any contaminant such as debris, oil or other petroleum products to the Creek or the areas near the creek is prohibited by these permits. Flows from the vast majority of the site are directed to perimeter ditches and catch basins. These areas include "contact" areas where pollutants can usually be found such as parking areas, roads and uncovered equipment storage areas. Only flows from a small portion of the site, areas where the turbines are housed, are directed to the oil-water separator. After inspecting one of the catch basins that directs water from these ditches to the storm water sump, Staff noted the presence of an oily scum on the surface of the water in the catch basin. Staff then inspected the temporary outfall in the high channel area of Coyote Creek. Staff noted that the concrete pad at the temporary outfall appeared clean although some staining could be seen at the high water mark on the concrete. As of March 2004, the swales were lined with filter fabric and contained heavy deposits of silt and sediments, but little vegetation. Since then, the perimeter ditches have established grass and will serve to better skim the limited oils that collect and drain from the paved and gravel-surfaced non-contact areas of the facility. (Ex. 3, p. 4.9-9.)

Staff has recommended the catch basins be cleaned, and periodic inspections and sampling be done to ensure contaminants from the drainage areas are removed prior to the discharge of the drainage to the sump that lifts the drainage to Coyote Creek. If the grass-lined ditches are not successful in removing traces of oils during stormwater runoff events, staff also recommends that modifications to the site drainage occur so that flows from contact areas are also directed to an oil-water separator. The Storm Water Pollution Prevention Plan (SWPPP) for Industrial Activity must be updated to address additional BMP's or structural changes (e.g. rerouting the surface flows to an oil-water separator if needed) that eliminate the contamination of drainage discharged to the Creek (see **SOIL & WATER-3**). (Ex. 3, pp. 4.9-9 to 4.9-10.)

3. Changes and Modifications to Conditions

Based on currently available information, staff recommended changes to the original conditions for continued operation of LECEF. Some of the original conditions address the construction of LECEF and have been satisfied. Others need to be modified if the project is recertified to reflect changes since the original decision. Explanations for major changes are provided in italics following the particular condition. As discussed earlier in this summary of the evidence, staff has received additional information from both the applicant and the City of San Jose that addresses both the apparent non-compliance of the project with City permit requirements for recycled water supply and wastewater discharge. The project owner has revised its permit applications for both, and the City has indicated that it intends to issue revised permits accordingly. (Ex. 3, p. 4.9-10.)

FINDINGS AND CONCLUSIONS

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

1. LECEF will require a water supply of approximately 156,000 gpd under average conditions and 419, 000 gpd under peak demand conditions.

2. LECEF will use San Jose/Santa Clara Water Pollution Control Plant (WPCP) treated reclaimed water for fire, process and cooling water in the operation of the power plant.

3. The WPCP has sufficient recycled water to meet project needs.

4. Recycled water from the WPCP meets California Code of Regulations Title 22 standards for unrestricted use.

5. LECEF's wastewater discharge will be returned to the WPCP and is not a significant impact to its recycled water quality or marketability.

6. Prior to construction and operation, Applicant shall obtain the appropriate permits to construct a permanent outfall to the edge of the low flow channel of Coyote Creek

7. Applicant will provide an updated Storm Water Pollution Prevention Plan (SWPPP) for Industrial Activity to the CPM.

8. The Conditions of Certification below will ensure that soil and water erosion does not create significant adverse environmental impacts.

9. Implementation of the Conditions of Certification below will assure that the proposed project will comply with all applicable LORS pertaining to Soil and Water Resources as set forth in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the proposed project will not create any significant direct, indirect, or cumulative adverse impacts to soil and water resources.

CONDITIONS OF CERTIFICATION

SOIL & WATER 1: Prior to beginning any site mobilization activities, the project owner shall obtain staff approval of a final Construction Erosion Control Plan. The Construction Erosion Control Plan shall include and be consistent with the standards normally required in the City of San Jose's Grading and Excavation Permit, for all project elements. The final plan shall be submitted for Compliance Project Manager's (CPM's) approval, and for review and comment by the City of San Jose, and shall include provisions for containing and treating any contaminated soil or groundwater. The final plan will also include changes as appropriate, incorporating the final design of the project.

Verification: The Erosion Control Plan shall be submitted to the CPM for review and approval and to the City of San Jose for review and comments at

least sixty days prior to start of any site mobilization activities. The CPM must approve the final Erosion Control Plan prior to the initiation of any site mobilization activities.

SOIL & WATER-2: The project owner shall submit a Notice of Intent for construction under the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity to the State Water Resources Control Board (SWRCB), and obtain CPM approval of the related Storm Water Pollution Prevention Plan (SWPPP) for Construction Activity. The SWPPP will include final construction drainage design and specify Best Management Practices (BMP's) for all on and off-site LECEF project facilities. This includes final site drainage plans and locations of BMP's.

Verification: At least 60 days prior to the start of any site mobilization activities, the SWPPP for Construction Activity and a copy of the Notice of Intent for construction under the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity filed with the SWRCB, shall be submitted to the CPM. Approval of the final SWPPP plan by the CPM must be received prior to initiation of any site mobilization activities.

SOIL & WATER-3: The project owner shall submit the following to the CPM as appropriate in association with obtaining approval for construction and operation of a storm water outfall into Coyote Creek:

1. If through the permitting process, Nationwide Permits 7 and 33 are not required under Soil and Water-10 for construction of the storm water outfall in Coyote Creek, then the project owner shall submit an Application for 401 Water Quality Certification and/or Waiver of Waste Discharge Requirements to the San Francisco Bay Regional Water Quality Control Board (SFBayRWQCB) to obtain a Conditional Waiver of Waste Discharge Requirements;

2. Based on a design that will only discharge storm water from non-process areas for operation of the storm water outfall into Coyote Creek, the project owner shall submit a Notice of Intent and acceptance from the State Water Resources Control Board (SWRCB) for operating under General NPDES Permit for Discharge of Storm Water Associated with Industrial Activity.

3. For operation of the storm water outfall into Coyote Creek, the project owner shall obtain CPM approval of the related Storm Water Pollution Prevention Plan (SWPPP) for Industrial Activity. The SWPPP will include final operating drainage design and specify BMP's and monitoring requirements for the LECEF project facilities. This includes final site drainage plans and locations of BMP's.

Verification: The project owner shall submit the following to the CPM, as appropriate, in association with obtaining approval for construction and operation of a stormwater outfall into Coyote Creek:

1. At least 30 days prior to construction of the storm water outfall in Coyote Creek, and if through the permitting process a Conditional Waiver of Waste Discharge Requirements is required, a Conditional Waiver of Waste Discharge Requirements shall be submitted to the CPM. (Please note that if the RWQCB determines a Conditional Waiver of Waste Discharge Requirements is necessary, the Application for 401 Water Quality Certification and/or Waiver of Waste Discharge Requirements must be filed at least 120 days prior to expected approval of the SFBay RWQCB.
2. At least 30 days prior to the start of project operation, evidence of acceptance by the SWRCB of the Notice of Intent for operating under General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity shall be submitted to the CPM.
3. Within 30 days prior to construction of the permanent outfall into Coyote Creek, the project owner shall submit to the CPM a revised SWPPP for Industrial Activity. Approval of the revised plan by the CPM and installation or modifications of BMPS to ensure no contaminants are discharged to Coyote Creek, if necessary, must be completed prior to permanent outfall construction.

"Only minor changes to SOILS & WATER-3 Condition and Verification are recommended. Modification to permits and plans required as part of relocating the storm water outfall should be submitted similar to those required for the temporary outfall. Following staff's last consultation with the U.S. Army Corps of Engineers (ACOE), the ACOE has since specified that Nationwide permits 7 and 33 will be needed for the stormwater outfall as now reflected in Condition 1 of SOIL & WATER-3. The project owner has submitted all permits for the permanent outfall except for the SCVWD Stormwater Discharge Permit and the CDFG approval of an extention of time for the 1601 Permit. Improvements to the on-site surface drainage system can be made through the current NPDES permit for industrial activities, which are to be documented in the revised SWPPP for Industrial Activity."

SOIL & WATER-4: The project owner shall provide the CPM with all information/data necessary to satisfy the requirements of the Storm Water Discharge Permit for construction of a storm water outlet, and to discharge flows into Coyote Creek, consistent with the requirements of Santa Clara Valley Water District's (SCVWD's) Ordinance No. 83-2. The data shall include stormwater runoff projections based on using HEC1 modeling techniques as requested by SCVWD.

Verification: At least 30 days prior to the start of construction on the permanent outfall in Coyote Creek, the project owner shall submit all elements required for a Storm Water Discharge Permit to the CPM for review and approval and to the SCVWD for review and comments.

Only minor changes to SOIL & WATER-4 Verification are recommended. Modification to the SCVWD permit required as part of relocating the storm water outfall into Coyote Creek can be submitted as suggested.

SOIL & WATER-5: The project owner shall provide the CPM with all information/data necessary to satisfy the requirements of the Well Destruction Permit for removal and closure following construction of the one remaining water well consistent with the requirements of Santa Clara Valley Water District's (SCVWD's) Ordinance No. 90-1.

Verification: At least 60 days prior to site mobilization, the project owner shall submit all elements required for a Well Destruction Permit to the CPM for review and approval and to the SCVWD for review and comments.

Staff has found no record associated with the destruction of this sixth well. All information provided by the applicant addresses the closure of the five (2 unregistered, 06S/01W-12M001, 06S/01W-12M002, and 06S/01W-12M004) discussed during the original proceeding.

SOIL & WATER-6: The project owner will install metering devices and/or utilize meters installed by the City of San Jose in order to record on a monthly basis the amount of recycled water used by the project. The project owner shall prepare an annual summary, which will include the monthly range and monthly average of daily usage in gallons per day, and total water used by the project on a monthly and annual basis in acre-feet. For subsequent years, the annual summary will also include the yearly range and yearly average water use by the project. This information will be supplied to the CPM.

Verification: The project owner will submit as part of its annual compliance report a water use summary to the CPM on an annual basis for the life of the project. Any significant changes in the water supply for the project during construction or operation of the plant shall be noticed in writing to the CPM at least 60 days prior to the effective date of the proposed change.

SOIL & WATER-7: The project owner shall provide the CPM with all information/data necessary to satisfy the requirements of the User Agreement for Recycled Water under the South Bay Water Recycling (SBWR) Program.

Verification: At least 60 days prior to initial operation-, the project owner shall submit all elements required for the User Agreement for Recycled Water to the CPM for review and approval and to the City of San Jose for review and comments.

SOIL & WATER-8: The project owner shall provide the CPM with all information/data necessary to satisfy the requirements of the Industrial Wastewater Discharge Permit for its proposed disposal of industrial and sanitary waste into the San Jose/Santa Clara WPCP.

Verification: At least 60 days prior to operation, the project owner shall submit all elements required for the Industrial Wastewater Discharge Permit to the CPM for review and approval and to the City of San Jose for review and comments.

SOIL & WATER-9: The project owner shall provide the CPM with evidence of submitting an accepted Engineer's Report for Title 22 Reclamation Requirements to the CA Department of Health Services, as applicable for obtaining unrestricted use of recycled water.

Verification: At least 30 days prior to project operation, the project owner shall submit to the CPM evidence of submitting an Engineer's Report for Title 22 Reclamation Requirements to the CA Department of Health Services.

SOIL & WATER-10: The project owner shall provide the CPM with evidence of pre-construction notification and consultation with the Army Corps of Engineers regarding compliance with Nationwide Permit #'s 7 and 33, consistent with Section 404 of the Clean Water Act, if necessary, for placement of the storm water outfall and/or temporary construction, access and dewatering in Coyote Creek. In association with obtaining authorization for use of Nationwide Permit #'s 7 and 33, the Project owner may be directed to obtain Section 401 Water Quality Certification from the SWRCB.

Verification: At least 30 days prior to construction of the storm water outfall, the project owner shall submit to the CPM evidence of consultation with the Army Corps of Engineers (ACOE) and authorization from the ACOE regarding of Nationwide Permits #'s 7 and 33 as needed to comply with Section 404 of the Clean Water Act. If Nationwide Permits #'s 7 and 33 are required, at least 30 days prior to construction of the storm water outfall, the project owner shall submit evidence to the CPM regarding Section 401 Water Quality Certification from the SWRCB.

"The ACOE has since specified that Nationwide Permits 7 and 33 are applicable to the storm water outfall. Otherwise, modification to permits and plans required as part of relocating the storm water outfall into Coyote Creek can be made without altering the condition."

E. WASTE MANAGEMENT

The LECEF will generate hazardous and nonhazardous wastes during construction and operation. Hazardous waste generators must obtain EPA identification numbers, and use only permitted treatment, storage, and disposal facilities. Registered hazardous waste transporters must handle the transfer of hazardous waste to disposal facilities. 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 LORS standards. (01-AFC-12, pp. 256-264.)

SUMMARY OF THE EVIDENCE

The analysis undertaken and the Decision made in the original proceeding, 01-AFC-12 is adopted herein insofar as it is not contradictory to the finding and evidence set forth below.

The site, bounded by vacant land, and residential, commercial, and agricultural uses, was originally developed as an orchard, which was subsequently replaced by nursery facilities and several residences. Because the condition of the site attracted safety nuisances, the City of San Jose's Fire Department requested and received permission for the site to undergo limited demolition and remediation. (01-AFC-12, pp256-257.)

In conducting its review of the proposed recertification of the simple-cycle license for the LECEF, Phase 1, Staff reviewed its analyses in addition to the documents provided by the project owner, comments from the California Department of Toxic Substances Control and responses to requests for information from the

project owner were reviewed, resulting in the proposal to add two new conditions of certification, **WASTE-6** and **WASTE-7**. (Ex. 3, p. 4.13-1.)

Changes to the project that have the potential to affect the environment and public health and safety based upon the handling and disposal of waste materials and the management of contaminated soils that remain at the project site have resulted in modifications to some of the existing conditions of certification and the addition of the two new conditions. There will be no unmitigated environmental impacts resulting from the recertification of the LECEF simple-cycle 180 MW power plant. (Ex. 3, p. 4.13-1.)

Previous environmental investigations at LECEF have identified elevated levels of residual pesticides and metals in its soils. Prior to the July 2, 2002 licensing of LECEF, the site underwent both Phase I and Phase II Environmental Site Assessments (ESA) in succession. Historically, chemicals detected at the site included total DDT, arsenic, lead, toxaphene, dieldrin and endrin, consistent with the site's past agricultural use. The ESAs were then followed by a limited site remediation, which occurred prior to the completion of the licensing. The remediation consisted of the removal and disposal of at least three fuel underground storage tanks, the disposal of lead contaminated debris, the disposal of asbestos wastes, disposal of a limited amount of toxaphene and DDT contaminated soil excavated from two pesticide mixing/storage areas, and the abandonment of several onsite water supply and groundwater monitoring wells. (Ex. 3, p. 4.13.-1.)

Excluding those soils removed from the pesticide mixing/storage areas, the remaining soils at the site were left in place, though they were contaminated with elevated levels of pesticides and metals, but the concentrations were below then-U.S. EPA Region IX Preliminary Remediation Goals (PRGs) permitted for industrial use. (Ex. 3, p. 4.13-1.)

Exhibit 2, the AFC, notes that the underlying soils at the site still contain residual contamination and that elevated levels of total DDT, dieldrin, endrin, lead and arsenic can persist at the site. Among these contaminants, total DDT and arsenic are likely in the soils, at concentrations that are above current industrial PRGs. (Ex. 3, p. 4.13-1.)

The potential for exposure to contaminated soils at LECEF is currently mitigated through the use of buildings and coverings such as paving and gravel. There are, however, uncovered areas at LECEF, which can serve as potential sources of adverse health effects through potential exposure to those contaminants in the surface soils to onsite workers and site visitors. Activities such as excavation, trenching, removal, grading, filling or earth movement, that will invariably disturb the contaminated soils could exacerbate potential exposure. (Ex. 3, p. 4.13-2.)

The use, storage, transport, treatment, disposal, or generation of wastes at LECEF mandates compliance with federal, state, and local requirements by the project owner during the project's life cycle. Any non-compliance or violation of such requirements can potentially affect public health and/or the environment. **WASTE-1**, **WASTE-2** and **WASTE-5** are retained to ensure appropriate compliance, notification and reporting. (Ex. 3, p. 4.13-2.)

During any soil disturbance for construction purposes at LECEF, onsite workers, site visitors, and the public could be exposed to the residual pesticides, elevated levels of metals, or other contamination. Anticipating potential problems and using written procedures to establish how these problems will be addressed can minimize undue delays and stoppages. New Condition of Certification, **WASTE-6**, requires preparation of a Soils Management Plan (SMP) so that contractors and others, through site-specific information, can better manage environmental and health and safety contingencies at LECEF. Conditions of Certification, **WASTE- 3** and **WASTE-4** are replaced by the new condition, **WASTE-6**, for the recertification. (Ex. 3, pp. 4.13-2.)

The existing residual pesticides and metals at LECEF will continue to remain at the site given their persistent nature and these contaminants will remain at levels that are not suitable for unrestricted use of the land. Though LECEF would be on land currently zoned for industrial use, there is no surety that the land or parts of it will not be redeveloped in the future for some use other than for a power plant. **WASTE-7** places appropriate limitations on land use and requires the Project Owner to undertake clean-up of the residual contamination, as needed, and appropriate to the intended use, should the land or parts of it ever undergo a change in ownership or be leased or rented.

Continued operation of the LECEF as a simple-cycle plant would involve no new construction or ground-breaking activities. For this reason, the continued operation of the facility would not have an adverse effect on waste management and mitigation measures are not required for continued operation. (Ex. 1, p.36.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we make the following findings and conclusions:

1. The proposed project will generate hazardous and non-hazardous wastes during construction and operation.

2. Excavation activities may expose construction workers to hazardous metals or organics in the soil.

3. Under Applicant's waste management plan, the project will recycle hazardous and nonhazardous wastes to the extent possible and in compliance with applicable LORS.

4. Hazardous wastes that cannot be recycled will be transported by registered hazardous waste transporters to one of the three California Class I landfills.

5. Nonhazardous wastes that cannot be recycled will be disposed at nearby Class III landfills.

6. The proposed project 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.

7. Due to the availability of hazardous and nonhazardous waste disposal facilities, and the relatively inconsequential amount of waste generated by the project, potential impacts to existing facilities will be insignificant.

8. With implementation of the Conditions of Certification listed below, the proposed project will conform with all applicable LORS relating to waste management as identified in the pertinent portions of APPENDIX A of this Decision.

We therefore conclude that the disposal of hazardous and/or non-hazardous wastes generated by construction and operation of the proposed project will not create any significant adverse direct, indirect, or cumulative impacts.

CONDITIONS OF CERTIFICATION

WASTE-1 Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

Verification: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the manner in which project-related wastes are managed.

WASTE-2 Prior to the start of construction and operation, the project owner shall prepare and submit to the CEC CPM, for review and comment, a waste management plan for all wastes generated during pre-construction, construction and operation of the facility, respectively. The plans shall contain, at a minimum, the following:

- A description of all waste streams, including projections of frequency, amounts generated and hazard classifications; and

- Methods of managing each waste, including treatment methods and companies contracted with for treatment services, waste testing methods to assure correct classification, methods of

transportation, disposal requirements and sites, employee protection, and recycling and waste minimization/reduction plans.

Verification: No less than 30 days prior to the start of construction, the project owner shall submit the construction waste management plan to the CPM for review. The operation waste management plan shall be submitted no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 20 days of notification by the CPM (or mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to planned management methods.

WASTE-3 Not utilized.

WASTE-4 Not utilized.

WASTE-5 Both the project owner and its construction contractor shall obtain unique hazardous waste generator identification numbers from the Department of Toxic Substances Control prior to generating any hazardous waste.

Verification: The project owner and its construction contractor shall keep copies of the identification numbers on file at the project site and notify the CPM via the monthly compliance report of their receipt.

WASTE-6 The project owner shall prepare and submit to the CEC CPM a Soils Management Plan (SMP) prior to any earthwork. The SMP must be prepared by a California Registered Geologist, a California Certified Engineering Geologist, or a California Registered Civil Engineer with sufficient experience in hazardous waste management. The SMP shall be updated as needed to reflect changes in laws, regulations or site conditions. A SMP summary report, which includes all analytical data and other findings, must be submitted once the earthwork has been completed. Topics covered by the SMP shall include, but not be limited to:

- Land use history, including description and locations of known contamination.
- The nature and extent of previous investigations and remediation at the site.
- The nature and extent of unremediated areas at LECEF.
- A listing and description of institutional controls, such as the City's excavation ordinance and other local, state, and federal regulations and laws that will apply to LECEF.
- Names and positions of individuals involved with soils management and their specific role.
- An earthwork schedule.

- A description of protocols for the investigation and evaluation of historically related chemicals such as DDT and previously unidentified contamination that may be potentially encountered, including any temporary and permanent controls that may be required to reduce exposure to onsite workers, visitors and the public.
- Requirements for site-specific Health and Safety Plans (HSPs) to be prepared by all contractors at LECEF. The HSP should be prepared by a Certified Industrial Hygienist and would protect onsite workers by including engineering controls, monitoring, and security to prevent unauthorized entry and to reduce construction related hazards. The HSP should address the possibility of encountering subsurface hazards including hazardous waste contamination and include procedures to protect workers and the public.
- Hazardous waste determination and disposal procedures for known and previously unidentified contamination.
- Requirements for site specific techniques at the site to minimize dust, manage stockpiles, run-on and run-off controls, waste disposal procedures, etc.
- Copies of relevant permits or closures from regulatory agencies

Verification: Within 45 days of the final Energy Commission Decision, the project owner shall submit a draft SMP to the CPM for review and approval. The SMP shall also be submitted to the Berkeley office of the California Department of Toxic Substances Control (DTSC or its successor) for review and comment. All earthworks at the site shall be based on the SMP. A SMP summary shall be submitted to CPM and DTSC within 25 days of completion of any earthwork.

WASTE-7 The project owner shall not change ownership of, rent or lease the entire project site or a portion for non-power plant use, without first notifying the CPM and DTSC (or its successor) and performing any remediation necessary to bring that particular portion of the site or the entire site itself (as applicable) into conformance with then current site cleanup standards appropriate to the intended use of that portion or the entire site.

Verification: At least 90 days prior to the change of ownership, rental or lease of the project site or a portion for non-power plant use, the project owner shall submit such notification to the CPM and DTSC and a statement that documents that the particular portion or the entire site will meet then current cleanup standards appropriate to its intended use or a remediation plan, if required to bring that portion or the entire site into conformance with the intended use.

VIII. LOCAL IMPACT ASSESSMENT

All aspects of a power plant project effect, 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 there are no unmitigated environmental impacts nor any areas of potential local concern.

A. LAND USE

The normal discussion of land use impacts for any powerplant focuses on two main issues:

- the proposed project's plan to conform with local land use plans, ordinances, and policies; and
- its potential to have direct, indirect, and cumulative conflicts with existing and planned uses.

SUMMARY AND DISCUSSION OF THE EVIDENCE

In Phase 1, Applicant requests that the Energy Commission recertify the license originally granted July 2, 2002 for the LECEF. Staff has reviewed the information presented for Phase 1 contained in the current AFC (03-AFC-2). In addition to the current AFC, staff has reviewed the Commission Decision for the original LECEF (01-AFC-12) dated July 2002, the Staff Assessment for that AFC dated December 31, 2001 and the Staff Assessment Supplement dated February 5, 2002. Staff concluded that there are no changes in laws, ordinances, regulations and standards (LORS) affecting the project, and no changes to the environment inconsistent with the Energy Commission Decision of July 2002. Additionally, there are no changes proposed by the current AFC for the Phase 1 simple-cycle LECEF. The City of San Jose does not require any further zoning action or changes regarding land use permits relating to continuing the license for the

simple-cycle LECEF facility as requested in Phase 1 of this AFC. We agree with Staff and adopt that portion of our July 2002 Decision and incorporate it herein. (Ex. 3, p. 4.5-1.)

Based upon review of the Commission Decision of July 2, 2002 for LECEF, related documents, and new information presented in the current LECEF AFC (03-AFC-2), staff concludes that there will be no unmitigated environmental impacts resulting from the recertification of the LECEF simple-cycle 180 MW power plant (03-AFC-2, Phase 1), and the project will comply with all LORS. The only changes to the project site, as reviewed in 2002, are a result of the construction and operation of the LECEF. Additions to the original site include:

- the 180 MW power plant including turbines, HRSGs and cooling tower;
- natural gas and recycled water pipelines;
- construction of the storm-water outfall line, scheduled for completion in 2005;
- landscaping features including berms, sound walls and trees;
- permanent access road with gated access; and
- PG&E Los Esteros substation and power lines.

Each of these changes are consistent with the Energy Commission license, the San Jose General Plan, and the Planned Development zoning changes made by the City of San Jose for the project site. There were no Conditions of Certification for land use in the Phase 1 decision, and none are proposed for the recertification of the original license. (Ex. 3, pp. 4.5-1 to 4.5-2.)

FINDINGS AND CONCLUSIONS

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

1. The LECEF and its related facilities are permissible uses under the applicable City of San Jose zoning designations.

2. Construction and operation of the LECEF will not create conflicts with existing or planned land uses in the project vicinity.

3. No significant or adverse impact will result to agricultural or residential property affected by the LECEF.

We therefore conclude that the recertification of LECEF will not create any significant direct or indirect adverse land use impacts. Given that there are no significant land use impacts, no conditions of certification have been proposed.

B. NOISE

The construction and operation of any power plant creates noise, or unwanted sound. The character and loudness of this noise, the times of day or night that it is produced, and the proximity of the facility to sensitive receptors combine to determine whether the facility would meet applicable noise control laws and ordinances, and whether it would cause significant adverse environmental impacts. In some cases, vibration may be produced as a result of power plant construction practices, such as blasting or pile driving. The ground-borne energy of vibration has the potential to cause structural damage and annoyance.

SUMMARY OF THE EVIDENCE

This analysis will identify and examine the likely noise and vibration impacts from the continued operation of the LECEF simple-cycle power plant and insure that the resulting noise impacts continue to be adequately mitigated to comply with applicable laws, ordinances, regulations, and standards (LORS). (Ex. 3, p. 4.6-1.) Continued operation of LECEF as a simple-cycle power plant would involve no new construction or ground-breaking activities. For this reason, the continued operation of the facility would not have any adverse impact due to vibration, which normally accompanies construction activities. No mitigation measures are therefore required for vibration. (Ex. 1, p. 21; Ex, 3, p.4.6-1.)

Based upon review of the Commission Decision of July 2, 2002 (01-AFC-12), related documents, and new information presented in the LECEF AFC (03-AFC-2), Staff concluded that there will be no unmitigated Noise and Vibration impacts resulting from the recertification of the LECEF, and that the project will comply with all applicable LORS provided the below Conditions of Certification are adopted as part of the final Energy Commission decision. (Ex. 3, p. 4.6-1.) We adopt that Decision as a part hereof.

The only significant change in the environment of the project site is the current existence and operation of the LECEF. As required by the original Condition of Certification **NOISE-4** of the Commission Decision (01-AFC-12, pp. 301-302.) Applicant measured the ambient noise regime at the nearest sensitive receptor, the Cilker residence, before project construction and with LECEF operating at full capacity. These measurements demonstrated that noise from the LECEF did not contribute measurably to the ambient noise at the Cilker residence. (Ex. 2, §8.7.3.1, Appendix 8.7-B; Ex. 3, p. 4.6-1.)

The Commission Decision included six Conditions of Certification bearing on Noise and Vibration. Conditions **NOISE-1** and **NOISE-3** through **NOISE-6** provide protection from adverse noise impacts to nearby residents, to project construction workers, and to project operating staff during construction. Construction is complete, and project operating staff are properly protected. Condition of Certification **NOISE-2** establishes and maintains a Noise Complaint Resolution Process, whereby anyone suffering from noise produced by LECEF may pursue a solution to the problem. These conditions will provide protection from noise impacts should additional work be initiated as part of the simple cycle Phase 1 project at a later date. (Ex. 3, pp. 4.6-1 to 4.6-2.) No changes are required.

FINDINGS AND CONCLUSIONS

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

1. The sensitive noise receptors nearest the proposed project are approximately 600 and 800 feet, respectively.

2. To the extent analyzed, operation noise from the project will be within acceptable limits of City of San Jose noise standards and will be attenuated by the Conditions of Certification.

3. Operational noise from the power plant will generally not increase the existing ambient noise levels experienced at the nearest sensitive receptors nor result in any significant adverse impacts to the environment or public health.

4. Applicant will implement a noise complaint program for area residents to provide for mitigation of any exposure to high noise levels during construction and operation.

We conclude that the project will not create any significant direct, indirect, or cumulative adverse noise impacts.

CONDITIONS OF CERTIFICATION

PRE-CONSTRUCTION NOTICE & CONSTRUCTION NOISE COMPLAINT HOTLINE

NOISE-1: At least 15 days prior to the start of ground disturbance, the project owner shall notify all residents within one-half mile of the site, including the City of San Jose and the Santa Clara Valley Water District, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: The project owner shall transmit to the Energy Commission Compliance Project Manager (CPM) in the first Monthly Construction Report following the start of ground disturbance, 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.

OPERATION NOISE COMPLAINT PROCESS

NOISE-2: Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

- use the Noise Complaint Resolution Form (below), or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- attempt to contact the person(s) making the noise complaint within 24 hours;
- conduct an investigation to determine the source of noise related to the complaint;
- if the noise is project related, take all feasible measures to reduce the noise at its source; and
- submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to the complainant's satisfaction.

Verification: Within five days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the local jurisdiction, 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 three day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE CONTROL PROGRAM

NOISE-3: Prior to the start of ground disturbance, 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 and Cal-OSHA standards.

Verification: At least 30 days prior to the start of ground disturbance, 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 RESTRICTIONS

NOISE-4: The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause resultant noise levels to exceed 50 dBA L_{90} at the main Cilker home, and that the noise due to plant operations will comply with the noise standards of the City of San Jose riparian corridor policies (LORS) at Location 2 (60 Ldn). The closest permanent residential receptor is the landscaped yard of the main Cilker home if this property is not under the control of the project owner or U.S. Dataport. If this

property is under the control of the project owner or U.S. Dataport, compliance is not required at the Cilker home.

No new pure tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints.

Protocol:

A. Prior to initiating construction, the project owner shall conduct short-term ambient noise measurements during day, evening, and nighttime hours at one location in the vicinity of the Coyote Creek riparian corridor (Location 2) and a 25-hour community noise survey at the main Cilker home, if appropriate, if appropriate based on the above discussion.

B. Within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct short-term survey noise measurements at the Coyote Creek riparian corridor. The short-term noise measurements shall be conducted during both daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) periods. In addition, the project owner shall conduct a 25-hour community noise survey at the main Cilker home, if appropriate. The survey during power plant operations shall also include measurement of one-third octave band sound pressure levels at each of the above locations to ensure that no new pure-tone noise components have been introduced.

C. If the results from the pre-construction and operational noise surveys indicate that the background noise level (L_{90}) at the main Cilker home has increased due to power plant noise by more than 5 dBA for any given hour during the 25-hour period, or that the noise standards of the LORS have been exceeded at the Coyote Creek riparian corridor, mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

D. If the results from the pre-construction and operational noise surveys indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: Within 15 days after completing the post-construction survey, the project owner shall submit a summary report of the survey to the local jurisdiction, and to the CPM. Included in the post-construction survey 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 15 days of implementation of the mitigation 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.

OCCUPATIONAL NOISE HAZARDS

NOISE-5: Within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

Verification: Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

CONSTRUCTION TIME RESTRICTIONS

NOISE-6: Heavy equipment operation and noisy construction work shall be restricted to the times of day delineated below:

Any Day 6 a.m. to 8 p.m.

Noise due to pile driving shall be restricted to the times of day delineated below:

Any Day 8 a.m. to 5 p.m.

Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

Verification: The project owner shall transmit to the CPM in the first Monthly Compliance Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

EXHIBIT 1 - NOISE COMPLAINT RESOLUTION FORM

Los Esteros Critical Energy Facility Project
(03-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 from noise source _____ dBA Date: _____
Initial noise levels at complainant's property: _____ dBA Date: _____

Final noise levels at 3 feet from noise source: _____ dBA Date: _____
Final noise levels at complainant's property: _____ dBA Date: _____

Description of corrective measures taken:

Complainant's signature: _____ Date: _____

Approximate installed cost of corrective measures: $ _____
Date installation completed: _____
Date first letter sent to complainant: _____ (copy attached)
Date final letter sent to complainant: _____ (copy attached)

This information is certified to be correct:

Plant Manager's Signature: _____

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

C. SOCIOECONOMICS

Under this topic, we evaluate any direct, indirect, or cumulative impacts the project may cause to local public services or infrastructure, and, we examine any relevant community issues.

SUMMARY OF THE EVIDENCE

The Staff socioeconomic impact analysis evaluates the project induced changes on community services and/or infrastructure and related community issues such as environmental justice and facility closure. Direct, indirect, induced, and cumulative impacts are also included. Staff reviewed the estimated impacts of the construction and operation of the original Los Esteros Critical Energy Facility project (01-AFC-12) on local communities, community resources, and public services, pursuant to Title 14, California Code of Regulations, Section 15131 and presented that information in the Staff Assessment for the original LECEF project published December 31, 2001. (see also **Socioeconomics Figure 1.**)

In Phase 1 of the instant proceedings, Applicant requests recertification of the license granted in July 2002 for the LECEF simple-cycle power plant. Staff reviewed the information presented for Phase 1 contained in the current AFC. In addition to the current AFC, staff reviewed the Commission Decision for the original LECEF (01-AFC-12), the Staff Assessment for that AFC dated December 31, 2001 and the Staff Assessment Supplement dated February 5, 2002. Additionally, staff contacted appropriate city and county agencies to verify the current information. (Ex. 3, p. 4.8-1.)

Based upon review of the above documents, staff concluded that there will be no unmitigated impacts resulting from the recertification of the simple-cycle 180 MW power plant (03-AFC-2, Phase 1), and the project will comply with all LORS. The following conditions of certification were adopted as part of the original Energy

Commission Decision and have been satisfied. No changes requiring modification or addition to Conditions of Certification for the relicensing of LECEF2 Phase 1 have occurred. They are included here to provide continuity. (Ex. 3, p. 4.8-1.) We have likewise reviewed our prior decision (01-AFC-12) and we incorporate it herein.

CARE's reliance on Government Code §11135, et seq., is misplaced. Those code sections have no applicability to this proceeding and are not included as an "Applicable Law" in Appendix A to either this Decision or our original Decision in July 2002. CARE's "environmental justice" arguments are premised on it assertions regarding Air Quality. (CARE Opening and Reply Briefs, docketed January 7, 2005, and January 13, 2005, respectively.) Because those assertions have been rejected (see our section on Air Quality) the environmental justice issue is moot. As noted by Staff in its Opening Brief (docketed January 7, 2005:

> CARE's pre-hearing conference statement raised, without further elaboration, the issue of environmental justice as it pertains to air quality. Despite the lack of elaboration, environmental justice is not an issue in this proceeding.
>
> The principles of environmental justice derive from a federal executive order and implementing federal regulations that pertain to federal agencies. In essence, such principles require that people of differing ethnic groups and income levels be treated fairly; decision-makers are supposed to give added consideration to decisions that result in impacts that are "high" and "disproportionate" with regard to such groups, with concern for avoiding such impacts. Federal guidelines implementing the environmental justice executive order have equated "high" impacts with what is elsewhere (e.g., NEPA and CEQA) a "significant" impact. (See, e.g., U.S. EPA Final Guidance, April 1998, § 3.2.2 [Environmental Justice and the Determination of Significance].) The impacts of the LECEF facility have already been analyzed by the Energy Commission, which found all impacts, including those regarding air quality, to be fully mitigated to a level that is less than significant. In its FSA, Staff has recommended revisions to the air quality conditions of certification that will safeguard the conclusion that the cumulative air quality impacts of the LECEF facility are less than significant. There is no evidence in the record supporting a contrary conclusion with regard

> to air quality or any other area of environmental concern. Accordingly, there can be no issue with regard to environmental justice. (Staff Opening Brief, p.3.)

We agree.

FINDINGS AND CONCLUSION

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

1. The proposed project will draw primarily upon the local labor force for construction and operational workers.

2. The proposed project will not cause an influx of a significant number of construction or operation workers into the project area.

3. The proposed project will not strain local housing, medical, police, and fire fighting services, which are adequate to meet the needs of the proposed project.

4. Construction and operation of the proposed project will result in direct, indirect, and induced benefits to the local economy from increased revenue from property and sales taxes, employment, and sales of services, manufactured goods, and equipment.

5. Socioeconomic impacts resulting from construction and operation activities of the proposed project, when considered alone or cumulatively, will present no impacts.

6. The Conditions of Certification below assure that the proposed project will comply with the laws, ordinances, regulations, and standards related to socioeconomics as identified in the pertinent portion of Appendix A of this Decision.

We therefore conclude that the proposed project will not result in any significant direct, indirect, or cumulative adverse socioeconomic impacts.

CONDITIONS OF CERTIFICATION

SOCIO-1 The project owner and its contractors and subcontractors shall recruit employees and procure materials and supplies within the Bay Area unless:

To do so will violate federal and/or state statutes;

The materials and/or supplies are not available;

Qualified employees for specific jobs or positions are not available; or

There is a reasonable basis to hire someone for a specific position from outside the local area.

Verification: At least 60 days prior to the start of construction, the project owner shall submit to the Energy Commission CPM copies of contractor, subcontractor, and vendor solicitations and guidelines stating hiring and procurement requirements and procedures. In addition, the project owner shall notify the CPM in each Monthly Compliance Report of the reasons for any planned procurement of materials or hiring outside the Bay Area that will occur during the next two months.

SOCIO-2 The project owner shall pay the one-time statutory school facility development fee as required prior to the issuance of the in-lieu building permit with the City of San Jose.

Verification: The project owner shall provide proof of payment of the statutory development fee in the next Monthly Compliance Report following the payment.

INSERT SOCIOECONOMICS FIGURE 1

D. TRAFFIC AND TRANSPORTATION

In this section, we examine the extent to which the 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, but such is not the case here because there will be no new construction. During the prior licensing proceedings (01-AFC-12), we identified:

- the roads and routings that 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 OF THE EVIDENCE

We first note that our prior decision found that operation impacts are insignificant due to the small number of personnel required to operate the facility. (See 01-AFC-12, p. 323.) We incorporate herein our Decision in 01-AFC-13.

The Staff Assessment (Exhibit 3) is an objective analysis of the transportation systems in the vicinity of the project and addresses the Los Esteros Critical Energy Facility's (LECEF) compatibility with applicable laws, ordinances, regulations, and standards (LORS). It also identifies potential impacts related to the operation of the project on the surrounding transportation systems and roadways, and potential mitigation measures to avoid or lessen those impacts.

Based upon review of the Commission Decision of July 2002, related documents, and new information presented in the current AFC (03-AFC-2), staff

concluded that there will be no unmitigated traffic and transportation impacts resulting from the recertification of the LECEF simple-cycle 180 MW power plant (03-AFC-2, Phase 1), and the project will comply with all LORS provided the same Conditions of Certification are adopted as part of our decision. (Ex. 3, p. 4.10-1.)

No changes regarding traffic levels of service (LOS) have been identified due to construction or operation of the project. However, staff has identified the following improvement in the local freeway system in the project area: a new freeway interchange at State Route 237 and Interstate 880 is currently under construction. This new interchange will help alleviate traffic congestion in this area. There have been no other changes in LOS to warrant additional Conditions of Certification. No changes to Conditions of Certification are required to insure continued compliance with LORS, and to assure that of LECEF Phase 1 will not have any significant impact on the environment, and public health and safety. (Ex. 3, p. 4.10-1.)

FINDINGS AND CONCLUSIONS

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

1. The capacities of the roads in the local area are sufficient, with mitigation, to satisfactorily absorb the increased traffic occasioned by operation of the project.

2. Compliance with the Conditions of Certification of this Decision will mitigate the potential impacts on transportation and assure the proper handling of hazardous materials during the operation phase.

3. Operation of the proposed project will not contribute to cumulatively significant adverse traffic impacts.

We conclude that the project will not create any significant direct, indirect, or cumulative adverse traffic and transportation impacts.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall develop a construction traffic control and transportation demand implementation program that limits construction-period truck and commute traffic to off-peak periods in coordination with the City of San Jose, County of Santa Clara, and Caltrans. Specifically, this plan shall include the following restrictions on construction traffic:

1. establish construction work hours outside of the peak traffic periods to ensure that construction workforce traffic occurs during off-peak hours, except in situations where construction activities necessitate travel during peak hours, in which case workers will be directed to routes that will not deteriorate the peak hour level of service below the local City of San Jose's and County CMP LOS standard;

2. schedule heavy vehicle equipment and building material deliveries to occur during off-peak hours;

3. route all heavy vehicles and vehicles transporting hazardous materials as follows: from SR 237 exit northbound at Zanker Road and turn right to enter the Los Esteros Critical Energy Facility via the primary access road when constructed; and

4. during the construction phase (once every two months), monitor and report the turning movements and traffic volumes for the project access roads during the A.M. (7:00 to 9:00 a.m.) and P.M. (4:00 to 6:00 p.m.) peak hours to confirm construction trip generation rates.

The construction traffic control and transportation demand implementation program shall also include the following provisions for linear facilities:

1. timing of linear construction (all pipeline construction affecting local roads shall take place outside the peak traffic periods to avoid traffic flow disruptions);
2. signing, lighting, and traffic control device placement;
3. temporary travel lane closures;
4. maintaining access to adjacent properties; and
5. emergency access.

Verification: At least 15 days prior to start of site preparation or earth moving activities, the project owner shall provide to the City of San Jose, County of Santa Clara, and Caltrans for review and comment, and to the CPM for review and approval, a copy of their construction traffic control plan and transportation demand implementation program.

TRANS-2 The project owner shall develop a temporary construction zone signage and implementation plan in accordance with the Manual of Traffic Controls for Construction and Maintenance of Work Zones (Caltrans, 1996). This plan shall alert motorists to possible construction hazards that may occur on Zanker Road in the vicinity of the primary access road. The project owner shall illuminate all posted signs since night work is anticipated. The project owner shall coordinate with the City of San Jose and CHP a temporary speed-limit reduction through the construction zone

Verification: At least 10 days prior to the start of site preparation or earth-moving activities, the project owner shall coordinate approval of the plan with the City of San Jose and CHP. Prior to the beginning of construction the owner shall demonstrate to the CPM that the temporary construction zone signage has been installed and adequately illuminated.

TRANS-3 The project owner shall ensure that all federal, state, and local regulations for the transportation of hazardous materials are observed.

Verification: The project owner shall include in its Monthly Compliance Reports copies of all permits and licenses acquired by the project owner and/or subcontractors concerning the transportation of hazardous substances.

E. VISUAL RESOURCES

Visual resources are the natural and cultural features of the environment that contribute to the visual character or quality of the environment. CEQA requires that projects be examined to evaluate their visual impacts on the environment.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Based upon review of the Commission Decision of July 2, 2002 (01-AFC-12), related documents, and new information presented in the current AFC (03-AFC-2, §8.13), there will be no unmitigated direct and cumulative visual impacts resulting from the recertification of the LECEF simple-cycle 180 MW power plant (03-AFC-2, Phase 1), and the project will comply with all LORS provided the following conditions of certification are adopted as part of the final Energy Commission decision. (Ex. 3, p. 4.12-1.)

Since certification of the LECEF1 there have been several changes to the environment. One is the construction and operation of the simple cycle power plant itself. Other changes to the environment are PG&E's Los Esteros Substation, which was built immediately north of the LECEF site; electrical transmission lines associated with the substation, some of which parallel the north side of State Route 237; and berms and landscaping installed as part of LECEF1. All these changes were considered in the original proceeding (01-AFC-12) and the evidence does not indicate any need to re-examine the project in this regard. (Ex. 3, p. 4.12-1.)

As required by original Conditions of Certification **VIS-3** and **VIS-7**, berms and landscaping were installed in late 2003 to mitigate the direct and cumulative impacts of the LECEF1, and to ensure that the project complied with applicable visual resources related LORS. As the landscaping matures, it will substantially screen the project within a reasonable period of time, thereby reducing the

adverse visual impacts of the continued operation of LECEF as a simple-cycle facility to a less than significant level. (Ex. 3, p. 4.12-1.)

LECEF as described in the Commission Decision included a two-cell cooling tower. On November 13, 2002, Energy Commission staff approved an "Insignificant Project Change" allowing phased construction of the cooling tower cells, whereby a single cell would be installed during the initial simple-cycle phase, and the second cell would be installed as required for additional equipment cooling, such as that associated with a data center or the combined-cycle phase of the project. (Ex. 3, pp. 4.12-1 to 4.12-2.)

The original proceeding (01-AFC-12) analyzed a two-cell unabated cooling tower and found the visual impacts of the visible plumes to be less than significant. In approving the amendment, Staff took into consideration the fact that the City of San Jose LORS required LECEF to install plume abatement on any cooling system (see Condition **VIS-6**). Because plume frequency and size from an abated one-cell tower would be less than that from an unabated two-cell tower, Staff concluded that impacts from the project's visible plumes would remain less than significant. Subsequent to the approval of the amendment, staff approved the design for the plume-abated cooling tower, which it determined would result in substantially lower plume frequency than what was reported in the Commission Decision. (Ex. 3, p. 4.12-2.)

The Commission Decision specified a 2,000-foot long temporary transmission line interconnection to the electrical grid, to be replaced by a permanent, underground interconnection with the adjacent PG&E Los Esteros Substation once the substation was built. However, after the Los Esteros Substation was completed, LECEF did not construct the permanent interconnection, and instead replaced the 2,000-foot long temporary line with a new 152-foot long temporary line. On January 21, 2004, the Energy Commission approved a petition to allow continued use of the 152-foot long temporary interconnection line until July 2,

2005. The temporary tap line connects the LECEF switchyard with a PG&E 115 kV transmission line that runs north/south immediately adjacent to the west side of the LECEF site. The interconnection required three, 65-foot tall wood poles. The short tap line and associated wood poles are not conspicuous to motorists on State Route 237 and Zanker Road and are seen in the context of a power plant, substation, and other transmission lines and poles. Therefore, the visual impacts of the temporary transmission line remain less than significant. (Ex. 3, p. 4.12.-2.)

Conditions **VIS-2, VIS-4, VIS-5,** and **VIS-6**, below, contain slight modifications to reflect that LECEF has already been built and to make these conditions consistent with language used in more recent projects approved by the Energy Commission. Furthermore, if LECEF2 Phase 1 requires any additional equipment in the future, Conditions **VIS-2** and **VIS-4** provide a mechanism to ensure that the surface treatment and any lighting for the new structures are completed in a manner that would minimize visual impacts. (Ex. 3, p. 4.12.-2.)

Previous Condition **VIS-3** required implementation of a landscaping plan, and previous Condition **VIS-7** required implementation of additional aesthetic measures to improve the design quality of the project. On the recommendation of representatives of the Cities of San Jose and Milpitas, berms and additional landscaping were the measures selected to meet the objectives of **VIS-7.** Condition **VIS-3** has been modified to require submittal of a landscape maintenance plan and reporting of maintenance activities to ensure that the landscaping is continually maintained for the life of the project. (Ex. 3, pp. 4.12-2 to 4.12-3.)

As required by Condition **VIS-6**, a plume abatement system was installed on the cooling tower. The Verification now reflects the requirement of annual reporting to document that the abatement system has been operated in a manner to minimize visible plumes.

FINDINGS AND CONCLUSION

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

1. With implementation of the Landscaping Plan and the Conditions of Certification, the project components have not resulted in significant visual impacts at any key observation point or the surrounding locale.

2. With implementation of the Landscaping Plan and the Conditions of Certification, the project has not significantly degraded the general visual character and quality of the area.

3. The mitigation measures imposed upon the LECEF project adequately mitigate its contribution to any overall cumulative visual impact.

4. The LECEF project as conditioned herein will comply with local laws, ordinances, regulations, and standards.

CONDITIONS OF CERTIFICATION

VIS-1 The project owner shall ensure that visual impacts of project construction are adequately mitigated. To accomplish this, the project owner shall require the following as a condition of contract with its contractors to construct the proposed project:

Protocol: If visible from nearby residences, SR-237, Zanker Road, or Grand Boulevard, the project site as well as staging and material and equipment storage areas shall be visually screened. All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and remediated upon completion of construction.

The project owner shall submit a plan to the California Energy Commission Compliance Project Manager (CPM) for review and approval and to the City of San Jose for review and comment for restoring the surface conditions of any rights of way disturbed during construction of underground pipelines; and staging and storage areas. The plan shall include grading, contouring, and revegetation consistent with applicable plans.

The project owner shall not implement the plan until receiving written approval of the submittal from the CPM.

Verification: At least 45 days prior to beginning implementation of the surface restoration, the project owner shall submit the restoration plan to the

CPM for review and approval and to the City of San Jose for review and comment.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 15 days of receiving that notification, the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within 7 days after completing the surface restoration that it is ready for inspection.

VIS-2 The project owner shall a) treat all project structures and buildings visible to the public in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape, and b) ensure that those structures and buildings have surfaces that do not create glare. A specific treatment plan shall be developed for CPM approval to ensure that the proposed colors do not unduly contrast with the surrounding landscape colors. The plan shall be submitted sufficiently early to ensure that any precolored buildings, structures, and linear facilities will have colors approved and included in bid specifications for such buildings or structures. Prior to submittal of the plan to the CPM, the project owner shall submit the plan to the City of San Jose for review and comment.

Protocol: The treatment plan shall include:

a) specification, and 11" x 17" color simulations, of the treatment proposed for use on project structures, including structures treated during manufacture;
b) a list of each major project structure, building, and tank, specifying the color(s) proposed for each item;
c) samples of the proposed treatment and color on any fiberglass materials that would be visible to the public one set of color brochures or color chips showing each proposed color and finish;
d) documentation that the surfaces to be used on all project elements visible to the public will minimize glare; where this is not practicable, provide documentation of the infeasibility of nonglare paint or material;
e) a detailed schedule for completion of the treatment; and;
f) a procedure to ensure proper treatment maintenance for the life of the project.

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.

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.

Verification: At least 30 days prior to ordering the first structures that are color treated during manufacture, the project owner shall submit its proposed plan to the CPM for review and approval and to the City of San Jose for review and comment.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 days of receiving that notification, the project owner shall submit to the CPM a revised plan.

Within seven days of completing the surface treatment, 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. The report shall specify a): the condition of the surfaces of all buildings and structures (including the perimeter walls) at the end of the reporting year; b) major maintenance activities that occurred during the reporting year; and c) the schedule of major maintenance activities for the next year.

VIS-3 The project owner shall provide landscaping that is effective in screening the majority of structural forms (not the upper portions of the stacks) from the following key viewing areas: (a) SR-237 and the existing bicycle trail to the south, (b) Zanker Road to the west, and (c) the proposed Bay Trail alignments to the east (Reach 1). Screening vegetation must be provided around the project's eastern, southern, and western edges, and include a sufficient number of appropriately located evergreen trees to ensure effective year-round screening. Trees and other vegetation must be strategically placed and of sufficient height and density to achieve maximum effective screening of the proposed project structures as soon as possible. In screening project facilities, care must be taken in siting vegetation plantings to avoid blocking vista views of distant ridgelines.

Protocol: The project owner shall submit a final landscaping plan that has been approved by the Project Architectural Committee. The plan shall, to the extent feasible, incorporate the landscaping plan presented to the Commission on May 20, 2002, by Dr. Priestly. The Plan shall include:

a) 11"x17" color simulations of the proposed landscaping at 5 years as viewed from KOPs 1 and 2;
b) a detailed list of plants to be used and times to maturity given their size and age at planting;

c) a detailed schedule describing when plants will be installed in specific landscape areas, and a discussion which provides the justification for the planting schedule for the specific areas and species proposed;
d) maintenance procedures, including but not limited to, any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and
e) a procedure for monitoring for and replacement of unsuccessful plantings for the life of the project as necessary to maintain a visual screen.

The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM. However, the planting must be completed as soon as practical without impeding construction and consistent with the Applicant's revised landscaping plan that was presented on May 20, 2002.

Verification: The final project landscaping plan shall be prepared under the direction of the Architectural Committee. At least 30 days prior to installing the landscaping, the project owner shall submit the plan to the CPM for review and approval and the City of San Jose for review and comment. If the CPM does not approve the landscape plan, that element shall return to the Committee for further discussion and resolution.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 days after completing installation of the landscaping, that the landscaping is ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead or dying screening trees and any major repairs to the berms and irrigation system, for the previous year of operation in each Annual Compliance Report.

VIS-4 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 night sky is minimized during both project construction and operation. The project owner shall develop and submit lighting plans for construction and operation of the project to the CPM for review and approval and the City of San Jose for review and comment.

Protocol: The lighting plan shall require that:

a) All exterior night lighting shall be of minimum necessary brightness consistent with operational safety and security.
b) Lighting shall be designed so that during both construction and operation (consistent with worker safety), highly directional, exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the night sky is minimized. The design of this outdoor lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary, except where necessary for security.
c) High illumination areas not occupied on a continuous basis such as maintenance platforms shall be provided with switches or motion detectors to light the area only when occupied.
d) A lighting complaint resolution form (following the general format of that in **Visual Resources Appendix VR-2**) shall be used by plant operations, to record all lighting complaints received and to document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file. The project owner shall provide a copy of each completed complaint form to the CPM.

Lighting shall not be installed before the plans are approved.

Verification: At least 15 days prior to installing the construction lighting, the project owner shall provide the construction lighting plans to the CPM for review and approval and the City of San Jose for review and comment. If the CPM notifies the project owner that revisions to the construction lighting plan are needed before the CPM will approve the plans, the project owner shall submit a revised plan within seven days of receiving that notification from the CPM

At least 30 days before ordering the facility exterior lighting, the project owner shall provide the lighting plan to the CPM for review and approval and the City of San Jose for review and comment. If the CPM notifies the project owner that any revisions to the facility lighting plans are needed before the CPM will approve the plans, the project owner shall submit to the CPM a revised plan within 30 days of receiving the CPM's notice that revisions to the plan are required.

The project owner shall notify the CPM within seven days of completing exterior lighting installation that the lighting is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection.

Within 48 hours of receiving a lighting complaint, the project owner shall provide to the CPM a) a report of the complaint, b) a proposal to resolve the complaint,

and c) a schedule for implementation of the proposal. The project owner shall provide a copy of the completed complaint resolution form to the CPM within 10 days of complaint resolution, and retain a copy in the project owner's compliance file.

VIS-5 The project owner shall comply with the City of San Jose's requirements regarding signs. In addition, the project owner shall install minimal signage, which shall be constructed of non-glare materials and unobtrusive colors. The design of any signs required by safety regulations shall conform to the criteria established by those regulations. The project owner shall submit a signage plan for the project to the CPM for review and approval and to the City of San Jose for review and comment. The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

Verification: Prior to first turbine roll and at least 30 days prior to installing signage, the project owner shall submit the plan to the CPM for review and approval and to the City of San Jose for review and comment.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 days after completing installation of the signage that they are ready for inspection.

VIS-6 The project owner shall implement the "best commercially-feasible available technology" for cooling-related plume abatement. The project owner shall not construct the cooling system until the project owner receives notification of approval from the CPM that the proposed system incorporates the "best commercially-feasible available technology" for plume abatement.

Verification: At least 60 days prior to construction of the cooling system, the project owner shall submit to the CPM for review and approval and to the City of San Jose for review and comment an analysis that reviews commercially-feasible and available plume abatement technologies for the cooling system (including dry-chilling) and presents their effectiveness and costs compared to the proposed system, which consists of a two-cell wet counter flow cooling tower.

The project owner shall provide a written certification in each annual compliance report to demonstrate that the cooling towers have consistently been operated within the design parameters, except as necessary to prevent damage to the cooling tower. If determined by the CPM to be necessary to ensure operational compliance, based on legitimate complaints received or physical evidence of potential non-compliant operation, the project owner shall monitor the cooling tower operating parameters in a manner and for a period as specified by the CPM. For each period that the cooling tower operation monitoring is required, the project owner shall provide to the CPM the cooling tower operating data within 30

days of the end of the monitoring period. The project owner shall include with this operating data an analysis of compliance and shall provide proposed remedial actions if compliance cannot be demonstrated.

VIS-7 The project owner shall continue to confer with the cities of San Jose and Milpitas to consider additional aesthetic changes that incorporate interesting and attractive design qualities and promote a high standard of architectural excellence, and that can be implemented during the post-licensing period.

Verification: The project owner will meet with representatives of the Cities of San Jose and Milpitas and provide a report to the CPM on additional measures, including screening, painting, design, or architectural treatment that may improve the aesthetic appearance of the project. Prior to commercial operation, the project owner shall submit the report, including 11”X17’ high quality color photo simulations of the proposed aesthetic treatment as seen from at least KOPs 1 and 2, to the CPM for review and approval. If approved by the CPM, the project owner shall implement these additional aesthetic measures within 180 days of the simple cycle commercial operation date.

Appendix A: *Laws, Ordinances, Regulations, and Standards*

Appendix B: *Proof of Service List*

Appendix C: *Exhibit List*

APPENDICES

AIR QUALITY

Changes Resulting from Final Design and Current Operations

PM10 Mitigation

Although the Bay Area Air Basin is classified as nonattainment for the state PM10 AAQS, the project is not required by the BAAQMD to provide PM10 offsets because the 43.8 tons per year permit limit is below the district's PM10 Offset Threshold of 100 tons per year (as set by District Rule 2-6-212.1). However, the project's emissions would contribute to violations of the state 24-hour PM10 standard, contributing to a cumulative impact that requires mitigation pursuant to CEQA.

Changes in Laws, Ordinances, Regulations, and Standards

Elimination of the Sunset Condition

The Bay Area Air Quality Management District (BAAQMD) issued a project modification letter on June 22, 2004 (BAAQMD 2004a), which administratively removed the "Sunset Condition" from their permit. This condition was not required by District rules and regulations, and was only included at the request of the Energy Commission based on California Public Resources Code section 25552(e)(5)(B) which required the power plant to be "modified, replaced, or removed" within 3 years. Changes were made to that section of 25552 since the permitting of this project that added the option to "recertify" the existing simple-cycle power plant. With the recommendation that the Los Esteros simple-cycle facility be recertified per that condition if the conditions of certification recommended here are adopted.

BIOLOGICAL RESOURCES

Changes in Laws, Ordinances, Regulations, and Standards

The U.S. Fish and Wildlife Service continues its efforts to recover several species that are found solely on serpentine soils in the San Jose area. Staff requested a letter from USFWS for this proceeding (O'Brien 2004), and they replied in July 2004 (Martin 2004). The USFWS indicates an application for "take" authorization is necessary, and should include a thorough analysis of the effects of the power plant's operation on listed serpentine species and any conservation measures necessary to offset these effects (Martin 2004). The applicant has taken initial steps to enter into a consultation for the operation of the simple-cycle plant, and for eventual operation of a combined cycle plant (Tetzloff 2004, Steve De Young, personal communication). The USFWS has also requested the Commission

decision on the adequacy of mitigation be delayed until the USFWS staff has had an opportunity to review the modeling data and LECEF has obtained their permit for “take” under the Act (Martin 2004). This would cause a significant delay for the Commission Decision since the USFWS permit could take up to two years. Staff has determined the mitigation is adequate to mitigate the cumulative impact in a CEQA context.

The potential for this change results in the addition of **Condition of Certification BIO-18**.

CULTURAL RESOURCES

Changes in Laws, Ordinances, Regulations, and Standards

The project is now built. A comparison of information provided in the “Cultural Resources” section of the Final Decision and the Application for Certification, Phase I Relicense did not identify any changes that would affect cultural resources (LECEF, LLC, 2003).

GEOLOGY AND PALEONTOLOGY

Changes in Laws, Ordinances, Regulations, and Standards

The 2001 California Building Code (CBC) has been adopted and supersedes the 1998 CBC. The project was originally permitted under the 1998 CBC, whereas the 2001 CBC is now in effect; however, there are no significant changes to the 1998 CBC, which have been incorporated into the 2001 CBC, with respect to geologic hazards that will affect the Phase I facility.

The site has recently been identified by the California Geological Survey (CGS, 2004) as being located in an area of possible liquefaction as defined by the Seismic Hazards Mapping Act (1998). This delineation requires that a site-specific investigation be performed to determine whether a significant hazard exists and, if so, recommendations to mitigate its effect on a structure before a permit can be issued. Since a site-specific geotechnical investigation that includes a liquefaction analysis of the site was and is required by the 1998 and 2001 CBC, respectively, the CBC standards satisfy the requirements of the Seismic Hazards Mapping Act.

Conditions of Certification found in the Facility Design section, specifically, **GEN-1, GEN-5, and CIVIL-1** address CBC requirements concerning engineering geology and site specific geological hazards. These Conditions of Certification, adopted in the July 2, 2002 Commission Decision, are expected to mitigate

potential project impacts outlined above to a less than significant level. As a result, no additional Conditions of Certification with respect to geologic hazards are considered necessary.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 2 (LOS ESTEROS 2)	**DOCKET NO. 03-AFC-2** ***PROOF OF SERVICE***

I, _____, declare that on _____, I deposited copies of the attached _____ in the United States mail at Sacramento, CA with first class postage thereon fully prepaid and addressed to the following:

DOCKET UNIT

Send the original signed document plus the required 12 copies to the address below:

CEC DOCKET UNIT
Attn: Docket No. 03-AFC-2
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

In addition to the documents sent to the Commission Docket Unit,
also send individual copies of any documents to:

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Before the Energy Resources Conservation and Development Commission

OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION OF THE LOS ESTEROS CRITICAL ENERGY FACILITY 2, PHASE 1	**DOCKET NO. 03-AFC-2**

EXHIBIT LIST

EXHIBIT 1 Testimony for the Application for Certification for the Los Esteros Critical Energy Facility (03-AFC-2), dated November 23, 2004. Sponsored by Applicant; received into evidence on December 6, 2004.

EXHIBIT 2 Application for Certification for the Los Esteros Critical Energy Facility Phase I, Volume I, Docketed on December 30, 2003. Sponsored by Applicant; admitted into evidence on December 6, 2004.

EXHIBIT 3 Final Staff Assessment, dated November 2004, docketed on November 15, 2004. Sponsored by Staff; received into evidence on December 6, 2004.

EXHIBIT 4 Errata for Staff Testimony on Cultural Resources. Dated November 23, 2004. Sponsored by Staff; received into evidence on December 6, 2004.

EXHIBIT 5 Page printed off the Internet, purportedly from the web site of the Bay Area Air Quality Management District. Sponsored by CARE; not received into evidence on December 6, 2004.