PICO POWER PROJECT

Application For Certification (02-AFC-3)
Santa Clara County

CALIFORNIA ENERGY COMMISSION

PRESIDING MEMBER'S PROPOSED DECISION

AUGUST 2003
P800-03-009

Gray Davis, Governor

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO. CA 95814-5512

The Committee hereby submits its Presiding Member's Proposed Decision for the PICO POWER PLANT PROJECT (Docket Number 02-AFC-3). We have prepared this document pursuant to the requirements set forth in the Commission's regulations. (20 Cal. Code of Regs., §§ 1749-1752. 5).

We recommend the Application for Certification for the PICO POWER PLANT PROJECT be approved, subject to the Conditions of Certification set forth herein, and that the Commission grant the Applicant a license to construct and operate the project.

Dated: August 8, 2003

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

JOHN L. GEESMAN
Commissioner and Presiding Member
PICO AFC Committee

ARTHUR H. ROSENFELD
Commissioner and Member
PICO AFC Committee

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INTRODUCTION

A. SUMMARY OF THE PROPOSED DECISION

This document is the Presiding Member's Proposed Decision (PMPD).[1] It contains the Commission's determinations regarding the Application for Certification (AFC) for the Pico Power Project (PPP or Project) and includes the findings and conclusions required by law. The Decision is based exclusively on the evidentiary record established at the hearings on the application. We have independently evaluated this evidence, presented the Commission's reasons supporting its Decision, and provided references to portions of the record, which support the Commission's findings and conclusions. [2] The Conditions of Certification, which follow each topic section, will ensure that the Pico Power Project is designed, constructed and operated in the manner necessary to protect public health and safety, provide needed electrical generation, and preserve environmental quality.

Silicon Valley Power (SVP or Applicant), a division of the City of Santa Clara, proposes to build a nominally rated 122 megawatt (MW) natural gas-fired, combined-cycle electric generating facility with the ability for peak firing up to 147 MW. The PPP site is a 2.85-acre parcel of land owned by SVP, located at 850 Duane Avenue in an industrial area in the City of Santa Clara in Santa Clara County, California.

The natural gas-fired, combined cycle, wet-cooled generating facility would consist of two General Electric LM-6000PC Sprint combustion turbine-generators

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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. The requirements for the Final Commission Decision are set forth in the Commission's regulations, Title 20, California Code of Regulations, section 1755.

[2] References to the evidentiary record, which appear in parentheses following the referenced material, may include an exhibit number and/or reference to the date, page and line numbers(s) of the reporter's transcript e.g., (Ex. 2, p. 55; 5/7 RT 25:8-26). The Committee conducted Evidentiary Hearings on May 7 and June 11, 2003. Because all Evidentiary Hearings were conducted in 2003, we have omitted references to the year.

(CTGs), a single condensing steam turbine generator (STG), a deaerating surface condenser, a mechanical draft plume-abated cooling tower; and associated support equipment. The PPP will interconnect on-site with the existing 115 kV Kifer to Scott transmission line at the plant switchyard. From the switchyard, the generated power would be transmitted into the Kifer and Scott Receiving stations.

The PPP will also include approximately 2.1 miles of new underground natural gas pipeline that will extend from PG&E's gas distribution line 132 to the site and a new gas compressor station located approximately 500 feet southeast of the site. The Project's water supply will be principally tertiary treated recycled waste water from the San Jose/Santa Clara Water Pollution Control Plant (WPCP), located in the City of Alviso and will be conveyed to the site via an existing South Bay Water Recycling Program pipeline located within the boundaries of the PPP. Backup water supply will be provided by a new on-site industrial well. Potable water will be supplied by the City of Santa Clara. Project wastewater will be returned to the WPCP for treatment via a new 900-foot 18-inch diameter pipeline, which will interconnect with an existing 27-inch diameter pipeline.

Project construction is expected to take approximately 18 to 20 months, employing a peak construction force of approximately 206 workers. When completed, the Project will have a permanent operational staff of about 15 employees. The capital cost of the PPP is expected to be between $155 and $165 million.

During the power plant siting process, Energy Commission staff (Staff) and Applicant carried out extensive coordination with numerous local, state, and federal agencies. These included the Bay Area Air Quality Management District (BAAQMD or District), City of Santa Clara, the Santa Clara Valley Water District and other regulatory agencies with an interest in this project. Through these efforts, the various parties and agencies have reached mutual agreement on

almost all aspects of the proposed project and upon the necessary Conditions of Certification.

B. SITE CERTIFICATION PROCESS

The Pico Power Project 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 CEQA (Pub. Resources Code, §§ 25519(c), 21000 et seq.), and the Commission's siting process and associated documents are functionally equivalent to the preparation of the traditional Environmental Impact Report. (Pub. Resources Code, § 21080.5.) The siting process is designed to allow the review of a project to be completed within a specified period of time; a license issued by the Commission is in lieu of other state and local permits.

The Commission's certification process provides a thorough and timely review and analysis of all aspects of this proposed project. During 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 an Intervenor with the same legal rights and duties as the project developers. Public participation is encouraged at every stage of the process.

The process begins when an Applicant submits the Application for Certification (AFC). Commission staff reviews the data submitted as part of this AFC, and recommends to the Commission whether or not the Applicant's filing contains adequate information to permit review to commence. Once the Commission determines that an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the licensing process. 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 serve as fact-finder and decision-maker. The role of the Commission's Public Advisor is to assist members of the public and intervenors with their understanding of and participation in the Commission's siting process.

All parties, including Applicant, Commission staff, and any intervenors, are subject to the *ex parte* rule, which prohibits them from communicating on substantive matters with Committee members, 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).

Following this, the Committee schedules formal evidentiary hearings. At the hearings, Staff presents testimony in the form of a Staff Assessment or a Supplemental Staff Assessment. In addition, the Applicant and all others who have become formal parties are able to present testimony, under oath or affirmation. The testimony is subject to cross-examination by other parties and to questioning by the Committee. The public may also comment on a proposed project at these hearings. Evidence and public comment adduced during these hearings provides the basis for the decision-makers' analysis.

This analysis appears in a Committee recommendation to the full Commission in the form of the 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 then elect to publish a revised version. If so, this latter document triggers an additional 15-day public comment period. If not, a formal errata is used to make non-substantive or minor changes to the formal text. Finally, the full Commission decides whether to accept, reject, or modify the Committee's recommendations at a public hearing. Prior to the decision, the parties and members of the public present at the hearing may again offer comments.

C. PROCEDURAL HISTORY

On October 7, 2002, Silicon Valley Power filed an Application for Certification (AFC) for the PPP. The Energy Commission determined the AFC to be data adequate for the Commission's 6-month process at the November 20, 2002 Business Meeting, thus beginning the Commission's review of this project.

Upon accepting the AFC, the Commission appointed a Committee comprised of John L. Geesman as Presiding Commissioner, and Commissioner Arthur H. Rosenfeld as Associate, to conduct the Commission's review process for the project. The Committee held a Site Visit and Informational Hearing on December 16, 2002. At that hearing, the Staff presented its Issue Identification Report, which supported processing the project pursuant to the Commission's 6-month process. Accordingly, the Committee adopted a schedule to implement that process. On January 6, 2003 the Committee granted a petition to intervene filed by California Unions for Reliable Energy.

On March 26, 2003, Staff issued its Staff Assessment (Part I) for all topics except for Air Quality and Alternatives. The Committee conducted an evidentiary hearing on May 7, 2003 for all topic areas except Air Quality, Alternatives and

Biological Resources. The Committee conducted an evidentiary hearing for the topics of Air Quality, Alternatives and Biological Resources on June 11, 2003. The evidentiary record was then closed for all topic areas except Air Quality, which was held open to receive the Final Determination of Compliance (FDOC) from the BAAQMD into the record. The BAAQMD issued the FDOC on July 11, 2003.

I. PROJECT PURPOSE AND DESCRIPTION

SUMMARY OF THE EVIDENCE

Silicon Valley Power is the City of Santa Clara's municipal utility and has provided Santa Clara power since 1896. (5/7 RT 10:9-13) Ninety percent of its customers are commercial and industrial users. Reliable energy at stable prices is important to the economy of Santa Clara. (5/7 RT 10:14-18) Silicon Valley Power currently generates approximately 40 percent of its energy needs through SVP-owned plants and approximately 40 to 50 percent of its energy needs is met through deliveries under a major energy contract with the Western Area Power Admistration (Western). Due to a restructuring of the contract by Western, SVP will no longer be able to utilize this energy supply after 2005 to support its customers. The PPP is intended to replace this power. (5/7 RT 10:19-11:5).

Project Location

The Applicant proposes to construct and operate an energy generating facility known as the Pico Power Project (PPP). The PPP would be located west of the intersection of Lafayette Street and Duane Avenue, immediately north of SVP's Kifer Receiving Station in the City of Santa Clara, Santa Clara County, California. See Project Description Figure 1 for the local setting of this proposed project.

The site will accommodate generation facilities, a maintenance building, emission control equipment, storage tanks, and a cooling tower. A gas compressor station will be located about 500 feet from the PPP site on the City of Santa Clara's maintenance yard, a 0.26-acre parcel at the corner of Lafayette and Comstock Streets in Santa Clara.

Power Plant

The proposed facility will include two General Electric LM-6000PC Sprint combustion turbine-generators (CTGs) equipped with water injection to control oxides of nitrogen (NOx), standard combustors and air inlet chilling. The plant would also include two heat recovery steam generators (HRSGs) with duct burners. In addition, the plant would be equipped with a single condensing steam turbine-generator (STG); a three-cell mechanical draft evaporative cooling tower; and support equipment. (Exhibit 29, page 3-1). Each HRSG unit will have a 95-foot exhaust stack. (Exhibit 29, page 4.11-5) See Project Description Figure 2 for the facility and equipment configuration of the proposed project. Also see the Visual Resources section for discussion of the plant design.

To control emissions of air pollutants, PPP will have gas turbines with water injection to control oxides of nitrogen (NOX). The units will use the best available control technology (BACT) including selective catalytic reduction (SCR) for control of NOx. The SCR system consists of a reduction catalyst and an aqueous ammonia injection system. In addition, the PPP is required by the Bay Area Air Quality Management District to provide emission reduction credits for NOx and precursor organic compounds (POC).

Natural Gas Facilities

Natural gas will be supplied from a 2.1-mile pipeline that will be constructed to deliver fuel from Pacific Gas & Electric's (PG&E) gas distribution Line 132. This underground pipeline would begin at the corner of Gianera Street and Wilcox Avenue, north of the PPP site, and would extend to the gas compressor station. The gas compressor station will be constructed about 500 feet from the PPP site on the City of Santa Clara's maintenance yard, a 0.26-acre parcel at the corner of Lafayette and Comstock Streets. The plant would also include approximately 500 feet of underground pipeline to convey compressed natural gas from the compressor station to the PPP site.

Transmission Line Facilities

The two CTGs would each be connected to a three winding, three-phase step-up transformer and the STG would be connected to either of the step-up transformers connected to the 115 kV Kifer to Scott line at the plant switchyard. The switchyard would consist of a three breaker arrangement with airbreak disconnect switches and SF6 circuit breakers. From the switchyard, the generated power would be transmitted into the Kifer and Scott Receiving stations.

Water Supply

The cooling water and other process water supplies for the project would be tertiary treated recycled waste water from the San Jose/Santa Clara Water Pollution Control Plant (WPCP), located in the City of Alviso, via an existing South Bay Water Recycling Program pipeline located within the boundaries of the PPP site. SVP proposes to drill a new industrial well on the PPP site to provide an emergency backup supply of process water. The City of Santa Clara would provide domestic water for drinking, showers, sinks and general sanitary purposes from its municipal potable water system. A new connection would be made to the existing 12-inch potable water line that runs on site in the former Pico Way, a surface street that formerly ran through the project site but has since been removed. The City of Santa Clara's water supply comes from City wells and the Hetch Hetchy aqueduct.

Waste Water Treatment

Approximately 900 feet of new 18-inch diameter underground pipeline would convey the project's wastewater discharge from the PPP site south along Lafayette Avenue to an existing 27-inch wastewater main in Central Expressway, which conveys wastewater to the WPCP. Sanitary wastewater from sinks and toilets would be discharged to the City of Santa Clara's sewer system.

Construction and Operation

Assuming timely completion of the AFC process, the Applicant expects construction to begin on the project in late 2003 and take approximately 18 to 20 months. Commercial operation of PPP is expected to begin by the middle of year 2005. The construction force necessary for PPP is expected to peak at 206 workers. Once the new units are on line, the operational Staff required is expected to be about 15 technical and skilled employees. The capital cost of the PPP is expected to be between $115 and $165 million.

Facility Closure

The planned life of the PPP facility is 30 years or longer. Whenever the facility is closed, either temporally or permanently, the closure procedures will follow the described plan provided in the PPP AFC, in applicable laws ordinances, regulations and standards, (LORS), and in the FSA discussions on facility closure and Conditions of Certification.

FINDINGS AND CONCLUSIONS

Based upon the evidence of record, the Committee finds as follows:

1. The project involves the construction and operation a nominally rated 122 megawatt (MW) natural gas-fired, combined-cycle electric generating facility with the ability for peak firing up to 147 MW in Santa Clara, California.

2. The project will also include a 2.1-mile natural gas pipeline, a 500-foot natural gas pipeline, a new gas compressor station, a new 900-foot wastewater pipeline, will interconnect with the existing Scott and Kifer substation, and a new industrial well for backup water supply.

3. The project is adequately described in Exhibit 1, sections 2,5, 6 and 7 introduced by Applicant and in the Staff Assessment (Phase I) (Ex. 29, pp. 3-1 to 3-3.)

We therefore conclude that the PPP is described at a level of detail sufficient to allow review in compliance with the provisions of both the Warren- Alquist Act and CEQA.

II. PROJECT ALTERNATIVES

SUMMARY OF THE EVIDENCE

The Energy Commission is required to examine the feasibility of available site and facility alternatives to the Applicant's proposal that substantially lessen the significant adverse impacts of the proposal on the environment. The Energy Commission must examine a reasonable range of feasible alternative sites that could substantially reduce or avoid any potentially significant adverse environmental impacts of the proposed project (Cal. Code Regs., tit. 14, §15126.6; Cal. Code Regs., tit. 20, §1765). This section identifies the potential significant impacts of the proposed project and analyzes alternative technologies and alternative sites that may reduce or avoid significant impacts. Alternatives were examined in response to information provided by Applicant (Ex.1, pp. 9-1 to 9-19.), by Staff (Ex. 36, pp. 6-1 to 6-15.), and by the staffs of other agencies. Based on the Applicant's filings and its AFC, the Committee has determined the objectives of the PPP to be:

- To provide economical, clean, and efficiently generated energy to the City of Santa Clara's ratepayers
- To meet the projected growth in industrial demand for electricity
- To economically replace a power supply that will no longer be available due to the expiration of an existing power supply contract in 2005 that represents approximately 25 percent of SVP's load
- To benefit the electrical supply and transmission system within the City of Santa Clara and the Silicon Valley area by providing system reliability and transmission congestion benefits
- To locate the generating station near the sources of demand for maximum efficiency and system benefit (Exhibit 1, page 9-1)

Technology Alternatives

Staff compared various alternative technologies, scaled to meet the project objectives, with the technology of the proposed project. Technologies examined were those principal electricity generation technologies that do not burn natural gas: solar, wind and biomass. Both solar and wind generation result in the absence or reduction in air pollutant emissions, visible plumes, and need for emissions control. Water consumption for both wind and solar generation is substantially less than for a natural gas-fired plant because there is no thermal cooling requirement (Ex. 36, pp. 6-11 to 6-14).

However, solar and wind resources would require large land areas in order to generate 122 megawatts of electricity. Specifically, central receiver solar thermal projects require approximately 5 acres per megawatt; therefore 600 megawatts would require approximately 620 acres, or over 200 times the amount of land area taken by the proposed plant site and linear facilities. Parabolic trough solar thermal technology requires similar acreage per megawatt. Wind generation "farms" generally require between 5 to 17 acres per megawatt, with 122 megawatts requiring between 610 and 2,074 acres.(Ex. 36, p. 6-12 to 6-13). Additionally, solar and wind energy technologies cannot provide full-time availability due to the natural intermittent availability of the source.

Although air emissions are significantly reduced or eliminated for both wind and solar facilities, both can have significant visual effects. Wind facilities can also impact birds depending on the turbine technology (Ex. 36, p. 6-13).

For biomass generation, a fuel source such as wood chips (the preferred source) or agricultural waste is necessary. Biomass facilities generate substantially greater quantities of air pollutant emissions. In addition, biomass plants are typically sized to generate less than 20 MW, which is substantially less than the capacity of the 122 MW PPP project. In order to generate 122 MW, six biomas facilities each generating 20 MW would be required. (Ex. 36, p. 6-14).

Because of the typically lower efficiencies and intermittent availability of alternative generation technologies, they do not fulfill a basic objective of this plant: to provide power from a load-following facility to meet the growing demands for reliable power within the City of Santa Clara. Consequently, the Staff concluded that geothermal, hydroelectric, solar, wind and biomass technologies do not present feasible alternatives to the proposed project (Ex. 36, p. 6-14).

Site Alternatives

In compliance with CEQA, Staff analyzed a reasonable range of alternatives to the proposed project. Staff examined three siting alternatives proposed by the Applicant: (Ex. 1, Section 9, Figure 9.3-1). The alternative sites are located in the general area of the proposed PPP site and share some common attributes.

Their locations are as follows:

- The Gianera Site, located between Centennial Boulevard and Lafayette Street, approximately 2 miles north of the proposed PPP site.
- The Scott Receiving Station Site, located near Space Park Drive and Raymond Street, approximately 0.5 miles north of the proposed site.
- The SVP Cogen Site, located near Robert Avenue and De La Cruz Boulevard.

The Staff and Applicant each testified that none of the alternative sites is preferable in its development feasibility or environmental effects than the proposed project site. Project development at several of these sites is likely to cause significant adverse impacts due to the need to construct longer linear appurtenances and transmission facilities and due to greater noise and visual impacts relative to the PPP site. None of the project impacts, which Staff has identified related to the PPP would make the proposed site unacceptable.

Therefore, no alternative sites could reduce significant impacts. (Exhibit 36, p. 6-14; 6/11 RT pp. 18 and 19)

No Project Alternative

CEQA Guidelines and Energy Commission regulations require consideration of the "no-project" alternative. This alternative assumes that the project is not constructed, and the impacts of that scenario are compared to those of the proposed project. A determination is made whether the "no project" alternative is superior, equivalent, or inferior to the proposed project from an environmental impact perspective.

The no-project alternatives would forego all the benefits associated with the PPP project. In addition, 122 megawatts of base load electrical capacity would not be added to the area's generation capacity, and regional electrical grid reliability would be lower. According to the Applicant, most importantly, SVP, as a municipal utility would fail to meet the existing and expected electrical load requirements of its ratepayers in the City of Santa Clara under the no project alternative. This would have major negative economic consequences for the City's commercial ratepayers and for the City's economy as a whole, since the City would be required to contract for power at greater expense from outside entities in order to meet the expected growth in demand as well as to replace the existing contractual supply. (Exhibit 1, p. 9-2). Furthermore, the no-project alternative may result in increased energy production from existing older inefficient power plants. (Ex. 36, p. 8-8.)

The Energy Commission has not identified any significant adverse impacts resulting from the proposed PPP. However, the project does offer economic and electric benefits. If the project is not built, the region will not benefit from the relatively clean and efficient source of up to 147 MW of new generation that this

facility would provide. Therefore, the Energy Commission has determined that the proposed project is superior to the no-project alternative.

FINDINGS AND CONCLUSIONS

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

1. The project is proposed for location within the City of Santa Clara adjacent to the Scott receiving station.

2. The evidentiary record contains an adequate review of alternative technologies, fuels, and the no-project alternative.

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

4. The use of alternative generating technologies would not prove efficient, cost effective or mitigate any significant environmental impacts to levels of insignificance.

5. No significant environmental impacts would be avoided under the no-project alternative.

6. The evidentiary record contains an adequate analysis of onsite equipment configurations and offsite alternative locations.

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

Additionally, we conclude the potential adverse environmental impacts and potential cumulative impacts related to the project will be mitigated to levels of insignificance in conformance with all applicable laws, ordinances, regulations, and standards. We therefore conclude that the evidence of record contains sufficient analyses of alternatives to comply with the requirements of the Warren-Alquist Act and with CEQA.

III. COMPLIANCE AND CLOSURE

GENERAL CONDITIONS INCLUDING COMPLIANCE MONITORING AND CLOSURE PLAN

The project General Conditions Including Compliance Monitoring and Closure Plan (Compliance Plan) have been established as required by Public Resources Code section 25532. The plan provides a means for assuring that the facility is constructed, operated and closed in conjunction with air and water quality, public health and safety, environmental and other applicable regulations, guidelines, and conditions adopted or established by the Energy Commission and specified in the written decision on the Application for Certification or otherwise required by law.

The Compliance Plan is composed of the following elements:

1. General conditions that:

- set forth the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, delegate agencies, and others;
- set forth the requirements for handling confidential records and maintaining the compliance record;
- state procedures for settling disputes and making post-certification changes;
- state the requirements for periodic compliance reports and other administrative procedures that are necessary to verify the compliance status for all Energy Commission approved conditions; and
- establish requirements for facility closure plans.

2. Specific Conditions of Certification:

- Specific Conditions of Certification that follow each technical area contain the measures required to mitigate any and all potential adverse project impacts associated with construction, operation and closure to an insignificant level. Each specific Condition of Certification also includes a verification provision that describes the method of verifying that the condition has been satisfied.

GENERAL CONDITIONS OF CERTIFICATION

DEFINITIONS

To ensure consistency, continuity and efficiency, the following terms, as defined, apply to all technical areas, including Conditions of Certification:

SITE MOBILIZATION

Moving of trailers and related equipment onto the site, usually accompanied by minor ground disturbance, grading for the trailers and limited vehicle parking, trenching for construction utilities, installing utilities, grading for an access corridor, and other related activities. Ground disturbance, grading, etc. for site mobilization are limited to the portion of the site necessary for placing the trailers and providing access and parking for the occupants. Site mobilization is for temporary facilities and is therefore not considered construction.

GROUND DISTURBANCE

On-site activity that results in the removal of soil or vegetation, boring, trenching or alteration of the site surface. This does not include driving or parking a passenger vehicle, pickup truck, or other light vehicle, or walking on the site.

GRADING

On-site activity conducted with earth-moving equipment that results in alteration of the topographical features of the site such as leveling, removal of hills or high spots, or moving of soil from one area to another.

CONSTRUCTION

[From section 25105 of the Warren-Alquist Act.] On-site work to install permanent equipment or structures for any facility. Construction does **not** include the following:

a. The installation of environmental monitoring equipment.
b. A soil or geological investigation.
c. A topographical survey.
d. Any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility.
e. Any work to provide access to the site for any of the purposes specified in a., b., c., or d.

START OF COMMERCIAL OPERATION

For compliance monitoring purposes, "commercial operation" begins after the completion of start-up and commissioning, where the power plant has reached reliable steady-state production of electricity at the rated capacity. For example, at the start of commercial operation, plant control is usually transferred from the construction manager to the plant operations manager.

COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

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

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

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

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a Condition of Certification requires CPM approval, the approval will involve all appropriate Commission 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 construction or operation-related questions, complaints or concerns.

PRE-CONSTRUCTION AND PRE-OPERATION COMPLIANCE MEETING

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

ENERGY COMMISSION RECORD

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

1. all documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
2. all monthly and annual compliance reports filed by the project owner;
3. all complaints of noncompliance filed with the Energy Commission; and,
4. all petitions for project or condition changes and the resulting staff or Energy Commission action taken.

PROJECT OWNER RESPONSIBILITIES

The project owner is responsible for ensuring that the general compliance conditions and all of the other conditions of certification that appear in the staff assessment sections 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, conditions of certification, 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.**

Construction Milestones, Compliance Condition of Certification 1 (COM-1)

The Monthly Compliance Report is the vehicle for notifying the CPM of applicable construction milestones, or for amending previously established milestones, for pre-construction and construction phases of the project. The project owner may also send a letter, an e-mail message, or make a phone call to notify the CPM of planned changes to the milestones.

I. ESTABLISH PRE-CONSTRUCTION MILESTONES TO ENABLE START OF CONSTRUCTION WITHIN ONE YEAR OF CERTIFICATION

1. Obtain site control
2. Obtain financing
3. Mobilize site
4. Begin rough grading for permanent structures (start of construction)

II. ESTABLISH CONSTRUCTION MILESTONES FROM DATE OF START OF CONSTRUCTION

1. Begin pouring major foundation concrete
2. Begin installation of major equipment
3. Complete installation of major equipment
4. Begin gas pipeline construction
5. Complete gas pipeline interconnection
6. Begin T-line construction
7. Complete T-line interconnection
8. Begin commercial operation **within three years of the Commission's final decision**

The CPM will negotiate the above-cited pre-construction and construction milestones with the project owner based on an expected schedule of construction. The CPM may agree to modify the final milestones from those

listed above at any time prior to or during construction if the project owner demonstrates good-cause for not meeting the originally-established milestones.

III. A FINDING THAT THERE IS GOOD CAUSE FOR FAILURE TO MEET MILESTONES WILL BE MADE IF ANY OF THE FOLLOWING CRITERIA ARE MET:

1. The change in any milestone does not change the established commercial operation date milestone.
2. The milestone will be missed due to circumstances beyond the project owner's control.
3. The milestone will be missed, but the project owner demonstrates a good-faith effort to meet the project milestone.
4. The milestone will be missed due to unforeseen natural disasters or acts of God that prevent timely completion of the milestones.
5. The milestone will be missed due to requirements of the California ISO to maintain existing generation output.

Unrestricted Access, COM-2

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

Compliance Record, COM-3

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.

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

Compliance Verification Submittals, COM-4

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

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

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

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

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

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

All submittals shall be addressed as follows:

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

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

Pre-Construction Matrix and Tasks Prior to Start of Construction COM-5

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

Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Various lead times (e.g., 30, 60, 90 days) for submittal of compliance verification documents to the CPM for conditions of certification are established to allow sufficient staff time to review and comment and, if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

Failure to submit compliance documents within the specified lead-time may result in delays in authorization to commence various stages of project development.

Project owners frequently anticipate starting project construction as soon as the project is certified. In those cases, it may be necessary for the project owner to file compliance submittals prior to project certification if the required lead-time for a required compliance event extends beyond the date anticipated for start of construction. It is also important that the project owner understand that the

submittal of compliance documents prior to project certification is at the owner's own risk. Any approval by Energy Commission staff is subject to change based upon the Final Decision

Compliance Reporting

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

Compliance Matrix, COM-6

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

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

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 annual compliance report.

Monthly Compliance Report, COM-7

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

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

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

10. any requests to dispose of items that are required to be maintained in the project owner's compliance file; and
11. a listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolution of the resolve complaints, and the status of any unresolved complaints.

Annual Compliance Report, COM-8

After 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 showing 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 submitted 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-9, Construction and Operation Security Plan

At least 30 days prior to commencing construction, a site-specific Security Plan for the construction phase shall be developed and maintained at the project site. At least 60 days prior to the initial receipt of hazardous materials on-site, a site-specific Security Plan and Vulnerability Assessment for the operational phase shall be developed and maintained at the project site. The project owner shall notify the CPM in writing that the Plan is available for review and approval at the project site.

Construction Security Plan

The Construction Security Plan must address:

1. site fencing enclosing the construction area;
2. use of security guards;
3. check-in procedure or tag system for construction personnel and visitors;
4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; and
5. evacuation procedures.

Operation Security Plan

The Operations Security Plan must address:

1. permanent site fencing and security gate;
2. use of security guards;
3. security alarm for critical structures;
4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency;
5. evacuation procedures;
6. perimeter breach detectors and on-site motion detectors;
7. video or still camera monitoring system;
8. fire alarm monitoring system;

9. site personnel background checks [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 must be consistent with state and federal law regarding security and privacy.]; and
10. site access for vendors and requirements for Hazardous Materials vendors to conduct personnel background security checks. [Site access for vendors must be strictly controlled. Consistent with recent state and current federal regulations governing the transport of hazardous materials, hazardous materials vendors will have to maintain their transport vehicle fleet and employ only drivers properly licensed and trained. The project owner is required, through the use of contractual language with vendors, to ensure that vendors supplying hazardous materials conduct personnel background checks on any employee involved in the transportation and delivery of hazardous materials to the power plant. All vendor related personnel background checks will be consistent with site personnel background checks, as per above, including state and federal law regarding security and privacy.].

In addition, in order to determine the level of security appropriate for this power plant, the project owner shall prepare a Vulnerability Assessment and implement site security measures addressing hazardous materials storage and transportation consistent with US EPA and US Department of Justice guidelines [Chemical Vulnerability Assessment Methodology (July 2002)]. The level of security to be implemented is a function of the likelihood of an adversary attack, the likelihood of adversary success in causing a catastrophic event, and the severity of consequences of that event. This Vulnerability Assessment will be based, in part, on the use and storage of certain quantities of acutely hazardous materials as described by the California Accidental Release Prevention Program (Cal-ARP, Health and Safety Code section 25531). Thus, the results of the off-site consequence analysis prepared as part of the Risk Management Plan (RMP) will be used to determine the severity of consequences of a catastrophic event and hence the level of security measures to be provided.

The CPM may authorize modifications to these measures, or may require additional measures depending on circumstances unique to the facility, and in response to industry-related security concerns.

Confidential Information, COM-10

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.

Department of Fish and Game Filing Fee, COM-11

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 Division Project Manager (PM), not the CPM, at the time of project certification 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 pursuant to Public Resources Code Section 21080.5.

Reporting of Complaints, Notices, and Citations, COM-12

Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering with date and time stamp recording. 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 construction and 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 monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies to the CPM of

all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt,. 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

Planned Closure, COM-13

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 12 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, and 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.

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

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

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

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

In addition, consistent with requirements under 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 12 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).

Unplanned Permanent Closure/On-Site Contingency Plan, COM-15

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.

CBO Delegation and Agency Cooperation

In performing construction and operation monitoring of the project, Commission staff acts as, and has the authority of, the Chief Building Official (CBO). Commission staff may delegate CBO responsibility to either an independent third party contractor or the local building official. Commission staff retains CBO authority when selecting a delegate CBO, including enforcing and interpreting state and local codes, and use of discretion, as necessary, in implementing the various codes and standards.

Commission staff may also seek the cooperation of state, regional and local agencies that have an interest in environmental control when conducting project monitoring.

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 the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within seven 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 that fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1230 et seq.

Formal Dispute Resolution Procedure-Complaints and Investigations

If either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's 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 Commission Chair, 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, Insignificant Project Changes and Verification Changes, COM-16

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

A petition is required for **amendments** and for **insignificant project changes**. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the Energy

Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209.

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

Amendment

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

Insignificant Project Change

The proposed change will be processed as an insignificant project change if it does not require changing the language in a condition of certification, have a potential for significant environmental impact, nor cause the project to violate laws, ordinances, regulations or standards.

Verification Change

As provided in Title 20, Section 1770 (d), California Code of Regulations, a verification may be modified by staff without requesting an amendment to the decision if the change does not conflict with the conditions of certification.

KEY EVENTS LIST

PROJECT: Pico Power Project

DOCKET #: 02-AFC-3

COMPLIANCE PROJECT MANAGER: Lance Shaw

EVENT DESCRIPTION	DATE
Certification Date/Obtain Site Control	
Online Date	
POWER PLANT SITE ACTIVITIES	
Start Site Mobilization	
Start Ground Disturbance	
Start Grading	
Start Construction	
Begin Pouring Major Foundation Concrete	
Begin Installation of Major Equipment	
Completion of Installation of Major Equipment	
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	
Start Gas Pipeline Construction and Interconnection	
Complete Gas Pipeline Construction	
WATER SUPPLY LINE ACTIVITIES	
Start Water Supply Line Construction	
Complete Water Supply Line Construction	

GENERAL CONDITIONS TABLE 1
COMPLIANCE SECTION
SUMMARY of GENERAL CONDITIONS OF CERTIFICATION

CONDITION NUMBER	SUBJECT	DESCRIPTION
COM-1	Construction Milestones	The project owner shall establish specific performance milestones for pre-construction and construction phases of the project.
COM-2	Access	The project owner shall grant Energy Commission staff and delegate agencies or consultants unrestricted access to the power plant site.
COM-3	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-4	Compliance Verification Submittals	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 or the project owner or his agent.
COM-5	Pre-construction Matrix and Tasks Prior to Start of Construction	Construction shall not commence until the all of the following activities/submittals have been completed: ▪ property owners living within one mile of the project have been notified of a telephone number to contact for questions, complaints or concerns, ▪ a pre-construction matrix has been submitted identifying only those conditions that must be fulfilled before the start of construction, ▪ all pre-construction conditions have been complied with, ▪ the CPM has issued a letter to the project owner authorizing construction.
COM-6	Compliance Matrix	The project owner shall submit a compliance matrix (in a spreadsheet format) with each monthly and annual compliance report which includes the status of all compliance conditions of certification.
COM-7	Monthly Compliance Report including a Key Events List	During construction, the project owner shall submit Monthly Compliance Reports (MCRs) which include specific information. The first MCR is due the month following the Commission business meeting date on which the project was approved and shall include an initial list of dates

CONDITION NUMBER	SUBJECT	DESCRIPTION
		for each of the events identified on the Key Events List.
COM-8	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-9	Security Plans	Prior to commencing construction, the project owner shall submit a Construction Security Plan. Prior to commencing operation, the project owner shall submit an Operation Security Plan.
COM-10	Confidential Information	Any information the project owner deems confidential shall be submitted to the Commission's Dockets Unit.
COM-11	Dept of Fish and Game Filing Fee	The project owner shall pay a filing fee of $850 at the time of project certification.
COM-12	Reporting of Complaints, Notices and Citations	Within 10 days of receipt, the project owner shall report to the CPM, all notices, complaints, and citations.
COM-13	Planned Facility Closure	The project owner shall submit a closure plan to the CPM at least 12 months prior to commencement of a planned closure.
COM-14	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 no less than 60 days prior to commencement of commercial operation.
COM-15	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 no less than 60 days prior to commencement of commercial operation.
COM-16	Post-certification changes to the Decision	The project owner must petition the Energy Commission to delete or change a condition of certification, modify the project design or operational requirements and/or transfer ownership of operational control of the facility.

ATTACHMENT A

COMPLAINT REPORT/RESOLUTION FORM

PROJECT NAME: **Pico Power Project** AFC Number: 02-AFC-3
COMPLAINT LOG NUMBER _____ Complainant's name and address: Phone number:
Date and time complaint received: Indicate if by telephone or in writing (attach copy if written): Date of first occurrence:
Description of complaint (including dates, frequency, and duration):
Findings of investigation by plant personnel: Indicate if complaint relates to violation of a CEC requirement: Date complainant contacted to discuss findings:
Description of corrective measures taken or other complaint resolution: Indicate if complainant agrees with proposed resolution: If not, explain: Other relevant information:
If corrective action necessary, date completed: Date first letter sent to complainant: _____(copy attached) Date final letter sent to complainant: _____(copy attached)
This information is certified to be correct. Plant Manager's Signature: _____ Date:

(Attach additional pages and supporting documentation, as required)

IV. ENGINEERING ASSESSMENT

A. FACILITY DESIGN

Facility Design encompasses the civil, structural, mechanical, and electrical engineering design of the project. The purpose of the Facility Design analysis is to verify that the LORS applicable to the design and construction of the project have been identified; verify that the project and ancillary facilities have been described in sufficient detail; determine whether special design features should be considered during final design to deal with conditions unique to the site; describe the design review and construction inspection process; and establish Conditions of Certification that will be used to monitor and ensure compliance with the intent of the LORS and any special design requirements.

SUMMARY OF THE EVIDENCE

Applicant's witness George Claypoole sponsored testimony that consisted of Exhibit 25 Facility Design, Power Plant Reliability, and Power Plant Efficiency. Mr. Claypoole had reviewed the Staff Assessment, Part I (Ex. 29) and the Staff Assessment Addendum (Ex. 30) and agreed with Staff's proposed Conditions of Certification. (5/7 RT 51; Ex. 25, p. 1.) Staff further revised its proposed Conditions of Certification in Exhibit 32. Applicant agreed with the Staff revisions. (6/11 RT 9)

Staff testimony was sponsored by witnesses Shahab Khoshmashrab, Al McCuen, and Steve Baker. (Ex. 29, pp. 5.1-1 to 5.1-21; Ex. 30, pp.2-33 to 2-34; and Ex. 32, pp. 2-6 to 2-8). After reviewing Applicant's design proposals for the project's structural features, site preparation, major structures and equipment, mechanical systems, electrical designs and ancillary facilities, the Staff witnesses concluded that, with the Conditions of Certification, the project design will meet

all LORS and will impose no significant impacts on the environment. (Ex. 29, pp. 5.1-5 to 5.1-6.)

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find as follows (based on Conditions of Certification contained in Ex. 29, pp. 5.1-6 to 5.1-21 and as modified by Ex. 30, pp. 2-33 to 2-34 and Ex. 32 pp 2-5 to 2-8):

1. The LORS identified in the AFC and supporting documents are those applicable to the project.

2. The Energy Commission has evaluated the AFC, and the project engineering LORS and design criteria in the record, and concludes that the design, construction, and eventual closure of the project is likely to comply with applicable engineering LORS.

3. The Conditions of Certification proposed will ensure that the proposed facilities are designed, constructed, operated, and eventually closed in accordance with applicable LORS. This will occur through the use of design review, plan checking and field inspections, which are to be performed by the local Chief Building Official (CBO) or other Energy Commission delegate agent. Energy Commission Staff will audit the CBO to ensure satisfactory performance.

4. The Energy Commission design review and construction inspection process will be in place for the project and will allow construction to start as scheduled if the project is certified. The process will provide the necessary reviews to ensure compliance with applicable facility design LORS and Conditions of Certification.

5. If the project owner submits a decommissioning plan required in the GENERAL CONDITIONS portion of this document prior to the commencement of decommissioning, the decommissioning procedure is likely to result in satisfactory decommissioning performance.

6. The evidence of record contains sufficient information to establish that the proposed facility can be designed and constructed in conformity with the applicable laws, ordinances, regulations and standards set forth in the appropriate portion of Appendix A of this Decision.

7. The Conditions of Certification set forth herein will 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 and to ensure compliance with all applicable engineering LORS.

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

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

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

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct and inspect the project in accordance with the 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.) 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.

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].

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 (or project owner and CBO approved alternative timeframe) 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 **Facility Design 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.

Facility Design Table 1: Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Combustion Turbine (CT) Foundation and Connections	2
Combustion Turbine Generator Foundation and Connections	2
Steam Turbine (ST) Foundation and Connections	1
Steam Turbine Generator Foundation and Connections	1
Steam Condenser and Auxiliaries Foundation and Connections	1
Heat Recovery Steam Generator (HRSG) Structure, Foundation and Connections	2
HRSG Feed Pumps Foundation and Connections	4
HRSG Stack Structure, Foundation and Connections	2
CT/ST Main Transformer Foundation and Connections	2
Auxiliary or Station Service Transformer Foundation and Connections	6
CT Inlet Air Plenum Structure, Foundation and Connections	2
CT Inlet Chillers	2
HRSG Transition Duct from CTG — Structure	2
Condensate Pumps Foundation and Connections	3
Circulating Water Pumps Foundation and Connections	3
Power Cycle Makeup and Storage Pumps Foundation and Connections	2
Cooling Tower Makeup Pumps Foundation and Connections	2
Demineralized Water Storage Tank and Pump Foundations and Connections	1
Closed Cycle Cooling Water Heat Exchanger Foundation and Connections	2
Auxiliary Cooling Water Pumps Foundation and Connections	2
Waste Water Collection System Foundation and Connections	1
Fire Protection System	1
Cooling Tower Structure, Foundation and Connections	1
Generator Breakers Foundation and Connections	3
Transformer Breakers Foundation and Connections	3
Natural Gas Metering Station Structure, Foundation and Connections	1
Natural Gas Compressor Skid Foundation and Connections	3
Ammonia Storage Facility Foundation and Connections	1
Closed Cycle Cooling Pumps Foundation and Connections	2
Closed Cycle Cooling Heat Exchangers	2
Demineralizer – Reverse Osmosis (RO) System Foundation and Connections	1
Warehouse/Shop Structure, Foundation and Connections	1
Gas Compressor Building Structure, Foundation and Connections	1
Ammonia Vaporizer System Foundation and Connections	2

Equipment/System	Quantity (Plant)
Continuous Emissions Monitoring Systems Structure, Foundation and Connections	2
Sound Wall at Property Line	1
Potable Water Systems	1 Lot
Drainage Systems (including sanitary drain and waste)	1 Lot
High Pressure and Large Diameter Piping and Pipe Racks	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

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 in the Transmission System Engineering section of this document.

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 of work requiring CBO design review and inspection to ensure compliance with LORS;
2. Ensure that construction of all the facilities subject to CBO design review and inspection 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 (or project owner and CBO approved alternative timeframe) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the resume 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 resume 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; and B) a soils engineer, or a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering. Prior to the start of construction, the project owner shall assign at least one of each of the following California registered engineers to the project: 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, 6731 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 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 responsible engineers assigned to the project [1998 CBC, Section 104.2, Powers and Duties of Building Official].

If any one of the designated responsible engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned responsible engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

A: The civil engineer shall:

1. Review the Foundation Investigations Report, Geotechnical Report or Soils Report prepared by the soils engineer, the geotechnical engineer, or by a civil engineer experienced and knowledgeable in the practice of soils engineering;
2. Design, or be responsible for design, stamp, and sign all plans, calculations and specifications for proposed site work, civil works and related facilities requiring design review and inspection by the CBO. 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
3. 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.

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

1. Review all the engineering geology reports;
2. Prepare the Foundation Investigations Report, Geotechnical Report or Soils Report containing field exploration reports, laboratory tests and engineering analysis detailing the nature and extent of the soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load [1998 CBC, Appendix Chapter 33, Section 3309.5, Soils Engineering Report; Section 3309.6, Engineering Geology Report; and Chapter 18, Section 1804, Foundation Investigations];
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 (depending on the site conditions, this may be the responsibility of either the soils engineer or engineering geologist or both); and
4. Recommend field changes to the civil engineer and RE.

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].

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 engineering LORS;
4. Evaluate and recommend necessary changes in design; and
5. Prepare and sign all major building plans, specifications and calculations.

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.

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 (or project owner and CBO approved alternative timeframe) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible civil engineer and soils (geotechnical) engineer assigned to the project.

At least 30 days (or project owner and CBO approved alternative timeframe) prior to the start of construction, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible design engineer, mechanical engineer and electrical engineer assigned to the project.

The project owner shall notify the CPM of the CBO's approvals of the responsible 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 resume 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 in the Transmission System Engineering section of this document.

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 [1998 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]; 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 (or project owner and CBO approved alternative timeframe) 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 in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend the corrective action required [1998 CBC, Chapter 1, Section 108.4, Approval Required; Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The discrepancy documentation shall 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 transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next Monthly Compliance Report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval and the revised corrective action to obtain CBO's approval.

GEN-8 The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. 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 of 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, in the next Monthly Compliance Report, (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 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, Geotechnical Report or Foundation Investigations Report required by the 1998 CBC [Appendix Chapter 33, Section 3309.5, Soils Engineering Report; Section 3309.6, Engineering Geology Report; and Chapter 18, Section 1804, Foundation Investigations].

Verification: At least 15 days (or project owner and CBO approved alternative timeframe) prior to the start of site grading the project owner shall submit the documents described above to the CBO for design 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 soils engineer, geotechnical engineer, or the 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 24 hours when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.

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 for which a grading permit is required shall be subject to inspection by the CBO.

If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO and the CPM [1998 CBC, Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The project owner shall prepare a written report, with copies to the CBO and the CPM, detailing all discrepancies, non-compliance items, and the proposed corrective action.

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 for review and approval. 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 of any major structure or component listed in Facility Design Table 1 of Condition of Certification GEN-2, above, the project owner shall submit to the CBO for design 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 the following items (from Table 1, above):

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.

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 60 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 (or project owner and CBO approved alternative timeframe) prior to the start of any increment of construction of any structure or component listed in **Facility Design Table 1** of Condition of Certification GEN-2 above, 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 non-conforming 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 engineering LORS.

STRUC-2 The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval:

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 and the proposed corrective action to the CBO, with a copy of the transmittal letter to the CPM [1998 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]. 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 to 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 the requirements of this Chapter.

Verification: At least 30 days (or project owner and CBO approved alternate timeframe) 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 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 Facility Design 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].

The responsible mechanical engineer shall stamp and sign all plans, drawings and calculations for the major piping and plumbing systems subject to the CBO design review and approval, and submit a signed statement to the CBO when the said proposed piping and plumbing systems have been designed, fabricated and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards [Section 106.3.4, Architect or Engineer of Record], which may include, but not be limited to:

- 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 (or project owner and CBO approved alternative timeframe) prior to the start of any increment of major piping or plumbing construction listed in **Facility Design Table 1**, Condition of Certification GEN-2 above, the project owner shall submit to the CBO for design review and approval the final plans, specifications and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

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 inspection approvals.

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

The project owner shall:

1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and
2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

Verification: At least 30 days (or project owner and CBO approved alternative timeframe) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval, the above listed documents, 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 The project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations and quality control procedures for any heating, ventilating, air conditioning (HVAC) or refrigeration system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. 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 (or project owner and CBO approved alternative timeframe) 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 CBC and other applicable codes, 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.

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;
   6. system grounding requirements; and
   7. 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 (or project owner and CBO approved alternative timeframe) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above listed documents. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

B. POWER PLANT EFFICIENCY

The Energy Commission makes findings as to whether energy use by the PPP will result in significant adverse impacts on the environment, as defined in CEQA. If the Commission finds that the PPP consumption of energy creates a significant adverse impact, it must determine whether there are any feasible mitigation measures that could eliminate or minimize the impacts. In this analysis, we address the issue of inefficient and unnecessary consumption of energy.

SUMMARY OF EVIDENCE

Applicant's witness George Claypoole sponsored testimony that consisted of Exhibit 25—Facility Design, Power Plant Reliability, and Power Plant Efficiency and Chapters 2 and 10 of the AFC (5/7 RT 55; Ex. 1, Chapters 2 and 10). Staff witness Kevin Robinson, sponsoring Section 5.3 of the Staff Assessment, Part I (Ex. 29, pp. 5.3-1 to 5.3-6.), testified that under expected project conditions, electricity will be generated at a full-load efficiency of approximately 48.4 percent lower heating value (LHV) without duct burning and 45.7 percent LHV with duct burning, compared to the average fuel efficiency of a typical utility baseload power plant of approximately 35 percent LHV. (Ex. 29, p. 5.3-2.) Staff addressed the efficiency of alternative generating technologies in the Staff Assessment, Part I (Ex. 29, pp. 5.3-3 to 5.3-5). Conventional boiler and steam turbine, simple cycle combustion turbine, conventional combined-cycle, Kalina combined-cycle, advanced combustion turbines, natural gas, coal, oil, solar, wind, hydroelectric, biomass, and geothermal technologies were all considered. One of the project's stated objectives is to generate efficient energy within Santa Clara to provide its customers with cost-effective power (Ex. 1, Section 9.1). Given the project objectives, location, and air pollution control requirements, Staff agrees with the Applicant that only natural gas-burning technologies are feasible. (Ex. 29, p. 5.3-5.)

Staff further testified that no cumulative impacts on energy resources are likely. Closure of the facility will not present significant impacts on electric system efficiency. (Ex. 1, pp. 5.3-5 to 5.3-6.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Energy Commission makes the following findings (Based on conclusions noted on pp. 5.3-5 to 5.3-6 of Ex. 29):

1. The PPP project will not create significant adverse effects on energy supplies or resources in California.

2. The project will not require additional sources of energy supply.

3. The project will not consume energy in a wasteful or inefficient manner.

4. The project will have no significant adverse impacts on energy resources.

5. Given the project objectives, location and air pollution control requirements, the evidence is undisputed that only natural gas-burning technologies are feasible.

6. The PPP project will consist of two General Electric LM6000PC Sprint combustion turbine generators with water injection and inlet air chilling/filters producing approximately 49 MW each, two multipressure heat recovery steam generators (HRSGs) with duct burners, and a single 2-pressure, reheat, condensing steam turbine generator producing a maximum of 24 MW, arranged in a two-on-one combined cycle train, totaling approximately 122 MW without duct burning and 147 MW with duct burning. The gas turbines and HRSGs will be equipped with water injection and SCR to control air emissions.

We therefore conclude that the PPP will not cause any significant adverse impacts to energy supplies or energy resources. The project will conform with all applicable laws, ordinances, regulations, and standards (LORS) related to power plant efficiency. (Ex. 29, p. 5.3-6.)

No Conditions of Certification are proposed concerning the topic of Power Plant Efficiency. (Ex. 29, p. 5.3-6.)

C. POWER PLANT RELIABILITY

This analysis, addresses the reliability issues of the project to determine if the power plant is likely to be built in accordance with typical industry norms for reliability of power generation. This level of reliability is useful as a benchmark because the resulting project would likely not degrade the overall reliability of the electric system it serves.

SUMMARY OF EVIDENCE

Applicant's witness George Claypoole sponsored testimony, which consisted of Exhibit 25, Facility Design, Power Plant Reliability, and Power Plant Efficiency and Section 10 of the AFC (5/7 RT 56; Ex. 1, Section 10).

Staff witness Kevin Robinson, sponsoring Section 5.4 of the Staff Assessment, Part I (Ex. 29), testified the PPP project will be built and operated in a manner consistent with industry norms for reliable operation, and that Applicant's predicted equivalent availability factor in the 94 to 96 percent range is achievable in light of the industry norm of 90 to 96 percent for this type of plant. (Ex. 29, p. 5.4-6.)

FINDINGS AND CONCLUSIONS

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

1. The PPP project will ensure equipment availability by implementing quality assurance/quality control programs during design, procurement, construction, and operation of the plant and by providing for adequate maintenance and repair of the equipment and systems. (Ex. 29, pp. 5.4-3 to 5.4-4.)

2. There is adequate fuel and water availability and capacity for project operations. (Ex. 29, p. 5.4-4.)

3. In light of the historical performance of California power plants and the electrical system in seismic events, there is no special concern with power plant

functional reliability affecting the electric system's reliability due to seismic events. (Ex. 29, p. 5.4-5.)

4. The project's estimated 94-96 percent availability factor is consistent with, or exceeds industry norms for power plant reliability. (Ex. 29, p. 5.4-6.)

The Energy Commission, therefore, concludes that the project will not have an adverse effect on system reliability. No Conditions of Certification are required for this topic. (Ex. 29, p. 5.4-6.)

D. TRANSMISSION SYSTEM ENGINEERING

The Warren-Alquist Act requires the Energy Commission to "prepare a written decision that includes:

> (a) Specific provisions relating to the manner in which the proposed facility is to be designed, sited, and operated in order to protect environmental quality and assure public health and safety, [and]
>
> (d)(1) Findings regarding the conformity of the proposed site and related facilities…with public safety standards…and with other relevant local, regional, state and federal standards, ordinances, or laws…"(Pub. Resources Code, § 25523).

Under California's 1996 electricity industry deregulation legislation, Southern California Edison, Pacific Gas and Electric Company (PG&E), and San Diego Gas and Electric Company divested most of their power plants, but retained ownership of their electric transmission system, under the operating control of the Cal-ISO. However, because Silicon Valley Power, the electrical department of the City of Santa Clara, is not part of the Cal-ISO grid, the Cal-ISO is not directly responsible for ensuring electric system reliability for the generator interconnection and does not plan to provide analysis and testimony for this project. (Ex. 29, p. 5.5-1; 5/7 RT pp. 57 to 58).

SUMMARY OF THE EVIDENCE

Applicant's witnesses Jim Carlson sponsored testimony that with the implementation of the proposed Conditions of Certification in the Staff Assessment, Part I (Exhibit 29) potential impacts on the transmission system and the environment, if any, will be mitigated to a level of insignificance. (Ex. 27; Ex. 1, Chapter 6.0; 5/7 RT 57). Staff Witnesses Mark Hesters and Al McCuen also sponsored testimony which is summarized below. (Exhibit 29, Section 5.5).

The PPP will consist of two combustion turbine generators (CTG) and one steam turbine generator (STG), for a total maximum plant net output of 147 MW when duct burning. Each generator has a dedicated 13.8 kV to 115 kV step-up

transformer. The high voltage side of the transformers would connect to the new PPP switchyard through short overhead circuits. The new, three breaker switchyard on the project site would then loop in the existing Kifer-Scott 115kv transmission line. This interconnection would not require a new transmission line. Staff found this configuration acceptable. (Ex. 29, p. 5.5-3).

SVP provided a System Impact and Facilities Study (SIS) for the proposed project that studied the impacts of the proposed project on PG&E's and SVP's electrical network. The SIS indicates that the interconnection of the PPP would have no significant transmission impacts. The single identified overloaded line would be reconductered even if the PPP were not built. The dynamic stability analysis showed that the PPP would not adversely impact the stable operation of the network. The short circuit duty study indicated that two circuit breakers would need to be replaced.

Staff concluded that the PPP would improve the operation of the existing system. (Ex. 29, pp 5.5-4 to 5.5-5). The proposed switchyard and the facilities connecting the PPP to the Silicon Valley Power grid will be adequate, and no additional transmission facilities would be required for the interconnection and operation of the proposed project. The design and proposed operation of the power plant switchyard, outlet lines, and terminations are in accordance with good utility practices and are acceptable. The Interconnection Studies performed by Silicon Valley Power (SVP) and Pacific Gas & Electric (PG&E) for the PPP indicate that no downstream facilities will be required as a result of the construction and operation of the PPP. In fact the project will eliminate an existing contingency overload. Staff concludes that with implementation of the conditions of certification, the power plant switchyard and outlet facilities will comply with LORS. (Ex. 29, p. 5.5-6)

FINDINGS AND CONCLUSIONS

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

1. PG&E has performed a System Impact and Facilities Study to analyze any potential reliability and congestion impacts that could occur when PPP interconnects to the grid.

2. Because Silicon Valley Power, the electrical department of the City of Santa Clara, is not part of the Cal-ISO grid, the Cal-ISO is not directly responsible for ensuring electric system reliability for the generator interconnection and does not plan to provide analysis and testimony for this project.

3. The analysis contained in the Staff testimony of record establishes that the proposed PPP switchyard and related facilities for interconnection to the SVP grid will be adequate and reliable and will not cause significant adverse impacts to the electrical system.

We therefore conclude that with the implementation of the various mitigation measures specified in this Decision, the proposed transmission interconnection for the project will not contribute to significant direct, indirect, or cumulative environmental impacts. The Conditions of Certification below ensure that the transmission related aspects of the PPP will be designed, constructed, and operated in conformance with the applicable laws, ordinances, regulations, and standards identified in the appropriate portions of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

TSE-1 The owner of the power plant switchyard and outlet facilities shall ensure that the design, construction, and operation of the proposed transmission facilities will conform to all applicable LORS including the requirements a) through g) listed below.

a) The PPP switchyard shall consist of three 115 kV circuit breakers.

b) The power plant switchyard and outlet lines shall meet or exceed the electrical, mechanical, civil, and structural requirements of SVP interconnection standards, CPUC General Orders 95 (GO-95) or National Electric Safety Code (NESC), Title 8 of the California Code and Regulations, Articles 35, 36, and 37 of the “High Voltage Electric Safety Orders,” National Electric Code (NEC), and related industry standards.

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

d) 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.

e) Termination facilities at the plant switchyard shall comply with applicable SVP interconnection standards.

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

g) The owner of the power plant switchyard and outlet facilities shall provide any modified Detailed Facility Interconnection Study (DFIS) including a description of facility upgrades, operational mitigation measures, and/or Remedial Action Scheme (RAS) or Special Protection System (SPS) sequencing and timing if applicable.

Verification: At least 60 days prior to the start of rough grading of transmission facilities, the owner of the power plant switchyard and outlet facilities shall submit to the CPM for approval:

a) Electrical one line diagrams signed and sealed by a registered professional electrical engineer in responsible charge (or other approval acceptable to the CPM), a route map, and an engineering description of equipment and the configurations covered by the requirements a) through g) above.

b) The Detailed Facilities Study (if modified) (if it has not otherwise previously been provided to the Energy Commission) and a signed letter from the owner of the power plant Switchyard and Outlet facilities stating that the mitigation measures are acceptable. Substitution of equipment and substation configurations shall be identified and justified by the project owner for CPM approval.

TSE-2 The owner of the power plant switchyard and outlet facilities shall request approval to implement any changes that may not conform to the requirements a) through g) of TSE-1, and have not received CPM approval. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CPM.

Verification: At least 60 days prior to the construction of transmission facilities, the owner of the power plant switchyard and outlet facilities shall inform

the CPM of any impending changes that may not conform to requirements a) through g) of TSE-1 and request approval to implement such changes.

TSE-3 The project owner shall provide notice to the Cal-ISO prior to synchronizing the facility with the California transmission system:

a) At least one 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 business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the Cal-ISO Outage Coordination Department.

Verification: The project owner shall provide copies of the Cal-ISO letter to the CPM when it is sent to the Cal-ISO one week prior to initial synchronization with the grid. The project owner shall contact the Cal-ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the Cal-ISO Outage Coordination Department shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time.

TSE-4 The owner of the power plant switchyard and outlet facilities shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8 of the California Code of Regulations, Articles 35, 36, and 37 of the "High Voltage Electric Safety Orders," SVP's interconnection standards, NEC, related industry standards and these conditions. In case of non-conformance, the project owner shall inform the CPM in writing, within 10 days of discovering such non-conformance, and describe the proposed corrective actions.

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

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

b) An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. "As built" drawings of the mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant

and made available, if requested, for CPM audit as set forth in the "Compliance Monitoring Plan."

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

E. TRANSMISSION LINE SAFETY AND NUISANCE

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

SUMMARY OF THE EVIDENCE

The energy from the proposed Pico Power Project (PPP) would be delivered to the area's transmission grid by using the existing 115 kV Scott-Kifer line to electrically connect the project's on-site switchyard to the Kifer Substation, which is a major handling station for several of the area's 115 kV and 60 kV lines that cross the project site. This 115 kV Scott-Kifer line belongs to the applicant, Silicon Valley Power (SVP). Since PPP would be directly connected to the on-site Scott-Kifer line, no new transmission line would be required. (Ex. 29, p. 4.10-1)

According to the Applicant, the site, which is located approximately 0.6 miles northwest of the San Jose International Airport, is surrounded by industrial and light industrial establishments and was chosen, in part, because of its proximity to the Kifer Substation (Ex. 1, p. 6-1). The nearest residential area to the project site is approximately 0.52 miles to the north, although there are a few residences in a converted motel approximately 0.39 miles away. (Ex. 29, pp. 4.10-7).

The only project-related EMF exposures of potential significance are the short-term exposures to plant workers, regulatory inspectors, maintenance personnel, approved guests, or individuals in transit across the project's lines. These types of exposures are short term and well understood as not significantly related to the present health concern. (Ex. 29, p. 4.10-8)

Aviation Hazard

Although the proposed project site is only 0.6 miles from the San Jose International Airport, the maximum height (of 80 feet) and location of the existing on-site transmission towers (relative to the nearest runways) are not enough to pose an aviation hazard as defined using the applicable FAA criteria, referenced in the Staff Assessment (Ex. 29) on page 4.10-2. The existing and proposed line support structure are neither tall enough nor close enough to any airport to pose a significant collision hazard to local aircraft. This absence of a significant hazard is reflected in FAA's aviation hazard analysis and the determination that the PPP is consistent with the Airport Land Use Commission (Ex. 1, Appendix 8.6A and 8.6B) The same lack of a collision hazard has been true for the other SVP and PG&E 115 kV lines in the project area. The proposed underground plan would eliminate any such risks from the overhead lines involved. (Ex. 29, p. 4.10-9).

Audible Noise and Radio Frequency Interference

The existing SVP line to be utilized for PPP generation was built and is currently maintained according to standard SVP and PG&E practices to minimize corona-related communications interference. Since there are no residences in the immediate area, Staff concluded that it does not expect complaints about operation of the transmission facilities related to operational noise or interference with residential radio or television use. The undergrounded lines would not pose an interference hazard because they would not produce the electric fields that could interfere with radio or television. (Ex. 29, p. 4.10-10)

Fire Hazard

The Applicant intends to comply with the GO-95 requirements (Ex. 1, p. 6.6 and 6.9), which will ensure that transmission facilities are adequately located away from trees and other combustible objects to prevent contact-related fires or minimize such fires when they occur. In addition, SVP is required to implement fire prevention practices in compliance with Title 14, California Code of Regulations, section 1250. The newly underground lines would not pose a

significant fire hazard because of their location away from surface-level combustible materials. (Ex. 29, p. 4.10-10).

Shock Hazards

Since the 115 kV line to be utilized was designed according to GO-95 requirements together with the requirements in specific sections of Title 8, California Code of Regulations, section 2700 et seq. against direct contact with the energized line, as is normal SVP and PG&E practice, staff concluded that they do not expect its use during PPP operation to pose a significant hazard shock hazard. The newly underground lines would not pose any such hazards as constructed according to relevant GO-128 requirements. (Ex. 29, p. 4.10-10).

Electric and Magnetic Exposure

Since the 115 kV line to be utilized was designed and re-conductored according to existing SVP and PG&E guidelines on safety and field EMF minimization, staff concludes that the electric and magnetic fields generated during PPP operations would be similar in intensity to those from SVP and PG&E lines of the same voltage and current-carrying capacity. (Ex. 29, p. 4.10-10). Since any new facilities will be designed with field-reducing measures, Staff concluded further mitigation unnecessary. However, Staff proposed Condition of Certification TSLN-2 to allow for validation of the reduction efficiency attributable to the design of the new faciltities. (Ex. 29, p. 4.10-11) The Applicant has agreed. (5/7 RT 46).

FINDINGS AND CONCLUSIONS

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

1. SVP's and PG&E's transmission facilities will be designed in accordance with the electric and magnetic field reducing guidelines applicable to PG&E's transmission service area.

2. The Conditions of Certification reasonably ensure that the transmission facilities will not have significant adverse environmental impacts on public health and safety nor cause impacts in the areas of aviation safety, radio/tv

communication interference, audible noise, fire hazards, nuisance or hazardous shocks, or electric and magnetic field exposure.

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

CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall measure the strengths of the line electric and magnetic fields from the 115 kV Scott-Kifer line to be utilized to allow for evaluation of the project-related field additions together with total exposure levels. Measurements shall be made at representative points (on-site and along the line route) according to IEEE measurement protocols and as necessary to identify the maximum field exposures possible during operations. Staff would assess the need to recommend further mitigation through comparison with fields from SVP and PG&E lines of the same voltage and current-carrying capacity. Since undergrounding would yield the lowest magnetic field reduction possible, it would not be necessary for specific measurements to be made with respect to the existing lines that are proposed for undergrounding.

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

V. PUBLIC HEALTH AND SAFETY ASSESSMENT

A. AIR QUALITY

In this section we evaluate the expected air quality impacts from the emissions of criteria air pollutants due to construction and operation of the PPP. Criteria air pollutants are those for which a federal or state ambient air quality standard has been established to protect public health. They include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), precursor organic compounds (POC), and particulate matter less than 10 microns in diameter (PM_{10}).

SUMMARY OF THE EVIDENCE

Applicant's witness Gregory S. Darvin testified and sponsored portions of the AFC (Ex 1, section 8.1) and Exhibit 37. Mr. Darvin's testimony demonstrated that potential air quality impacts are expected to be well below all applicable state and federal standards for all pollutants except PM_{10}. For PM_{10}, existing concentrations in the project area already exceed the state standard. (Ex. 1, p. 8.1-37).

Mr. Darvin testified that the operational air quality impacts would be mitigated by using the most effective emission control technologies available and by purchasing Emission Reduction Credits (ERC's) that will offset or compensate for the project's emissions and by implementing a PM_{10} mitigation plan. The PPP was designed with the following emission control technologies:

- Water injection and a selective catalytic reduction (SCR) system to control the NO_X emissions to 2.0 parts per million dry volume corrected to 15 percent oxygen parts per million volume, dry, corrected (ppmvd) averaged over one hour.

- The use of clean burning natural gas, good combustion design, and an oxidation catalyst to control CO and precursor organic compounds (POC) emissions to 4.0 and 2.0 ppmvd.
- The use of low sulfur, clean burning natural gas to control SO_2 emissions.
- The use of clean burning natural gas and inlet air filtration to control PM_{10} emissions to 3.0 pounds per hour when there is no duct burning, and 4.3 pounds per hour during hours of duct burning. (Ex. 40, p. 3.1-14).

Mr. Darvin further testified that the Applicant would mitigate the air quality impacts by purchasing ERCs. The PPP will also provide emission reductions sufficient to mitigate the project PM_{10} emissions of 16.38 tons per year of PM_{10} based on the project emissions during the fall and winter quarters of each year. Applicant is working with the Staff of the Bay Area Air Quality Management District to fund the District's new wood stove and fireplace retrofit/replacement program. (Ex. 3, Response Number 11)

Under the proposed retrofit/replacement program, financial incentives will be provided to encourage residents within a 15-mile and 25-mile radius of the project to replace existing wood stoves with gas stoves and EPA-certified solid fuel devices or to retrofit existing wood-burning fireplaces to gas fireplaces. The Applicant will provide the BAAQMD with a grant, based on a maximum of $1,250 for each retrofit/replacement, in order to fund this program. (Ex. 40, p. 3.1-7).

This plan is similar to the one proposed for the Los Esteros Critical Energy Facility and for the Russell City Energy Center. The proposed mitigation package will provide reductions in emissions of directly emitted PM_{10}, PM_{10} precursors, and other pollutants that will mitigate both the ambient air quality and the public health impacts of the PM_{10} emissions from the PPP project. (Ex. 36, p. 3.1-28). As a result of this review, Mr. Darvin believes that with the Conditions of Certification recommended by the BAAQMD and the Staff, the project construction and operation will not result in any significant adverse air quality impacts. (6/11 RT 23-27).

The District completed a Final Determination of Compliance (FDOC) on July 7, 2003 and found the project to be in compliance with all District rules and regulations. (Ex. 39; p. 1). The District-recommended Conditions are presented here as Conditions AQ-1 through AQ-45.

The Staff also conducted an independent analysis of the project's potential air quality impacts. This analysis is set forth in Exhibits 36, 38 and 40. Staff evaluated the following major points:

- Whether the project complies with applicable Federal, State and Bay Area Air Quality Management District air quality laws, ordinances, regulations and standards, as required by Title 20, California Code of Regulations, section 1742.5 (b);
- Whether the project is likely to cause significant air quality impacts, including new violations of ambient air quality standards or contributions to existing violations of those standards, as required by Title 20, California Code of Regulations, section 1742 (b); and
- Whether the mitigation proposed for the project is adequate to lessen the potential impacts to a level of insignificance, as required by Title 20, California Code of Regulations, section 1744 (b).

Staff analysis included modeling for direct and indirect impacts during construction and during project operation. Staff also modeled for fumigation impacts (the mixing of various emissions under specific adverse meteorological conditions), visibility impacts, and cumulative impacts of the project.

As a result of its independent analysis, Staff concluded that the PPP, with the implementation of the measures contained in the Conditions of Certification set forth in the Staff Assessment, Part 2 and subsequent revisions contained in Exhibits 38 and 40 will not, either alone or in combination with other identified projects in the area, cause or contribute to any new or existing violations of

applicable ambient air quality standards. (Ex. 36, p. 3.1-30; Ex. 38, pp. 3.1-1 to 3.1-6; Ex. 40, p. 3.1-1).

Staff further testified that, with the implementation of the Staff's proposed conditions of Certification, the PPP will be constructed and operated in compliance with all applicable laws, ordinances, regulations, and standards identified in Appendix A of this Decision. (*Id*.)

The Applicant has agreed to all of the Staff recommended Conditions of Certification as modified by Staff to reflect the Final Determination of Compliance (Ex. 39). (see SVP Supplemental Brief, p. 1).

FINDINGS AND CONCLUSIONS

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

1. The proposed Pico Power Project is located in the San Francisco Bay Air Basin within the jurisdiction of the Bay Area Air Quality Management District.

2. The area is classified non-attainment for the state ozone and PM_{10} standard and also non-attainment for the federal ozone standard. For all other criteria pollutants, it is designated attainment, unclassified or attainment/unclassified.

3. Construction and operation of the PPP will result in emissions of criteria pollutants.

4. The project will employ the best available control technology (BACT) to control project emissions of criteria pollutants.

5. The Air Pollution Control Officer for the Bay Area Air Quality Management District has issued a Final Determination of Compliance (FDOC) for the project.

6. Implementation of the Conditions of Certification will ensure that the PPP will not result in any significant adverse impacts to air quality.

7. With the Conditions of Certification, the project will be constructed and operated in Compliance with all applicable federal, state, and local laws, ordinances, regulations, and standards governing air quality and set forth in the pertinent portion of Appendix A of this Decision.

We therefore conclude that with the implementation of the Conditions of Certification below, the PPP will not create any significant direct, indirect, or cumulative adverse air quality impacts and will conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth in the pertinent portions of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

CONSTRUCTION AND COMMISSIONING CONDITIONS OF CERTIFICATION

AQ-C1 The project owner shall designate and retain an on-site air quality construction mitigation manager (AQCMM) who shall be responsible for maintaining compliance with conditions **AQ-C2** through **AQ-C3** for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities identified in Conditions **AQ-C1** through **AQ-C3** to one or more air quality construction mitigation monitors. The on-site AQCMM shall have full access to areas of construction of the project site and linear facilities, and shall have the authority to appeal to the CPM to have the CPM stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM may have other responsibilities in addition to those described in this condition. The on-site AQCMM shall not be terminated without written consent from the CPM.

Verification: At least 60 days prior to the start of ground disturbance, the project owner shall submit to the CPM, for approval, the name, contact information and qualifications for the on-site AQCMM and air quality construction mitigation monitors.

AQ-C2 The project owner shall provide a construction mitigation plan, for approval, which shows the steps that will be taken, and reporting requirements, to ensure compliance with conditions **AQ-C3**.

Verification: At least 30 days prior to start any ground disturbance, the project owner shall submit to the CPM, for approval, the construction mitigation plan. The CPM will notify the project owner of any necessary modifications to the plan within 15 days from the date of receipt. Otherwise, the plan shall be deemed approved.

AQ-C3 The on-site AQCMM shall submit to the CPM, in the monthly compliance report, a construction mitigation report that demonstrates compliance with the following mitigation measures for the purposes of preventing fugitive dust plumes from leaving the project site and controlling other construction-related emissions:

a) All unpaved roads and disturbed areas in the project and linear construction sites shall be watered every four hours of construction activities, or as necessary to prevent fugitive dust plumes from

leaving the project site. The frequency of watering can be reduced or eliminated during periods of precipitation.

b) No vehicle shall exceed 10 miles per hour within the construction site.

c) The construction site entrances shall be posted with visible speed limit signs.

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

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

f) All unpaved entrances to the construction site shall be graveled or treated with dust soil stabilization compounds.

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

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

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

j) At least the first 500 feet of any public roadway exiting from the construction site shall be swept twice daily or as necessary to prevent the accumulation of dirt and debris.

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

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

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

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

o) All large construction diesel engines, which have a rating of 50 hp or more, shall meet, at a minimum, the Tier 1 ARB/U.S. EPA certified standards for off-road equipment.

p) All large construction diesel engines, which have a rating of 50 hp or more that do not have an U.S. EPA Tier 1 particulate standard (50 to 175 hp engines) and do not meet Tier 2 particulate standards, shall be equipped with catalyzed diesel particulate filters (soot filters), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types.

q) All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM that shows the engine meets the conditions **AQ-C3(o)** and **AQ-C3(p)** above.

Observations of visible dust plumes would indicate that the existing mitigation measures are not resulting in effective mitigation. The AQCMM shall implement the following procedures for additional mitigation measures if the AQCMM determines that the existing mitigation measures are not resulting in effective mitigation:

r) The AQCMM shall direct more aggressive application of the existing mitigation methods within 15 minutes of making such a determination.

s) The AQCMM shall direct implementation of additional methods of dust suppression if step a) specified above, fails to result in adequate mitigation within 30 minutes of the original determination.

t) The AQCMM shall direct a temporary shutdown of the source of the emissions if step b) specified above fails to result in adequate mitigation within one hour of the original determination. The activity shall not restart until one full hour after the shutdown. The owner/operator may appeal to the CPM any directive from the AQCMM to shutdown a source, provided that the shutdown shall go into effect within one hour of the original determination unless overruled by the CPM before that time.

Verification: In the MCR, the project owner shall provide the CPM a copy of the construction mitigation report and any diesel fuel purchased records, which clearly demonstrates compliance with condition **AQ-C3**.

AQ-C4 The project owner shall submit to the CPM for review and approval any modification proposed by either the project owner or issuing agency to any project air permit.

Verification: The project owner shall submit any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

AQ-C5 The project owner shall submit a plan for a fireplace retrofit/wood stove replacement program to the CPM for approval. The plan must be sufficient to secure 16.38 tons per year of PM_{10} based on the project emissions during the fall and winter quarters of each year. The plan shall provide the following elements:

a) Provisions for a replacement fund to be made available on a first-come, first-serve basis to finance a five-year voluntary wood stove replacement/fireplace retrofit program. The replacement fund shall pay for the retrofit/replacement costs of current non-U.S. EPA certified fireplaces and wood stoves (up to a maximum of $1,250 for each retrofit/replacement). The fund shall be capable of being drawn upon in any year of the five year program and as allowed by conditions of certification until the fund is depleted.

b) A list of approved retailers and professional, licensed installers. Each resident participating in the retrofit/replacement program would only do business with listed retailers or installers. Payments shall only be made to vendors or contractors who agree to participate in the program and who submit certification that the retrofit/replacement is permanent (by permanent removal of the wood stove doors and proper recycling of the old stove) and conforms to program requirements.

c) A schedule for submission to the CPM of quarterly status reports on the program, the status of reimbursements, and remaining funds available. In addition, the fund shall be audited annually.

d) A description of eligibility requirements, including that, for the first three years of the program, homes and businesses located within a 15-mile radius of the proposed facility will be eligible to participate in the program. Homes and businesses within a 25-mile radius of the PPP facility would be eligible to participate in the fourth and fifth years if there are remaining funds.

e) A detailed schedule of deliverables.

Verification: No later than 60 days prior to first turbine ignition, the project owner shall provide the CPM, for approval, a copy of the wood stove replacement program, and a copy of the agreement document with the BAAQMD that describes the roles and responsibilities of the Project Owner and the BAAQMD in the wood stove replacement program.

AQ-C6 The following ERC Certificates, and the amounts specified shall be surrendered per the requirements of Condition **AQ-41**:

43.3 tons NOx from ERC Certificate 861,
11.2 tons of POC total from ERC Certificate 860 and ERC Certificate 865

Verification: At least 60 days prior to construction , the project owner/operator must surrender the ERC certificates identified above to the District and provide copies to the CPM.

The following Conditions of Certification are based upon conditions mandated by the Bay Area Air Quality Management District, which applies the conditions to each emission source of the project. Each emission source receives a separate permit number, S-1 through S-5. These are:

S-1 Combustion Gas Turbine #1, General Electric LM6000 PC SPRINT; 473.7 MM BTU per hour, equipped with water injection, abated by A-1 SCR and A-2 Oxidation Catalyst

S-2 Heat Recovery Steam Generator #1, equipped with low emission Duct Burners, 136.9 MM BTU per hour, abated by A-1 SCR and A-2 Oxidation Catalyst

S-3 Combustion Gas Turbine #2, General ElectricLM6000 PC SPRINT); 473.7 MM BTU per hour, equipped with water injection, abated by A-3 SCR and A-4 Oxidation Catalyst

S-4 Heat Recovery Steam Generator #2, equipped with low emission Duct Burners, 136.9MM BTU per hour, abated by A-3 SCR and A-4 Oxidation Catalyst

S-5 Cooling Tower, 3-Cell, 34,980 gallons per minute capacity, equipped with High Efficiency Drift Eliminators

Conditions AQ-1 through AQ-12 shall only apply during the commissioning period. Unless otherwise indicated, Conditions AQ-13 through AQ-47 shall apply after the commissioning period has ended. The applicable District rule, regulation or plan is cited in parenthesis at the end of each condition of certification, just before the verification paragraph. For definitions of the technical terms in Conditions AQ-13 through AQ-47, the reader is referred to the BAAQMD's Preliminary Determination of Compliance for the Pico Power Project.

CONDITIONS FOR THE COMMISSIONING PERIOD

AQ-1 The Owner/Operator of the Pico Power Plant shall minimize emissions of carbon monoxide and nitrogen oxides from S-1, S-3 Gas Turbines and S-2, S-4 Heat Recovery Steam Generators (HRSGs) to the maximum extent possible during the commissioning period.

Verification: The project Owner/Operator shall propose a schedule of compliance with this Condition of Certification in the Commissioning Plan required by Condition **AQ-5** and document continuing compliance with this

Condition of Certification in each Monthly Emissions Report required by Condition **AQ-11**.

AQ-2 At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the Owner/Operator shall tune the S-1 & S-3 Gas Turbine combustors and S-2 & S-4 Heat Recovery Steam Generator duct burners to minimize the emissions of carbon monoxide and nitrogen oxides.

Verification: The project Owner/Operator shall propose a schedule of compliance with this Condition of Certification in the Commissioning Plan required by Condition **AQ-5** and document continuing compliance with this Condition of Certification in each Monthly Emissions Report required by Condition **AQ-11**.

AQ-3 At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the Owner/Operator shall install, adjust, and operate the A-1 & A-3 SCR Systems and A-2 & A-4 Oxidation Catalysts to minimize the emissions of carbon monoxide and nitrogen oxides from S-1, S-3 Gas Turbines, S-2, S-4 Heat Recovery Steam Generators.

Verification: The project Owner/Operator shall propose a schedule of compliance with this Condition of Certification in the Commissioning Plan required by Condition AQ-5 and document continuing compliance with this Condition of Certification in each Monthly Emissions Report required by Condition **AQ-11**.

AQ-4 Coincident with the steady-state operation of A-1 & A-3 SCR Systems and A-2 & A-4 Oxidation Catalysts pursuant to Conditions **AQ-3**, **AQ-8**, and **AQ-9** the Owner/Operator shall operate the Gas Turbines (S-1 & S-3) and the HRSGs (S-2 & S-4) in such a manner as to comply with the NO_x and CO emission limitations specified in Conditions

Verification: Coincident with the as-designed operation of A-1 and A-2 SCR Systems, pursuant to Conditions **AQ-3**, **AQ-10**, **AQ-11**, and **AQ-12**, the Gas Turbines (S-1 and S-3) and the HRSGs (S-2 and S-4) the Owner/Operator shall operate the facility in a manner such that comply with the NO_x and CO emission limitations specified in Conditions **AQ-20(a)** through **AQ-20(d)**.

AQ-5 The Owner/Operator of Pico Power Plant shall submit a plan to the District Permit Services Division and the CEC Compliance Project Manager (CPM) at least four weeks prior to first firing of S-1 or S-3 Gas Turbines describing the procedures to be followed during the commissioning of the turbines, HRSGs, and steam turbine. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the gas turbine combustors, water injection system, and the duct burners associated with the HRSGs; the installation and operation of the required

emission control systems; the installation, calibration, and testing of the CO and NO_x continuous emission monitors; and any activities requiring the firing of the Gas Turbines (S-1 & S-3), HRSGs (S-2 & S-4), without abatement by their respective SCR Systems (A-1 & A-3) and/or Oxidation Catalysts (A-2 & A-4). The Owner/Operator shall not fire any of the Gas Turbines (S-1 & S-3) sooner than 28 days after the District receives the commissioning plan.

Verification: The project Owner/Operator shall submit a Commissioning Plan to the District Permit Services Division and the CPM for approval at least four (4) weeks prior to first fire of S-1, S-2, S-3 and S-4.

AQ-6 During the commissioning period, the Owner/Operator of Pico Power Plant shall demonstrate compliance with Conditions **AQ-**10 and **AQ-**11 through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:

firing hours
fuel flow rates
stack gas nitrogen oxide emission concentrations,
stack gas carbon monoxide emission concentrations
stack gas oxygen concentrations.

The monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the Gas Turbines (S-1 & S-3), and HRSGs (S-2 & S-4). The Owner/Operator shall use District-approved methods to calculate heat input rates, nitrogen dioxide mass emission rates, carbon monoxide mass emission rates, and NO_x and CO emission concentrations, summarized for each clock hour and each calendar day. The Owner/Operator shall retain records on site for at least 5 years from the date of entry and make such records available to District personnel upon request.

Verification: The project Owner/Operator shall propose a schedule of compliance with this Condition of Certification in the Commissioning Plan required by Condition **AQ-5** and document continuing compliance with this Condition of Certification in each Monthly Emissions Report required by Condition **AQ-11**.

AQ-7 The Owner/Operator shall install, calibrate, and operate the District-approved continuous monitors specified in Condition **AQ-**6 prior to first firing of the Gas Turbines (S-1& S-3), and Heat Recovery Steam Generators (S-2 & S-4). After first firing of the gas turbines, the Owner/Operator shall adjust the detection range of these continuous emission monitors as necessary to accurately measure the resulting range of CO and NO_x emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval.

Verification: The project Owner/Operator shall notify the District and CPM of the date of expected first fire at least 30 days prior to first fire and shall make

the project site available for inspection if desired by either the District or CPM. The project Owner/Operator shall propose a schedule of compliance with this Condition of Certification in the Commissioning Plan required by Condition **AQ-5** and document continuing compliance with this Condition of Certification in each Monthly Emissions Report required by Condition **AQ-11**.

AQ-8 The Owner/Operator shall not fire the S-1 Gas Turbine and S-2 Heat Recovery Steam Generator without abatement of nitrogen oxide emissions by A-1 SCR System and/or abatement of carbon monoxide emissions by A-2 Oxidation Catalyst for more than 300 hours during the commissioning period. Such operation of S-1 Gas Turbine and S-2 HRSG without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system and/or oxidation catalyst in place. Upon completion of these activities, the Owner/Operator shall provide written notice to the District Permit Services and Enforcement Divisions and the unused balance of the 300 firing hours without abatement shall expire.

Verification: The project Owner/Operator shall submit documentation of compliance with this Condition of Certification in the Monthly Emissions Report required by Condition **AQ-11**.

AQ-9 The Owner/Operator shall not fire the S-3 Gas Turbine and S-4 Heat Recovery Steam Generator without abatement of nitrogen oxide emissions by A-3 SCR System and/or abatement of carbon monoxide emissions by A-4 Oxidation Catalyst for more than 300 hours during the commissioning period. Such operation of S-3 Gas Turbine and S-4 HRSG without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system and/or oxidation catalyst in place. Upon completion of these activities, the Owner/Operator shall provide written notice to the District Permit Services and Enforcement Divisions and the unused balance of the 300 firing hours without abatement shall expire.

Verification: The project Owner/Operator shall submit documentation of compliance with this Condition of Certification in the Monthly Emissions Report required by Condition **AQ-11**.

AQ-10 The total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM_{10}, and sulfur dioxide that are emitted by the Gas Turbines (S-1 & S-3) and Heat Recovery Steam Generators (S-2 & S-4) during the commissioning period shall accrue towards the consecutive 12-month emission limitations specified in Condition **AQ-23**.

Verification: The project Owner/Operator shall submit documentation of compliance with this Condition of Certification in the Monthly Emissions Report required by Condition **AQ-11**.

AQ-11 The Owner/Operator shall not operate the Gas Turbines (S-1 & S-3) and Heat Recovery Steam Generators (S-2 & S-4) in a manner such that the combined pollutant emissions from these sources will exceed the following limits

during the commissioning period. These emission limits shall include emissions resulting from the startup and shutdown of the Gas Turbines (S-1 & S-3).

NO_x (as NO_2)	358.9 pounds per calendar day	18 pounds per hour
CO	377.9 pounds per calendar day	45 pounds per hour
POC (as CH_4)	71.9 pounds per calendar day	
PM_{10}	197.8 pounds per calendar day	
SO_2	18.2 pounds per calendar day	

Verification: During the Commissioning Period, as defined in the district FDOC, the project Owner/Operator shall submit to the CPM for approval, a Monthly Emissions Report that includes, but is not limited to, fuel use, turbine operation, post combustion control operation, ammonia use and CEM readings on an hourly and daily basis. The Monthly Emissions Report for each month must be submitted by the 15th (or the following Monday if the 15th is a Saturday or Sunday) of the following month.

AQ-12 Prior to the end of the Commissioning Period, the Owner/Operator of the Pico Power Plant shall conduct a District and CEC approved source test using external continuous emission monitors to determine compliance with the limitations specified in Condition **AQ-21**. The source test shall determine NO_x, CO, and POC emissions during startup and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three startup and three shutdown periods. Thirty working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CEC Compliance Project Manager (CPM) a detailed source test plan designed to satisfy the requirements of this Condition. The District and the CEC CPM will notify the Owner/Operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The Owner/Operator shall incorporate the District and CEC CPM comments into the test plan. 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 60 days of the source testing date.

Verification: No later than 20 working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this Condition. The District and the CPM will notify the Owner/Operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The Owner/Operator shall incorporate the District and CPM comments into the test plan. The Owner/Operator shall notify the District and the CPM within 7 working days prior to the planned source testing date. Source test results shall be submitted to the District and the CPM within 30 days of the source testing date.

CONDITIONS FOR THE GAS TURBINES (S-1 & S-3) AND THE HEAT RECOVERY STEAM GENERATORS (HRSGs; S-2 & S-4)

AQ-13 The Owner/Operator shall fire the Gas Turbines (S-1 & S-3) and HRSG Duct Burners (S-2 & S-4) exclusively with natural gas. (BACT for SO_2 and PM_{10})

Verification: A detailed report of fuel use and equipment operation shall be included in the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-14 The Owner/Operator shall not operate the units such that the combined heat input rate to each power train consisting of a Gas Turbine and its associated HRSG (S-1 & S-2 and S-3 & S-4) exceeds 610.6 MM BTU (HHV) per hour, averaged over any rolling 3-hour period. (BACT and Cumulative Increase)

Verification: A detailed report of fuel use and equipment operation shall be included in the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-15 The Owner/Operator shall not operate the units such that the combined heat input rate to each power train consisting of a Gas Turbine and its associated HRSG (S-1 & S-2 and S-3 & S-4) exceeds 13,559.2 MM BTU (HHV) per calendar day. (BACT and Cumulative Increase)

Verification: A detailed report of fuel use and equipment operation shall be included in the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-16 The Owner/Operator shall not operate the units such that the combined cumulative heat input rate for the Gas Turbines (S-1 & S-3) and the HRSGs (S-2 & S-4) exceeds 8,682,544 MM BTU (HHV) per year. (Offsets and Cumulative Increase)

Verification: A detailed report of fuel use and equipment operation shall be included in the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-17 The Owner/Operator shall not fire the HRSG duct burners (S-2 & S-4) unless its associated Gas Turbine (S-1 & S-3 respectively) is in operation.

Verification: The project Owner/Operator shall make the project site available for inspection at any time by representatives of the District, ARB, U.S. EPA and CEC.

AQ-18 The Owner/Operator shall ensure that the S-1 Gas Turbine and S-2 HRSG are abated by the properly operated and properly maintained A-1 Selective Catalytic Reduction (SCR) System whenever fuel is combusted at those sources and the A-1 SCR catalyst bed has reached minimum operating temperature. (BACT for NO_x)

Verification: The project Owner/Operator shall make the project site available for inspection at any time by representatives of the District, ARB, U.S. EPA and CEC.

AQ-19 The Owner/Operator shall ensure that the S-3 Gas Turbine and S-4 HRSG are abated by the properly operated and properly maintained A-3 Selective Catalytic Reduction (SCR) System whenever fuel is combusted at those sources and the A-3 SCR catalyst bed has reached minimum operating temperature. (BACT for NO_x)

Verification: The project Owner/Operator shall make the project site available for inspection at any time by representatives of the District, ARB, U.S. EPA and CEC.

AQ-20 The Owner/Operator shall ensure that the Gas Turbines (S-1 & S-3) and HRSGs (S-2 & S-4) comply with requirements (a) through (i) under all operating scenarios, including duct burner firing mode and power augmentation mode. Requirements (a) through (i) do not apply during a gas turbine start-up or shutdown. (BACT and Toxic Risk Management Policy)

(a) The nitrogen oxide (NO_x) emission concentration at emission points P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O_2, averaged over any 1-hour period. (BACT for NO_x)

(b) Nitrogen oxide mass emissions (calculated as NO_2) at P-1 (the combined exhaust point for S-1 Gas Turbine and S-2 HRSG after abatement by A-1 SCR System) shall not exceed 4.49 pounds per hour. Nitrogen oxide mass emissions (calculated as NO_2) at P-2 (the combined exhaust point for S-3 Gas Turbine and S-4 HRSG after abatement by A-3 SCR System) shall not exceed 4.49 pounds per hour. (BACT for NO_x)

(c) The carbon monoxide emission concentration at P-1 and P-2 each shall not exceed 4.0 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 3-hour period. (BACT for CO)

(d) Carbon monoxide mass emissions at P-1 and P-2 each shall not exceed 5.47 pounds per hour, averaged over any rolling 3-hour period.

(e) Ammonia (NH_3) emission concentrations at P-1and P-2 each shall not exceed 10 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 3-hour period. This ammonia emission concentration shall be verified by the continuous recording of the ammonia injection rate to A-1 and A-3 SCR Systems. The correlation between the gas turbine and HRSG heat input rates, A-1 and A-3 SCR System ammonia injection rates, and corresponding ammonia emission concentration at emission points P-1 and P-2 shall be determined in accordance with Condition **AQ-30**. (Toxic Risk Management Policy for NH_3)

(f) Precursor organic compound (POC) mass emissions (as CH_4) at P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O_2, averaged over any rolling 3-hour period. (BACT for POC)

(g) Precursor organic compound (POC) mass emissions (as CH_4) at P-1 and P-2 each shall not exceed 1.56 pounds per hour or 0.00255 lb/MM BTU of natural gas fired. (BACT for POC)

(h) Sulfur dioxide (SO_2) mass emissions at P-1 and P-2 each shall not exceed 0.41 pounds per hour or 0.000676 lb/MM BTU of natural gas fired. (BACT for SO_2)

(i) Particulate matter (PM_{10}) mass emissions at P-1and P-2 each shall not exceed 3.0 pounds per hour when the HRSG duct burners are not in operation. Particulate matter (PM_{10}) mass emissions at P-1 and P-2 each shall not exceed 4.3 pounds per hour when HRSG duct burners are in operation. (BACT for PM_{10})

Compliance with the hourly NO_x emission limitations specified in Condition **AQ-25(a)** and **AQ-25(b)**, at both P1 and P2, shall not be required during short-term excursions, limited to a cumulative total of 160 hours per rolling 12 month period. Short-term excursions are defined as 15-minute periods designated by the Owner/Operator that are the direct result of transient load conditions, not to exceed four consecutive 15-minute periods, when the 15-minute average NOx concentration exceeds 2.0 ppmv, dry @ 15% O_2. Examples of transient load conditions include, but are not limited to the following:

(1) Initiation/shutdown of combustion turbine inlet air cooling

(2) Initiation/shutdown of combustion turbine water mist or steam injection for power augmentation

(3) Rapid combustion turbine load changes

(4) Initiation/shutdown of HRSG duct burners

(5) Provision of Ancillary Services and Automatic Generation Control at the direction of the California Independent System Operator (Cal-ISO)

The maximum 1-hour average NO_x concentration for short-term excursions at P-1 and P-2 each shall not exceed 5 ppmv, dry @ 15 percent O_2 or 11.2 lb/hr (2.80 lb per 15 minute period). All emissions during short-term excursions shall be included in all calculations of hourly, daily and annual mass emission rates as required by this permit.

Verification: The project Owner/Operator shall submit documentation of compliance with all emission limits specified in this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-21 The Owner/Operator shall ensure that the regulated air pollutant mass emission rates from each of the Gas Turbines (S-1 & S-3) during a startup or a shutdown does not exceed the respective limits established below.

	Start-Up (lb/hr)	Shutdown (lb/hr)
Oxides of Nitrogen (as NO_2)	41	8
Carbon Monoxide (CO)	35	10
Precursor Organic Compounds (as CH_4)	2	1
Particulate Matter (PM_{10})	3	3

Verification: The project Owner/Operator shall submit documentation of compliance with the emission limits in this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

Conditions for All Sources

AQ-22 The Owner/Operator shall not allow total combined emissions from the Gas Turbines and HRSGs (S-1 & S-2 and S-3 & S-4) including emissions generated during Gas Turbine startups and shutdowns and transient excursions to exceed the following limits during any calendar day:

(a) 358.9 pounds of NO_x (as NO_2) per day

(b) 377.9 pounds of CO per day

(c) 71.9 pounds of POC (as CH_4) per day

(d) 197.8 pounds of PM_{10} per day

(e) 18.2 pounds of SO_2 per day

Verification: The project Owner/Operator shall submit documentation of compliance with all emission limits specified in this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-23 The Owner/Operator shall not allow cumulative combined emissions from the Gas Turbines and HRSGs (S-1 & S-2 and S-3 & S-4) including emissions generated during Gas Turbine startups and shutdowns and transient excursions to exceed the following limits during any consecutive 12-month period:

(a) 43.3 tons of NO_x (as NO_2) per year

(b) 48.4 tons of CO per year

(c) 11.2 tons of POC (as CH_4) per year

(d) 28.1 tons of PM_{10} per year

(e) 2.93 tons of SO_2 per year

(Offsets and Cumulative Increase)

Verification: The project Owner/Operator shall submit documentation of compliance with all emission limits specified in this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-24 The Owner/Operator shall not allow the combined heat input rate to the Gas Turbines and HRSGs (S-1 & S-2 and S-3 & S-4) to exceed 27,118.4 MMBTU per calendar day.

Verification: A detailed report of fuel use and equipment operation shall be included in the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-25 The Owner/Operator shall not allow the cumulative heat input rate to the Gas Turbines and HRSGs (S-1, S-2, S-3, S-4) combined to exceed 8,682,544.0 MMBTU per year.

Verification: A detailed report of fuel use and equipment operation shall be included in the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-26 The Owner/Operator shall not allow the maximum projected annual toxic air contaminant emissions (per Condition **AQ-29** and **AQ-33**) from the Gas Turbines and HRSGs (S-1 & S-2 and S-3 & S-4) combined to exceed the following limits:

acetaldehyde	1,155	pounds per year
formaldehyde	2,706	pounds per year
benzene	112	pounds per year
Specified PAHs	0.71	pound per year

unless the following requirement is satisfied:

The Owner/Operator shall perform a health risk assessment to determine the total facility risk using the emission rates determined by District approved source testing 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 risk analysis shall be submitted to the District and the CEC Compliance Project Manager (CPM) within 60 days of the source test date. The Owner/Operator may request that the District and the CEC 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 not result in a significant cancer risk, the District and the CEC CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (Toxic Risk Management Policy)

Verification: If prepared, the health risk analysis shall be submitted to the District and the CPM within 60 days of the source test date. Otherwise, the project Owner/Operator shall submit documentation of compliance with all

emission limits specified in this Condition of Certification as part of the January 30 Quarterly Air Quality Report each year required by the verification of Condition **AQ-34**.

AQ-27 The Owner/Operator shall demonstrate compliance with Conditions **AQ-14** through **AQ-17**, **AQ-20(a)** through **AQ-20(d)**, **AQ-21**, **AQ-22(a)**, **AQ-22(b)**, **AQ-23(a)**, and **AQ-23(b)** by using properly operated and maintained continuous monitors (during all hours of operation including equipment Start-up and Shutdown periods) for all of the following parameters:

(a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1 & S-2 combined, S-3 & S-4 combined.

(b) Oxygen (O_2) concentration, nitrogen oxides (NO_x) concentration, and carbon monoxide (CO) concentration at each of the following exhaust points:
P-1 and P-2.

(c) Ammonia injection rate at A-1 and A-3 SCR Systems

(d) Any transient load conditions recorded in **AQ-27(a)** above and as described in **AQ-20(j)** shall be fully characterized and recorded on a quarter hour (15-minute period) basis.

The Owner/Operator shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the Owner/Operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and pollutant emission concentrations.

The Owner/Operator shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:

(e) Heat Input Rate for each of the following sources: S-1 & S-2 combined and S-3 & S-4 combined.

(f) Corrected NO_x concentration, NO_x mass emission rate (as NO_2), corrected CO concentration, and CO mass emission rate at each of the following exhaust points: P-1 and P-2.

For each source, source grouping, or exhaust point, the Owner/Operator shall record the parameters specified in Conditions **AQ-27(e)** and **AQ-27(f)** at least once every 15 minutes (excluding normal calibration periods). As specified below, the Owner/Operator shall calculate and record the following data:

(g) Total Heat Input Rate for every clock hour and the average hourly Heat Input Rate for every rolling 3-hour period.

(h) On an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and associated HRSG combined and all four sources (S-1, S-2, S-3, and S-4) combined.

(i) The average NO_x mass emission rate (as NO_2) and corrected NO_x emission concentration for every clock hour and for every quarter hour (15-minute) period.

(j) The average CO mass emission rate and corrected CO emission concentration for every clock hour and for every rolling 3-hour period.

(k) On an hourly basis, the cumulative total NO_x mass emissions (as NO_2) and the cumulative total CO mass emissions, for each calendar day for each Gas Turbine and associated HRSG combined, and all four sources (S-1, S-2, S-3, and S-4) combined.

(l) For each calendar day, the average hourly Heat Input Rates, Corrected NO_x emission concentration, NO_x mass emission rate (as NO_2), corrected CO emission concentration, and CO mass emission rate for each Gas Turbine and associated HRSG combined

(m) On a daily basis, the cumulative total NO_x mass emissions (as NO_2) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all four sources (S-1, S-2, S-3, and S-4) combined.

(Regulation 1-520.1, 9-9-501, BACT, NSPS, Cumulative Increase)

Verification: The project Owner/Operator shall submit documentation of each of the parameters specified in this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-28 To demonstrate compliance with Conditions **AQ-20(f)**, **AQ-20(g)**, **AQ-20(h)**, **AQ-20(i)**, **AQ-21**, **AQ-22(c)** through **AQ-22(e)**, and **AQ-23(c)** through **AQ-23(e)**, the Owner/Operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM_{10}) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO_2) mass emissions from each power train. The Owner/Operator shall use the actual Heat Input Rates calculated pursuant to Condition **AQ-27**, actual Gas Turbine Start-up Times, actual Gas Turbine Shutdown Times, and CEC and District-approved emission factors to calculate these emissions. The calculated emissions shall be presented as follows:

(a) For each calendar day, POC, PM_{10}, and SO_2 emissions shall be summarized for: each power train (Gas Turbine and its respective HRSG combined) and all four sources (S-1, S-2, S-3, and S-4) combined.

(b) on a daily basis, the cumulative total POC, PM_{10}, and SO_2 mass emissions, for each year for all four sources (S-1, S-2, S-3, and S-4) combined.

(Offsets, Cumulative Increase)

Verification: The project Owner/Operator shall submit documentation of each of the parameters specified in this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-29 To demonstrate compliance with Condition **AQ-26**, the Owner/Operator shall calculate and record on an annual basis the maximum projected annual emissions of: acetaldehyde, formaldehyde, benzene, and Specified PAHs. Maximum projected annual emissions shall be calculated using the maximum Heat Input Rate of 8,682,544 MMBTU/year and the highest emission factor (pounds of pollutant per MMBTU of heat input) determined by any District approved source test of the S-1 and S-3 Gas Turbines and/or S-2 and S-4 Heat Recovery Steam Generators. If the highest emission factor for a given pollutant occurs during minimum-load turbine operation, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions to reflect the reduced heat input rates during gas turbine start-up and minimum-load operation. The reduced annual heat input rate shall be subject to District review and approval. (Toxic Risk Management Policy).

Verification: The project Owner/Operator shall submit documentation of each of the parameters specified in this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-30 Within 60 days of start-up of the Pico Power Plant, the Owner/Operator shall conduct District-approved source tests on exhaust point P-1 and P-2 to determine the corrected ammonia (NH_3) emission concentration to determine compliance with Condition **AQ-20(e)**. The source test shall determine the correlation between the heat input rates of each gas turbine (S-1 and S-3) and associated HRSG (S-2 and S-4), A-1, and A-3 SCR System ammonia injection rates, and the corresponding NH_3 emission concentrations at emission point P-1 and P-2. The source tests shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to, minimum and full load, and SPRINT power augmentation mode) to establish the range of ammonia injection rates necessary to achieve required NO_x emission reductions while maintaining ammonia slip levels. Source testing shall be repeated on an annual basis thereafter. Ongoing compliance with Condition **AQ-20(e)** shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate. Source test results shall be submitted to the District and the CEC Compliance Project Manager within 90 days of conducting the tests. (Toxic Risk Management Policy)

Verification: Initial source testing shall be completed within 60 days of start-up. No later than 20 working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this Condition. The District and the CPM will notify the Owner/Operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The Owner/Operator shall incorporate the District and CPM comments into the test plan. The Owner/Operator shall notify the District and the CPM within 7 working days prior to the planned source testing date. Source test results shall be submitted to the District and the CPM within 60 days of the source testing date.

AQ-31 Within 90 days of start-up of the Pico Power Plant and on an annual basis thereafter, the Owner/Operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum load (including SPRINT power augmentation mode) to determine compliance with Conditions **AQ-20(a)**, **(b)**, **(c)**, **(d)**, **(f)**, **(g)**, **(h)**, and **(i)** while each Gas Turbine and associated Heat Recovery Steam Generator are operating at minimum load to determine compliance with Conditions **AQ-20(c)** and **(d),** and to verify the accuracy of the continuous emission monitors required in Condition **AQ-27**. The Owner/Operator shall test for (at a minimum): water content, stack gas flow rate, oxygen concentration, precursor organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO_2), carbon monoxide concentration and mass emissions, sulfur dioxide concentration and mass emissions, methane, ethane, and particulate matter (PM_{10}) emissions including condensable particulate matter. Source test results shall be submitted to the District and the CEC Compliance Project Manager within 60 days of conducting the tests. (BACT)

Verification: Initial source testing shall be completed within 60 days of start-up. No later than 20 working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this Condition. The District and the CPM will notify the Owner/Operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The Owner/Operator shall incorporate the District and CPM comments into the test plan. The Owner/Operator shall notify the District and the CPM within 7 working days prior to the planned source testing date. Source test results shall be submitted to the District and the CPM within 60 days of the source testing date.

AQ-32 The Owner/Operator shall obtain approval for all source test procedures from the District's Source Test Section and the CEC Compliance Project Manager (CPM) prior to conducting any tests. The Owner/Operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. The Owner/Operator shall notify the District's Source Test Section and the CEC CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated in Condition **AQ-31** above, the Owner/Operator shall measure and include the contribution of condensable PM (back half) to the total PM_{10} emissions. However, the Owner/Operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds. Source test results shall be submitted to the District and the CEC CPM within 60 days of conducting the tests. (BACT)

Verification: The project Owner/Operator shall submit documentation of the procedures and results of each source test conducted as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-33 Within 90 days of start-up of the Pico Power Plant, the Owner/Operator shall conduct a District-approved source tests on exhaust point P-1 and P-2 while the Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum allowable operating rates to demonstrate compliance with Condition **AQ-26**. (Toxic Risk Management Policy)

Verification: Initial source testing shall be completed within 60 days of start-up. No later than 20 working days before the execution of the source tests, the Owner/Operator shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this Condition. The District and the CPM will notify the Owner/Operator of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved. The Owner/Operator shall incorporate the District and CPM comments into the test plan. The Owner/Operator shall notify the District and the CPM within 7 working days prior to the planned source testing date. Source test results shall be submitted to the District and the CPM within 60 days of the source testing date.

AQ-34 The Owner/Operator of the Pico Power Plant shall submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures and time limits specified in the District Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual. (Regulation 2-6-502)

Verification: The project Owner/Operator shall submit a Quarterly Air Quality Report (QAQR) for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year. Each QAQR shall include, but not be limited to, a compliance matrix, a summary of operations activities, and a summary of all reports covered by this Condition. The January 30 report for each year shall include an annual summary of the four Quarterly Air Quality Reports covering the preceding calendar year. The QAQR shall be submitted to the California Energy Commission Compliance Project Manager (CPM).

AQ-35 The Owner/Operator of the Pico Power Plant shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The Owner/Operator shall make all records and reports available to District and the CEC Compliance Project Manager staff upon request. (Regulation 2-6-501)

Verification: The project Owner/Operator shall maintain a copy of each Quarterly Air Quality Report on site for a minimum of 5 years.

AQ-36 The Owner/Operator of the Pico Power Plant shall notify the District and the CEC Compliance Project Manager of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with

all applicable District Rules, Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the Owner/Operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition. (District Regulation 2-1-403)

Verification: The Owner/Operator shall include a compliance matrix in the Quarterly Air Quality Report required by the verification of Condition **AQ-34**. The Compliance Matrix shall summarizing the project's compliance status for each Condition during the reporting period.

AQ-37 The Owner/Operator shall ensure that the stack height of emission points P-1 and P-2 is each at least 95 feet above grade level at the stack base. (Toxic Risk Management Policy)

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

AQ-38 The Owner/Operator of the Pico Power Plant shall provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall comply with the District Manual of Procedures, Volume IV, Source Test Policy and Procedures, and shall be subject to BAAQMD review and approval. (Regulation 1-501)

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

AQ-39 Within 180 days of the issuance of the Authority to Construct for the Pico Power Plant, the Owner/Operator shall contact the BAAQMD Technical Services Division regarding requirements for the continuous emission monitors, sampling ports, platforms, and source tests required by Conditions **AQ-27**, **AQ-30**, **AQ-31**, **AQ-32**, **AQ-33**, **AQ-38**, and **AQ-45**. All source testing and monitoring shall be conducted in accordance with the BAAQMD Manual of Procedures. (Regulation 1-501)

Verification: The project Owner/Operator shall submit documentation of compliance with this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-40 Prior to the issuance of the BAAQMD Authority to Construct for the Pico Power Plant, the Owner/Operator shall demonstrate that valid emission reduction credits in the amount of 43.3 tons/year of Nitrogen Oxides (as defined by District Regulation 2-2-302) are under their control through enforceable contracts, option to purchase agreements, or equivalent binding legal documents. (Offsets)

Verification: The project Owner/Operator must submit all ERC documentation to the District and the CPM prior to the issuance of the BAAQMD Authority to Construct.

AQ-41 Prior to the start of construction of the Pico Power Plant, the Owner/Operator shall provide to the District valid emission reduction credit banking certificates in the amount of 43.3 tons/year of Nitrogen Oxides or equivalent as defined by District Regulations 2-2-302 and 2-2-302.2. (Offsets)

Verification: The project Owner/Operator must surrender all ERC certificates to the District and provide copies to the CPM prior to the start of construction.

AQ-42 Pursuant to BAAQMD Regulation 2, Rule 6, section 404.1, the Owner/Operator of the Pico Power Plant shall submit an application to the BAAQMD for a major facility review permit within 12 months of completing construction as demonstrated by the first firing of any gas turbine or HRSG duct burner. (Regulation 2-6-404.1)

Verification: The Owner/Operator shall notify the CPM within 10 working days of any application for, issuance of, and/or modification to any permit pertaining to air quality.

AQ-43 Pursuant to 40 CFR Part 72.30(b)(2)(ii) of the Federal Acid Rain Program, the Owner/Operator of the Pico Power Plant shall submit an application for a Title IV operating permit to the BAAQMD at least 24 months before operation of any of the gas turbines (S-1, S-3) or HRSGs (S-2, S-4). (Regulation 2, Rule 7)

Verification: The Owner/Operator shall notify the CPM within 10 working days of any application for, issuance of, and/or modification to any permit pertaining to air quality.

AQ-44 The Owner/Operator of the Pico Power Plant shall comply with the continuous emission monitoring requirements of 40 CFR Part 75. (Regulation 2, Rule 7)

Verification: The project Owner/Operator shall submit documentation of compliance with this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

AQ-45 The Owner/Operator shall take monthly samples of the natural gas combusted at the Pico Power Plant. The samples shall be analyzed for sulfur content using District-approved laboratory methods. The sulfur content test results shall be retained on site for a minimum of five years from the test date and shall be utilized to satisfy the requirements of 40 CFR Part 60, subpart GG.

Verification: The project Owner/Operator shall submit documentation of compliance with this Condition of Certification as part of the Quarterly Air Quality Report required by the verification of Condition **AQ-34**.

B. PUBLIC HEALTH

This analysis is to determine whether a significant health risk would result from public exposure to the chemicals and combustion by-products that are routinely emitted from the project during operations. The issue of possible worker exposure is addressed in the Worker Safety and Fire Protection section of the Decision. The health significance of exposure to EMF, is addressed in the Transmission Line Safety and Nuisance (TLSN) section.

SUMMARY OF THE EVIDENCE

Applicant's witness Richard Booth sponsored written testimony and sponsored portions of the AFC (Ex., 19, Ex. 1, p. 8.9-1 to 8.9-17; and 5/7 RT 25 to 26). Mr. Booth testified that the project will comply with all applicable LORS. Furthermore, Mr. Booth noted that the project would have no significant adverse impacts upon public health in the area. He supported these conclusions with the analyses contained in the AFC (Ex. 1, Section 8.9) and written testimony (Ex. 19).

Staff testimony sponsored by Obed Odoemelam, agreed with Applicant's conclusion as a result of the separate Staff analysis of the project. (Ex. 29, p. 4.6-9). The Staff witness evaluated a number of noncriteria pollutants with respect to noncancer effects as well as several with regard to a possible cancer risk. The discussion of criteria pollutants, or those pollutants for which ambient air quality standards have been established, is contained in the Air Quality section.

The accepted method used by state regulatory agencies in assessing the significance for both acute and chronic noncarcinogenic public health effects is known as the hazard index method. A maximum chronic hazard index of 0.014 was calculated for the maximally exposed individual while an acute hazard index of 0.205 was calculated for the same individual (Ex. 29, p. 4.6-9). These indices are significantly below the levels of potential health significance, indicating that no significant health impacts would be associated with the project's noncriteria

pollutants. (Ex. 29, p. 4.6-9 and 4.6-10). The highest combined cancer risk was estimated to be 0.133 in a million for an individual at the point of maximum impact. (Ex. 29, p. 4.6-10).

This risk was calculated using existing procedures, in which it is assumed that the individual would be exposed at the highest possible levels to all the carcinogenic pollutants from the project for 70 years. This risk value is significantly below Staff's significance criterion, meaning that the project's carcinogenic emissions would not pose a significant cancer risk anywhere in the project area. (*Id*.).

Cooling Tower-Related Risk of Legionnaire's Disease

In addition to toxic air contaminants, the possibility exists for bacterial growth to occur in the cooling tower, including Legionella. Any project-related risk of Legionnaires' disease (Legionellosis) would result from inhalation exposure to the causative agent, Legionella pneumophila, a bacterium that is common in the general environment. According to the available literature, any significant risk of specific outbreaks is related to uncontrolled growth in standing water followed by exposure at an infective dose, which differs according to the individual's susceptibility to microbial infection in general. The available information shows that most outbreaks in the United States occur in cases of either high-level exposure from uncontrolled growth and multiplication in inadequately treated cooling system water, or relatively low-level exposure to individuals with reduced resistance to microbial infections. (Ex. 29, p. 4.6-10). To address this concern Staff recommended Condition of Certification PUBLIC HEALTH-1. The Staff proposed Condition of Certification is intended to ensure the effective maintenance and bactericidal action necessary during the operation of the PPP's cooling tower. (Ex. 29, p. 4.6-12).

The Staff witness concluded that the toxic air emissions from the operation of the proposed natural gas-burning PPP would be at levels that do not require mitigation beyond that already proposed by the Applicant. The conditions for ensuring compliance with all applicable air quality standards are specified in the Air Quality section for the area's problem criteria pollutants. The potential impacts from construction-related toxic exposures would be minimized through compliance with related conditions in the Air Quality and Waste Management sections. Implementation of staff's proposed condition of certification (PUBLIC HEALTH-1) to reduce the likelihood of Legionella growth would ensure that the risk of Legionella growth dispersion is reduced to levels of insignificance.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted record and assuming the implementation of the Conditions of Certification contained in this Decision, we find as follows:

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

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

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

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

5. Application of the hazard index method reveals that emission of non-criteria pollutants from the PPP will not cause acute or chronic adverse public effects.

6. Cumulative impacts from noncriteria pollutants are not expected to be significant.

7. The maximum cancer risk associated with the project is less than one-fifth of the one-in-one million significance threshold commonly accepted for risk analysis purposes.

8. Emissions from the construction, operation and closure of the proposed natural gas-burning PPP will not have a significant negative impact on the public health of the surrounding population or make any significant contribution to any local exposure of a cumulative nature.

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

CONDITIONS OF CERTIFICATION

Public Health-1 The project owner shall develop and implement a cooling tower Biocide Use, Bio-film Prevention, and Legionella Monitoring Program to ensure that the potential for bacterial growth is kept to an absolute minimum. This Program shall include weekly monitoring of biocide and chemical bio-film prevention agents, periodic maintenance of the cooling water system on a quarterly basis to remove bio-film buildup, and quarterly testing to determine the concentrations of the Legionella bacterium in the cooling water.

Verification: At least 60 days prior to the commencement of cooling tower operations, the project owner shall submit the Biocide Use, Biofilm Prevention, and Legionella Monitoring Program to the CPM for review and approval.

C. HAZARDOUS MATERIALS MANAGEMENT

The purpose of the analysis in this area is to determine if the PPP will result in the potential for a significant impact on the public resulting from the use, handling or storage of hazardous materials at the proposed facility. If significant adverse impacts on the public are identified, the Energy Commission must also evaluate design alternatives and additional mitigation measures to reduce any impacts to the extent feasible.

SUMMARY OF THE EVIDENCE

Douglas Urry sponsored testimony on behalf of the Applicant in this area. His testimony established that project construction and operation waste streams were evaluated as well as plans for the collection, disposal, and recycling of these wastes. Details of the analysis are found in the AFC (Ex. 1, Section 8.5) and written testimony. (Ex. 15; 5/7 RT pp. 20 to 21) Mr. Urry concluded that the project will comply with all applicable LORS concerning the handling of hazardous materials. Furthermore, Mr. Urry stated that, with the Conditions of Certification proposed by Staff, the project will not have any significant adverse impacts on the environment due to the use and handling of hazardous materials (Ex. 15).

The analysis of the Staff was conducted by Staff witnesses Geoff Lesh and Rick Tyler, who presented this analysis in testimony. (Ex. 29, Section 4.3; Ex. 30, pp. 2-3 to 2-5; Ex. 32, p. 2-1) Staff witnesses noted that a variety of hazardous materials are proposed for storage and use during the construction of the project and for routine plant operation and maintenance, as described in the AFC in Tables 8.5-3. Most of these hazardous materials are stored in smaller quantities, such as mineral and lubricating oils, corrosion inhibitors and water conditioners. These materials pose no significant potential for off-site impacts as a result of the quantities onsite, their relative toxicity, and/or their environmental mobility. Large quantities of aqueous ammonia (19% solution), sulfuric acid, sodium hypochlorite, and sodium hydroxide will be stored on-site. Of these, only aqueous

ammonia has sufficient vapor pressure to potentially cause off-site impacts. Although no natural gas is stored at the site, the project will involve the construction and operation of a natural gas pipeline and handling of large amounts of natural gas (Ex. 29, p. 4.3-8 to 4.3-10).

SCR is proposed to reduce NOx emissions to meet the BAAQMD's air quality permit requirements. The project's use of aqueous ammonia, rather than the more hazardous anhydrous form, eliminates the high internal energy associated with the more lethal anhydrous ammonia, which is stored as a liquefied gas at elevated pressure (Ex. 29, p. 4.3-7).

Additionally, the accidental mixing of sodium hypochlorite with acids or aqueous ammonia could result in toxic gases. Given the volumes of both aqueous ammonia (10,000 gallons) and sodium hypochlorite (400 gallons) proposed for storage at this facility, the chances for accidental mixing of the two—particularly during transfer from delivery vehicles to storage tanks—should be reduced as much as possible. Thus, measures to prevent such mixing are extremely important and will be required as an additional section within a Safety Management Plan for delivery of aqueous ammonia (see Condition of Certification HAZ-3) (Ex. 29, p. 4.3-6).

Approximately 2,000 gallons of 93 percent sulfuric acid will be used and stored on-site. This material does not pose a risk of off-site impacts, because it has relatively low vapor pressures and thus spills would be confined to the site. However, in order to protect against risk of fire, an additional Condition of Certification (see HAZ-6) will require the project owner to ensure that no combustible or flammable material is stored, used, or transported within 100 feet of the sulfuric acid tank (Ex. 29, p. 4.3-6).

Staff found that because the PPP would use aqueous ammonia in concentrations less than 20 percent (19 percent) its use is exempt from compliance with the US EPA Risk Management Plan (RMP) regulation and the California Accidental

Release Protection Plan (Cal-ARP) regulation and therefore may not be required to prepare an RMP. Nevertheless, the Applicant conducted an Offsite Consequence Analysis (Ex. 1, section 8.5-B) and found no significant risk would be posed to the public due to a worst-case catastrophic release of 9,000 gallons of 19 percent aqueous ammonia. Because the facility will store no more than 10,000 gallons of a 19 percent solution, staff concurs with the Applicant's analysis and conclusions.

Staff's evaluation of the proposed project (with Staff's proposed mitigation measures) indicates that with the proposed Conditions of Certification, hazardous materials use at the project will pose no potential for significant impacts on the public. With adoption of the proposed Conditions of Certification, which include amendments contained in Exhibits 30 and 32, the proposed project will comply with all applicable LORS. (Ex. 29, 4.3-11).

FINDINGS AND CONCLUSIONS

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

1. The PPP will use hazardous materials at the facility.

2. Aqueous ammonia, natural gas, and small amounts of solvents and paint are hazardous materials that will be used by the project and have the potential to create public health and safety hazards.

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

4. The Conditions of Certification set forth below require safety and mitigation measures, which will reduce project-related risks to acceptable levels both on and off the project site.

5. The project owner's design and mitigation measures will reduce to acceptable levels the possibility of dangerous events associated with the hazardous materials proposed for use at the project.

6. The PPP will not create a risk, nor contribute to a cumulative risk, to public health and safety.

7. With the implementation of the Conditions of Certification, the project will conform with applicable laws, ordinances, regulations, and standards relating to hazardous materials management that are specified in Appendix A of this Decision.

We therefore conclude that the hazardous materials used at the PPP will not create or contribute to any significant adverse public health and safety impacts.

CONDITIONS OF CERTIFICATION

HAZ-1 The project owner shall not use any hazardous material in any quantity or strength not listed in AFC Table 8.5-3 unless approved in advance by the Compliance Project Manager (CPM).

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

HAZ-2 The project owner shall provide a Risk Management Plan RMP (if required by regulation) to the Certified Unified Program Authority (CUPA) and the CPM for review. 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.

Verification: At least 30 days prior to the delivery of aqueous ammonia, 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.

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

HAZ-5 The project owner shall provide a covered secondary containment basin under the truck unloading pad capable of passively containing an entire truckload of aqueous ammonia plus wash water spilled during the delivery of aqueous ammonia to the storage facility.

Verification: At least 60 days prior to construction of the secondary containment basin described above, the project owner shall submit final design drawings and specifications for the secondary containment basin to the CPM for review and approval.

HAZ-6 The project owner shall ensure that no combustible or flammable material is stored within 100 feet of the sulfuric acid tank.

Verification: At least 30 days prior to the first delivery 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-7 The project owner shall direct all vendors delivering aqueous ammonia to the site to use only tanker truck transport vehicles that meet or exceed the specifications of DOT Code MC-307.

Verification: At least 30 days prior to the first delivery 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-8 The project owner shall direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM.

Verification: At least 60 days prior to 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-9 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 a 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-10 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 for review and approval a detailed plan to accomplish a full and comprehensive pipeline inspection in the event of an earthquake. This plan shall be amended, as appropriate, and submitted to the CPM for review and approval, at least every five years.

HAZ-11 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 shall be designed to withstand seismic stresses and will be surveyed annually for leakage. The project owner shall incorporate the following safety features into the design and operation of the natural gas pipeline in accordance with applicable code: (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/FIRE PROTECTION

The purpose of this analysis is to assess the adequacy of worker safety and fire protection measures proposed by the Applicant for the PPP. Specifically, we must assess whether the Applicant has proposed adequate measures to:

- comply with applicable safety laws, ordinances, regulations, and standards;
- protect the workers during construction and operation of the facility;
- protect against fire; and
- provide adequate emergency response procedures.

SUMMARY OF THE EVIDENCE

Applicant's testimony on worker safety and fire protection was prepared by W. Douglas Urry. (Ex. 16; 5/7 RT 49-50.). Mr. Urry's testimony incorporated the AFC's detailed analysis of worker safety and fire protection aspects of the proposed project (Ex. 1, Section 8.16). He concluded that the project will comply with all LORS applicable in this area and that with the Conditions of Certification proposed by Staff, the project will not have any significant adverse impacts upon the environment, on project workers, or on local fire protection services (Ex. 16).

The analysis of the Staff was conducted by Geoff Lesh and Rick Tyler, who presented the analysis in the Staff Assessment, Part 1. (Ex. 29, pp. 4.13-1 to 4.14-12) Staff has determined that the features of the proposed project, in association with the proposed worker safety plans and procedures, will comply with applicable LORS and minimize the exposure of workers to industrial accidents or hazards. (Ex. 29, p. 4.13-10).

Staff reviewed the information regarding available fire protection services and equipment described in the AFC (Ex. 1) to determine whether workers would be adequately protected and if construction and operation of the project would affect the fire protection services in the area. Staff agrees with the Applicant that the

project should rely on both onsite fire protection systems and local fire protection services. The onsite fire protection system provides the first line of defense for small fires. In the event of a major fire, fire support services including trained firefighters and equipment for a sustained response would be required from the City of Santa Clara Fire Department. The Applicant intends to meet the minimum fire protection and suppression requirements as mandated by the City of Santa Clara Fire Code, NFPA Standards, and the UFC. Elements include both fixed and portable fire extinguishing systems. Raw water for use as fire water would be supplied by the City of Santa Clara, with backup supply coming from a to-be-drilled groundwater well on the project site capable of delivering 1,000 – 1,500 gpm. Staff has contacted both the Fire Marshal and the Deputy Fire Chief of the City of Santa Clara Fire Department to determine their assessment of the adequacy of available fire protective and hazmat response capabilities. Both expressed that they felt adequate resources were available. (Ex. 29, p. 4.13-9)

A fire protection system would be provided for the combustion turbine, generator and accessory equipment. Fire detection sensors would also be installed. (Ex. 29, p. 4.13-9)

A deluge spray system would provide fire suppression for the generator transformers and auxiliary power transformers. Fire hydrants and hose stations would be used to supplement the plant fire protection system. (Ex. 29, p. 4.13-9)

In addition to the fixed fire protection system, fire extinguishers would be located throughout the plant Administrative/Maintenance Building, water treatment facility, and other structures as required by the local fire department. (Ex. 29, p. 4.13-9)

The Applicant will be required to provide a final Fire Protection and Prevention Program to Staff and to the City of Santa Clara Fire Department, prior to construction and operation of the project, to confirm the adequacy of the

proposed fire protection measures (Ex. 1, p. 4.13-9). The requirement is set forth in Conditions of Certification WORKER SAFETY 1 and 2.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record and with implementation of the Conditions of Certification that follow, we find as follows:

1. The PPP will be designed, constructed, and operated in a manner sufficient to reasonably protect workers and the public from fire dangers.

2. The existing health and safety policies in effect at the project include provisions for ongoing operation, including incidental construction.

3. Local fire and emergency service resources will be adequate to meet the needs of the project.

4. The project will not cause adverse impacts to existing fire and emergency service resources.

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

CONDITIONS OF CERTIFICATION

WORKER SAFETY-1 The project owner shall submit to the CPM a copy of the Project Construction Injury and Illness Prevention Program, containing the following:

- 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.

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

Verification: At least 30 days prior to site mobilization, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Injury and Illness Prevention Program. The project owner shall provide a letter from the City of Santa Clara Fire Department stating that they have reviewed and commented on the Construction Fire Protection and Prevention Plan 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;
- Hazardous Materials Management Program;
- Operations and Maintenance Safety Program;
- Fire Protection and Prevention Program (Cal Code Regs., tit. 8,§ 3221); and;
- Personal Protective Equipment Program (Cal Code Regs., tit. 8,§§ 3401-3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted by the project owner 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 by the project owner to the City of Santa Clara 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 they have reviewed and accepted the specified elements of the proposed Operations and Maintenance Safety and Health Plan.

VI. ENVIRONMENTAL ASSESSMENT

A. BIOLOGICAL RESOURCES

In this section, we address analyses of potential impacts to biological resources from the PPP. The analysis is primarily directed toward impacts to state and federally listed species, species of special concern, wetlands, and other areas of critical biological concern. The Commission reviews information regarding the affected biotic community, the potential environmental impacts associated with the construction and operation of the proposed project and, where necessary, specifies mitigation planning and compensation measures to reduce potential impacts to insignificant levels. We also determine compliance with applicable laws, ordinances, regulations and standards, and specify Conditions of Certification.

SUMMARY OF THE EVIDENCE

Applicant's witness, Brett Hartman, sponsored Exhibit 33 and portions of the AFC (Ex. 1, Section 8.2) and supplemental data responses (Ex. 3, Response Numbers 15 through 22). Mr. Hartman directed the reconnaissance-level field inspections and the technical research for the biological studies associated with the project (Ex. 1, Section 8.2 of the AFC, Ex. 2, pp. 12-21) and prepared a Resource Management Plan (Ex. 10).

The analysis carried out by Staff experts is based, in part, on information provided from Applicant's AFC and also on workshops, responses to Staff data requests and Applicant's responses, site visits, project description clarifications and discussions with various state and federal agency representatives. The Applicant conducted biological resource surveys on April 26, June 14 and June 28, 2002. (Ex. 1, p. 8.2-13). Staff witness, Mr. Stuart Itoga, sponsored Section 4.1 of the Staff Assessment, Part I. (Ex. 29, p. 4.1-1 to 4.1-4.1-20).

The proposed project would be located in the City of Santa Clara, County of Santa Clara, California. Santa Clara is largely urbanized and is the third most populated city in Santa Clara County. Major roadways define general geographical borders for the proposed site: Highway 101 to the north; Central Expressway to the south; and Montague Expressway and Lafayette Street to the west and east; respectively. Land use designations around the proposed site are zoned for a variety of uses including industrial, commercial, and residential. Although the local area is mostly developed, areas of open-space still exist in the proposed project area, and burrowing owl sightings have been documented near the proposed project site. Suitable burrowing owl habitat is located approximately 0.16 miles east of the proposed project site. (Ex. 29, p. 4.1-3)

The proposed project would be located within the Guadalupe Watershed. Waterways within the Guadalupe Watershed include the Guadalupe River and Los Gatos, Ross, Alamitos, and Canoas Creeks. Some waterways within the Guadalupe watershed support anadramous fish runs as well as a variety of riparian wildlife species. Efforts to restore local and regional fish habitat and riparian areas are ongoing. Although not in the Guadalupe watershed, Coyote Creek is less than 2 miles from the proposed PPP. (Ex. 29, p. 4.1-3)

Staff's primary concern associated with the proposed PPP is the project's potential cumulative impact on serpentine habitats, and associated sensitive serpentine endemic species, located in the Santa Clara Valley. Operation of the proposed project would result in exhaust stack emissions including nitrogen oxides (NO_x) and ammonia. Staff and the U.S. Fish and Wildlife Service (USFWS) expressed concerns that the proposed project's emissions of nitrogen and ammonia would have an adverse cumulative impact on serpentine habitat (and associated sensitive serpentine endemic species) designated as critical for the survival and recovery of the threatened bay checkerspot butterfly (*Euphydryas editha bayensis*). (Ex. 29, p. 4.1-14). This issue is discussed under Cumulative Impacts below.

Power Plant Site

The proposed site is surrounded by commercial development projects and is bordered on its south side by the Kifer Receiving Station. The 2.86 acre lot is mostly bare ground and is currently vacant. On-site vegetation is mostly ruderal. Applicant indicated that no sensitive species were documented or observed on the proposed site (Ex. 1, p. 8.2-16).

A number of large elm trees growing on the east side of the proposed power plant site are proposed for removal. The Staff witness believed that the elm trees located on the east side of the proposed PPP footprint are not protected by the City of Santa Clara General Plan and that it was unlikely that they provide habitat for sensitive species. However, it is likely that the elm trees provide roost and nest habitat for various bird species. Section 3503 of the Fish and Game Code protects the nest or eggs of any bird. Consequently, nest surveys would need to be conducted prior to elm tree removal. As long as bird nest surveys are conducted prior to elm tree removal, and avoidance measures are implemented, staff concludes that removal of the elm trees is not likely to adversely impact biological resources in the proposed project area. For that reason, Staff recommended pre-construction bird nest surveys and appropriate action be taken upon the discovery of bird nests (Condition of Certification BIO-8). (Ex. 29, pp. 4.1-7 and 4.1-19).

A ditch holding standing water is also located on the east side of the proposed PPP site. It is surrounded by the elm trees. The predominant understory species is Himalayan blackberry. The Applicant has proposed filling the ditch. The area west and south of the ditch is used by the City of Santa Clara for cleaning street sweeping machines. A water spigot is located at the south end of the ditch. Applicant indicated that the ditch is used by the City of Santa Clara as a limited water collection sump for the equipment cleaning operations, and water present in the ditch is the result of equipment cleaning. The Staff witness observed that the ditch appears to have held water for a period of time sufficient

to be assessed as a potential jurisdictional wetland (Itoga personal obs.). Applicant did not conduct a wetland delineation to determine wetland status of the ditch. Applicant did, however, excavate a soil pit, away from the ditch, at the north-east portion of the proposed site. Information submitted in the AFC indicated a non-hydric soil type.

The decision to declare an area a wetland is based on a determination of the hydrology, vegetation and soils found on site. If appropriate hydrology, vegetation and soils are found, a determination is made that the site is a wetland. A delineation is then conducted to define boundaries of the wetland. The applicant contends that once the City of Santa Clara discontinues its equipment cleaning operations, there would no longer be water in the ditch, therefore, it lacks appropriate hydrology to be considered a jurisdictional wetland. It is Staff's opinion that the City of Santa Clara street cleaning operation is the primary source of water to the ditch. While it is likely that precipitation is also a water source, precipitation is considered to be an unlikely source for wetland formation. Staff agreed with Applicant's assessment that the ditch lacks the necessary hydrology to be considered a jurisdictional wetland. Because there appears to be no hydrological connectivity from a source other than the equipment cleaning operations, and because of the disturbed nature of the site and surrounding areas, Staff concludes that Applicant's proposal to fill the ditch is not likely to have an adverse impact on biological resources in the proposed project area. (Ex. 29, p. 4.1-7).

<u>Natural Gas Compressor Station</u>

The proposed natural gas compressor station would be located east of the proposed PPP at the corner of Comstock and Lafayette Streets. The natural gas compressor station would occupy approximately 1.35 acres owned by the City of Santa Clara. Several buildings and an old foundation are on-site. It is Staff's opinion that the proposed natural gas compressor station site is disturbed in nature and is marginal wildlife habitat at best. Staff concluded that construction and operation of the proposed natural gas compressor station is not likely to

have an adverse impact to biological resources in the proposed project area. (Ex. 29, pp. 4.1-7 th 4.1-8).

Linear Facilities

Because areas proposed for construction and operation of the proposed transmission line and associated facilities are already disturbed, the Staff witness testified that he does not anticipate any adverse biological resources impacts from construction and operation of the transmission lines or associated facilities. (Ex. 29, p. 4.1-8).

Because the gas pipeline would be routed beneath existing rights of way, Staff concluded that impacts to terrestrial habitat would be temporary and minimal. However, the potential exists for wildlife to be harmed by construction of the gas pipeline. Staff does not anticipate adverse impacts to biological resources caused by construction of the gas pipeline, so long as Applicant monitors the gas pipeline construction area for the presence of wildlife at the start and end of each workday. Staff recommended Condition of Certification BIO-2 to require such monitoring. (Ex. 29, pp. 4.1-9 and 4.1-14).

Because the proposed waste water discharge line would be routed beneath existing roadways, and because of the disturbed nature of the areas that the proposed pipeline would traverse, Staff does not anticipate any adverse impacts to biological resources in the proposed project area due to construction of the proposed waste water line. (Ex. 29, p. 4.1-9)

Construction Laydown Areas

Staff also concluded that the areas proposed for use as worker parking/construction laydown areas are disturbed areas and provide little in the way of habitat for wildlife and therefore Staff does not expect any adverse impacts from use of the aforementioned areas for worker parking and construction/laydown areas. (Ex. 29, p. 4.1-10)

Cumulative Impacts

As discussed above, Staff's primary concern was that the project's operational emissions of oxides of nitrogen and ammonia slip could contribute to nitrogen deposition impacts to surrounding serpentine species/habitat in the Santa Clara Valley. To respond to this concern, the Applicant proposed a Habitat Conservation Plan (HCP) to the USFWS. USFWS reviewed the draft HCP and Resource Management Plan prepared by the Applicant and opined that the HCP could qualify for expedited processing as a low-effect HCP. (Ex. 34). The Applicant has agreed to providing Habitat Compensation of 40 acres of suitable serpentine habitat with an associated endowment. (Ex. 10.). Staff concluded that with the implementation of Conditions of Certification BIO-7 and BIO-9 the PPP would adequately mitigate any potential impacts associated with nitrogen deposition and that the Applicant's proposal has satisfied USFWS's concerns. (Ex. 29, p. 4.1-13; 6/11 RT 16). The Applicant has agreed to these conditions. (6/11 RT 13).

FINDINGS AND CONCLUSIONS

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

1. The project will not impose significant adverse effects on any protected species.

2. The measures specified in the Conditions of Certification will adequately mitigate the potential direct, indirect, and cumulative adverse effects of the PPP upon biological resources to below a level of significance.

3. With the implementation of the mitigation measures, the project will conform with all applicable laws, ordinances, regulations, and standards governing biological resources.

The Energy Commission therefore concludes that implementation of the Conditions of Certification below will ensure that construction and operation of the PPP will not create any significant direct, indirect, or cumulative adverse impacts to biological resources, and that the project will conform with all applicable laws, ordinances, regulations, and standards relating to biological resources as identified in the pertinent portion of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

Designated Biologist Selection

BIO-1 The project owner shall submit the resume, including reference contact information, of the proposed Designated Biologist to the Compliance Project Manager (CPM) for approval.

Verification: The project owner shall submit the specified information at least 60 days prior to the start of any site (or related facilities) mobilization. Site and related facility activities shall not commence until an approved Designated Biologist is available to be on site.

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; and
3. At least one year of field experience with biological resources found in or near the project area.

If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist.

Designated Biologist Duties

BIO-2 The project owner shall ensure that the Designated Biologist shall perform the following activities during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities:

1. Advise the project owner's Construction and Operation Managers on the implementation of the biological resources Conditions of Certification;
2. Be available to 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 or their habitat;
3. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction

inactivity. Periodically inspect areas with high vehicle activity (parking lots) for animals in harms way;

4. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification; and

5. Respond directly to inquiries of the CPM regarding biological resource issues.

Verification: The project owner shall ensure that the Designated Biologist maintains written records of the tasks described above, and summaries of these records shall be submitted in the Monthly Compliance Reports.

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.

If required by the Designated Biologist, the project owner's Construction/ Operation Manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist.

The Designated Biologist shall:

1. Require a halt to all activities in any area when determined that there would be adverse impact to biological resources if the activities continued;

2. Inform the project owner and the Construction/Operation Manager when to resume activities; and

3. Notify the CPM if there is a halt of any activities, and advise the CPM of any corrective actions that have been taken, or will be instituted, as a result of the halt.

Verification: The project owner shall ensure that the Designated Biologist notifies the CPM immediately (and no later than the following morning of the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem.

Whenever corrective action is 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 (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation and closure, are informed about sensitive biological resources associated with the project.

The WEAP 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;
5. Identify whom to contact if there are further comments and questions about the material discussed in the program; and
6. Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines.

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

Verification: At least 60 days prior to the start of any site (or related facilities) mobilization, the project owner shall provide to the CPM two copies of the WEAP and all supporting written materials prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program.

The project owner shall provide in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.

The signed training acknowledgement forms shall be kept on file by the project owner for a period of at least six months after the start of commercial operation.

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.

Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)

BIO-5 The project owner shall submit two copies of the proposed BRMIMP to the CPM (for review and approval) and to USFWS (for review and comment) and shall implement the measures identified in the approved BRMIMP.

The final BRMIMP shall identify :

1. All biological resources mitigation, monitoring, and compliance measures proposed and agreed to by the project owner;
2. All biological resources Conditions of Certification identified in the Commission's Final Decision;
3. All biological resource mitigation, monitoring and compliance measures required in federal agency terms and conditions, if any, such as those provided in a USFWS Biological Opinion;
4. All biological resources mitigation, monitoring and compliance measures required in other state agency terms and conditions, if any, such as those provided in a CDFG Incidental Take Permit and Streambed Alteration Agreement, and in Regional Water Quality Control Board permits;
5. All biological resources mitigation, monitoring and compliance measures required in local agency permits, such as site grading and landscaping requirements;
6. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
7. All required mitigation measures for each sensitive biological resource;
8. Required habitat compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;
9. A detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities;
10. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
11. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities - one set of photographs taken prior to any site or related facilities mobilization disturbance and one set of photographs taken subsequent to completion of project construction. Include planned timing of aerial photography and a description of why times were chosen;

12. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
13. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
14. All performance standards and remedial measures to be implemented if performance standards are not met;
15. A discussion of biological resources related facility closure measures;
16. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and
17. A copy of all biological resources permits obtained.

Verification: The project owner shall provide the specified document at least 60 days prior to start of any site (or related facilities) mobilization.

The CPM, in consultation with the USFWS and any other appropriate agencies, will determine the BRMIMP's acceptability within 45 days of receipt.

The project owner shall notify the CPM no less than five working days before implementing any modifications to the approved BRMIMP to obtain CPM approval.

Any changes to the approved BRMIMP must also be approved by the CPM in consultation with the USFWS and appropriate agencies to ensure no conflicts exist.

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

U.S. Fish and Wildlife Consultation

BIO-6 The project owner shall provide final copies of all documents obtained as a result of formal consultation with the USFWS. The terms and conditions contained in any documents obtained from the USFWS shall be incorporated into the project's BRMIMP.

Verification: At least 60 days prior to initial commissioning activities, the project owner shall submit to the CPM copies of all documents obtained as the result of consultation with the U. S. Fish and Wildlife Service.

Adaptive Management Plan

BIO-7 The project owner shall prepare an adaptive management plan that demonstrates how the habitat compensation acreage will be managed for the preservation and recovery of serpentine endemic species.

Verification: At least 60 days prior to initial commissioning activities, or initial turbine firing, the project owner shall submit to the CPM a copy of the adaptive management plan to be reviewed and approved in consultation with staff and the USFWS. The approved adaptive management plan shall be incorporated into the project's BRMIMP.

Mitigation Measures

BIO-8 The project owner shall implement the mitigation measures listed below.

1. Provide wildlife escape ramps for construction areas that contain steep walled holes or trenches if outside of an approved, permanent exclusionary fence;
2. Inspect trenches each morning for entrapped animals prior to the beginning of construction. Construction will be allowed to begin only after trapped animals are able to escape voluntarily;
3. Inspect all construction pipes, culverts, or similar structures with a diameter of 4 inches or greater for sensitive species (such as burrowing owls) prior to pipe burial. Pipes to be left in trenches overnight will be capped;
4. Provide a post-construction compliance report, within 45 calendar days of completion of the project, to the Energy Commission CPM;
5. Report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals shall be reported to CDFG and the project owner shall follow instructions that are provided by CDFG.
6. Conduct pre-construction bird nest surveys. Upon discovery of any bird nests, the CPM will be notified as to appropriate action necessary.

All inspections may be performed by either the Designated Biologist or his/her appropriately trained and qualified delegate.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP.

Habitat Compensation

BIO-9 To compensate for potential impacts to serpentine habitats and associated endemic species, the project owner shall provide 40 acres of land within critical habitat occupied by sensitive serpentine endemic species. The project owner shall calculate an appropriate endowment for management of the compensation habitat in perpetuity using the Center for Natural Lands Management Property

Analysis Record (PAR). Also to be provided is the name of the entity that would manage and protect the land in perpetuity.

Verification: At least 60 days prior to initial commissioning activities, the project owner shall provide to the CPM for approval, in consultation with the USFWS, the name of the management entity and written verification that the compensation lands have been purchased and protected in perpetuity. The project owner shall also provide the PAR analysis and written verification that the appropriate endowment funds (determined by the PAR analysis) have been received by the approved management entity.

B. SOIL AND WATER RESOURCES

This section focuses on the soil and water resources associated with the project, specifically the project's potential to induce erosion and sedimentation, adversely affect water supplies, and degrade water quality. The analysis also considers the potential cumulative impacts to water quality in the project vicinity. To prevent or reduce any potential adverse impacts, several mitigation measures are included in the Conditions of Certification to ensure that the project will comply with all applicable federal, state, and local LORS.

SUMMARY OF THE EVIDENCE

Suzanne Burnell and Michael Fox, appearing as witnesses on behalf of the Applicant, sponsored Exhibit 21 and sections 8.11 and 8.15 of the AFC (Exhibit 1) into evidence. These exhibits were offered to support Applicant's conclusion that the project, with implementation of the Conditions of Certification included below, will comply with relevant LORS and will have no adverse impact on soil or water resources. (5/7 RT 35 to 36). Applicant's witnesses agreed with the Staff's proposed Conditions of Certification presented in the Staff Assessment, Part I, (Ex. 29.) as modified by the Addendum (Ex. 30.), Staff's memo dated May 14, 2003, the Staff and Applicant Stipulation dated July 16, 2003, and Exhibit 32. However, Applicant's witnesses disagreed with Staff's proposed Condition of Certification SOIL & WATER-6, which deals with the backup source for cooling water. (5/7 RT 35; 6/11 RT 9 to 11).

The primary source of cooling and process water for the PPP would be reclaimed water from the San Jose/Santa Clara Water Pollution Control Plant (WPCP). A new industrial groundwater supply well is proposed to be used as a source of emergency backup water for the plant when reclaimed water is unavailable. Staff's proposed Condition of Certification SOIL & WATER-6 limits the amount of time that the PPP could use the backup supply well to 45 days. The Condition only permits the project to use the backup supply well when the WPCP does not deliver reclaimed water to the site. However, SVP proposed modifications to

SOIL & WATER-6 that would allow for the use of backup water in excess of 45 days per year if an unavoidable interruption of the reclaimed water supply were to occur due to an Act of God, natural disaster, or unforeseen emergency or circumstance outside the control of the project owner. (SVP's Opening Brief, p. 2).

Staff rejected the inclusion of such *force majeure*, stating that the allowance of 45 days was intended to provide for an unusual and unforeseen disruption such as one might expect if the WPCP is damaged by an earthquake. (Staff Memorandum dated May 14, 2003, p. 1). Staff also argues that it only evaluated a 45-day pumping contingency and therefore there is no analysis of impacts on the aquifer to support a longer pumping timeframe. (*Ibid*. p. 1) Staff is concerned because the aquifer has experienced problems with overdrafting and although it is not currently in overdraft, it is close to being in balance. (*Ibid*. p. 1).

SVP argues that CEQA does not require speculative analysis of unforeseen circumstances. Applicant further argues that the Staff position presumes that such emergency groundwater pumping, which by its very nature is unforeseeable, would result in an impact to the basin. SVP adds that during such Act of God, natural disaster or unforeseen emergency, it is good public policy to allow a municipal power plant such as the PPP to continue to operate without requiring approval from the CEC. Such a power plant would likely be vital to the provision of health and emergency services during a public emergency. SVP points out that the Commission included a similar provision, with CEC Staff's concurrence, in its decision on the Russell City Energy Center (RCEC) project. Applicant requests the same language for the same reasons. (SVP's Opening Brief, pp. 2 and 3.)

<u>Soils</u>

Staff witnesses Linda Bond and Tony Mediati conducted the analysis for the Staff. (Ex. 29, pp. 4.8-1 to 4.13-38; Ex. 30, pp.2-13 to 2-19; Ex. 32, p. 2-2) They concluded that the PPP will not contribute to any significant project-related

impacts to soils resources. There was no dispute concerning the project's impacts to soils.

Water Supply

The primary water supply to the PPP will be secondary effluent from the San Jose/Santa Clara Water Pollution Control Plant (WPCP), located in the City of Alviso and will be conveyed to the site via an existing South Bay Water Recycling (SBWR) Program pipeline located within the boundaries of the PPP. The City of San Jose, Environmental Services Department, which administers the SBWR with the City of Santa Clara, has provided a Will-Serve Letter stating they expect to be able to serve the PPP's request for reclaimed water (Ex. 1, Appendix 7; Ex. 29, p. 4.8-6). The City of Santa Clara, Water & Sewer Utilities has also provided a Will-Serve Letter stating they will be able to serve the project's potable water demand for domestic water and fire protection needs. (Ex. 29, p. 4.8-6). Staff concluded that the PPP's proposed use of reclaimed water would not have a significant adverse impact on the WPCP or the environment. The slight reduction in the amount of recycled water being discharged to the Bay will provide an incremental benefit to the Bay. (Ex. 29, p. 4.8-16).

SVP proposes to use well water for backup water needs. SVP will install an industrial groundwater well (backup well) dedicated to the PPP to provide a backup water supply for PPP operational needs, including cooling, in the event of an interruption in recycled water supplies. The project well would meet all project water requirements during any short-term service outages that may occur in the primary water supply provided by SBWR. (Ex. 29, p. 4.8-11). Staff conducted an analysis of the direct and indirect impacts of the new backup supply well and concluded that the backup well has the potential to cause migration of contaminants between local aquifers. In order to mitigate this potential indirect impact, Staff recommended the well be constructed with applicable water well standards (Condition of Certification SOIL & WATER 5) and that an aquifer test be conducted prior to operation of the well and if there is a potential for vertical migration of contaminants caused by the new well, SVP would be required to

implement a Commission approved mitigation plan (Condition of Certification SOIL & WATER 8). (Ex. 29 pp. 4.8-33, 4.8-34, 4.8-36 and 4.8-37; Ex. 30 p. 2-18 and 2-19; Staff and SVP Stipulation dated July 16, 2003).

COMMISSION DISCUSSION

Applicant and Staff have reached agreement on virtually every aspect of this case, with the notable exception of Condition of Certification SOIL & WATER-6. The issue involving that Condition is whether the project may use groundwater for cooling in excess of 45 days in one calendar year where an interruption to the PPP's primary water supply is due to an Act of God, a natural disaster, an unforeseen emergency, or some other unforeseen circumstance outside the control of the project owner.

Staff recommends against allowing groundwater use beyond the 45-day limit arguing that the amount of time already provides a buffer against unforeseen events and that the impacts of pumping beyond 45 days a year have not been analyzed and are unknown. Staff adds that the aquifer in question is vulnerable to overdrafting.

We understand Staff's reluctance to recommend an extension to the 45-day limitation on groundwater pumping in the absence of data regarding the impacts of extended pumping on the aquifer. However, we find that Staff's concerns place unwarranted burdens on an emergency backup provision which is unlikely to ever be called upon. First, no groundwater pumping will occur at all unless the project experiences a disruption of recycled water from the WPCP. However, Staff acknowledges that the recycled water source is quite reliable, and that "typical operating conditions include only one or two brief (less than 72-hour) outages each year." (Ex. 29, p. 4.8-12.) Therefore the agreed-upon 45-day allowance is likely to cover all foreseeable outages of the WPCP. In addition, Condition of Certification SOIL & WATER-8 requires the project owner to conduct an aquifer test program and to create a mitigation plan if analysis reveals the

potential for significant impacts from contamination or gradient transfer. Thus, the Conditions (1) limit groundwater pumping, (2) require analysis of potential impacts from pumping and (3) require a mitigation plan in the event of potential impacts.

It is undisputed that groundwater pumping in excess of the 45-day allowance would be unforeseeable and beyond the project owner's control. Furthermore, the record contains no evidence of significant impacts in the unlikely event of extended pumping. CEQA does not require us to speculate about the undetermined risks associated with unforeseeable events. Furthermore, we agree with Applicant that in the unforeseeable event the 45-day limit is exceeded due to an Act of God, natural disaster, or unforeseen emergency, good public policy should allow this municipal power plant to operate with a certain amount of flexibility. Requiring the plant owner to consult the Commission during such an emergency could potentially limit such flexibility at a critical time without providing a benefit to the environment proportional to the risk.

FINDINGS AND CONCLUSIONS

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

1. The PPP will result in a net decrease in the quantity of wastewater discharged into San Francisco Bay.

2. The PPP will use groundwater pumping only in the event the project experiences a disruption of recycled water from the WPCP.

3. It is undisputed that the WPCP is a reliable water source, with only one or two outages each year, which are brief in duration.

4. Normal operation of the project backup well will be limited to 45 days per year, although anticipated use is much briefer.

5. Changes to the project have been made to avoid or substantially reduce the magnitude of any potential significant environmental impacts from groundwater pumping.

6. Specific public health and safety considerations require granting flexibility during an interruption of the project's reclaimed water supply for a period exceeding 45 days per calendar year where such water supply interruption is due to an Act of God, a natural disaster, an unforeseen emergency, or other unforeseen circumstance outside the control of the project owner.

7. Construction and operation of the project will not cause any significant or cumulative adverse impacts to soil and water resources.

8. Implementation of the Conditions of Certification will ensure that the project will conform to all applicable laws, ordinances, regulations, and standards related to soil and water resources.

We therefore conclude that the project will not cause any significant adverse direct, indirect, or cumulative impacts to soil or water resources, and will comply with all applicable laws, ordinances, regulations, and standards.

CONDITIONS OF CERTIFICATION

SOIL & WATER 1 Prior to beginning any site mobilization activities, the project owner shall obtain staff approval of a Sedimentation and Erosion Control Plan. The plan shall be submitted to the City of Santa Clara Public Works Department for review and comment and to the CPM for approval.

Verification: At least 45 days prior to the start of any site mobilization activities the Sedimentation and Erosion Control Plan shall be submitted to the CPM for approval and to Santa Clara County, SCVWD and the City of Santa Clara Public Works Department for review and comment. Comments from other agencies shall be submitted to the CPM. The CPM must approve the sedimentation and Erosion Control Plan prior to the initiation of any site mobilization activities.

SOIL & WATER 2 Prior to beginning site mobilization, the project owner shall receive a General NPDES Permit for Discharges of Storm Water Associated with Construction Activity from the Regional Water Quality Control Board, and obtain CPM approval of the related Storm Water Pollution Prevention Plan (SWPPP) for Construction Activity. The SWPPP will include final construction drainage design consistent with the City of Santa Clara requirements for grading, drainage and erosion control and specify BMPs for all on and off-site PPP project facilities. This includes providing calculations for determining the design capacity of the perimeter drainage, as well as final site drainage plans and locations of BMPs. The SWPPP shall be submitted to the City of Santa Clara Public Works Department for review and comment at least 45 days prior to start of any site mobilization activities.

Verification: At least 45 days prior to the start of any site mobilization activities, the SWPPP for Construction Activity and a copy of the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity shall be submitted to the CPM for approval and to the City of Santa Clara Public Works Department for review and comment. Approval of the SWPPP by the CPM must be received prior to initiation of any site mobilization activities.

SOIL & WATER 3 Prior to initiating project operation, the project owner shall receive a General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity from Regional Water Quality Control Board, and obtain CPM approval of the related Storm Water Pollution Prevention Plan (SWPPP) for Industrial Activity. The SWPPP will include final operating drainage design consistent with the Santa Clara County Ordinances regarding discharge of storm water as well as the City of Santa Clara requirements for drainage and erosion control and specify BMPs and monitoring requirements for the PPP project facilities. The SWPPP shall be submitted to the City of Santa Clara Public Works Department for review and comment at least sixty days prior to initiation of project operation.

Verification: At least 60 days prior to the start of project operation, the SWPPP for Industrial Activity and a copy of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity shall be submitted to the CPM. The SWPPP shall be submitted to the City of Santa Clara Public Works Department for review and comment at least 60 days prior to initiation of project operation. Approval of the final SWPPP plan by the CPM must be received prior to initiation of project operation.

SOIL & WATER 4 The project owner shall use tertiary-treated water supplied from South Bay Water Recycling (SBWR) as its primary water supply source for cooling, process and landscape irrigation. The project owner shall meter in-plant uses of water, distinguishing fresh water used for domestic purposes from recycled water used for cooling, process and landscape irrigation. The project owner shall prepare an annual summary, which will include the monthly range and monthly average of daily water usage in gallons per day, and total water used by the project on a monthly and annual basis in acre-feet. The annual summary shall distinguish sources and uses of water according to recycled water for cooling and process supply, fresh water source for cooling, process and irrigation supply, and for fresh water for domestic supply. For subsequent years, the annual summary shall also include the yearly range and yearly average water use by the project. The annual summary shall be submitted to the CPM as part of the annual report.

Verification: The project owner will submit as part of its periodic reports and annual compliance report a water use summary to the CPM for the life of the project.

SOIL & WATER 5 The project groundwater backup well shall be constructed according to water well construction standards, as defined in the State Water Code and the local Santa Clara Valley Water District (SCVWD) well permit Ordinance 90-1. The project well shall only be screened in the Lower Aquifer Zone. The project owner shall pay all fees associated with SCVWD Ordinance 90-1 to the agencies specified in Ordinance 90-1.

Verification: The project owner shall submit a copy of its well permit for the project groundwater backup well from the Santa Clara Valley Water District to the CPM for review and approval at least 90 days prior to the construction of the well. The project owner shall pay all fees associated with SCVWD Ordinance 90-1 to the agencies specified in Ordinance 90-1. The project backup well shall not be constructed until it is approved by the CPM.

SOIL & WATER 6 Groundwater shall be used as a backup water supply for the PPP. Groundwater shall only be used during time when the primary water supply is unavailable. The maximum annual groundwater use for the project shall not exceed 57 million gallons nor shall it exceed a period of more than 45 days each year. However, groundwater may be used for cooling and process purposes in excess of 45 days per calendar year if an unavoidable interruption of the reclaimed water supply is due to an Act of God, a natural disaster, an unforeseen emergency or other unforeseen circumstances outside the control of the project owner. If one of the aforementioned unavoidable interruptions should occur, the CPM, project Owner, and San Jose/Santa Clara Water Pollution Control Plant shall confer and determine how to restore the reclaimed supply as soon as practicable.

Verification: The project owner shall meter, record and report project groundwater pumping annually to the CPM.

SOIL & WATER 7 The project owner shall collect groundwater quality samples from the shallow observation well to be constructed for the aquifer test program. These samples shall be analyzed for Title 22 constituents at a State-certified laboratory. The project owner shall submit a groundwater sampling report, which includes a description of the sampling procedures and laboratory results to the CPM, the RWQCB and the Santa Clara Valley Water District at least 90 days prior to the commercial operation of the project backup well.

Verification: The project owner shall submit a groundwater sampling report, which includes a description of the sampling procedures and laboratory results, to the CPM, the RWQCB and the Santa Clara Valley Water District at least 90 days prior to the commercial operation of the project backup well.

SOIL & WATER 8 The project owner shall conduct the aquifer test program as proposed by the applicant in the *Statement of Work, Proposed Aquifer Test Program, Backup Water Supply Well, Pico Power Project* (SVP 2003c).

The project owner shall calculate the projected vertical gradient between the Upper and Lower Aquifer Zones over the life of the project based on an annual groundwater pumping rate of 57 million gallons for a period of 45 days each year for 40 years. The aquifer test procedures, the interpretation of the test results, the raw data (in machine readable format), the calculation of aquifer properties, and the impacts analyses shall be presented and discussed in the aquifer test technical report. The aquifer test technical report shall be provided to the RWQCB and the Santa Clara Valley Water District for review, as well as the CPM for approval, at least 90 days prior to the commercial operation of the project backup well.

The aquifer test program would result in a finding of a potentially significant adverse impact caused by backup pumping if the program identifies both significant contamination and a significant gradient at the project, according to the criteria listed below.

1. Significant Contamination Criteria: Detection of contamination concentrations of Title 22 constituents above the Maximum Contaminant Levels (MCL) in the Upper Aquifer Zone.

2. Significant Gradient Criteria: A calculated vertical downward gradient between the Upper and Lower Aquifer Zones that would allow transmission of contamination over the life of the project under worst-case groundwater pumping conditions.

If there is a finding of a potential significant adverse impact, the project owner is required to submit a mitigation plan to avoid or reduce the impact to a level less than significant. The Mitigation Plan shall be provided to the Santa Clara Valley Water District for review and comment, as well as the CPM and RWQCB for approval, at least 60 days prior to the commercial operation of the project backup well.

The project owner shall implement the approved Mitigation Plan and provide documentation of implementation to the Santa Clara Valley Water District, the CPM and the RWQCB, at least e30 days prior to the commercial operation of the backup well.

Verification The project owner shall provide a copy of the aquifer test technical report to the CPM for review and approval at least 90 days prior to commercial operation of the project backup well. The project owner shall also provide a copy of the aquifer test technical report to the REQCB and the Santa Clara Valley Water District for review and comment 90 days prior to commercial operation of the project backup well.

SOIL & WATER 9 Prior to the start of operation the project owner shall submit a copy of an approved Industrial Wastewater Discharge Permit for the process wastewater produced at the PPP.

Verification: The project owner shall submit a copy of the approved Industrial Wastewater Discharge Permit to the CPM at least 60 days prior to the start of operations.

C. CULTURAL RESOURCES

The Energy Commission's primary concerns in its cultural resource analysis are to ensure that all potential impacts are identified and that significant adverse impacts are avoided or reduced to a level of insignificance. The determination of potential impacts to cultural resources from the proposed PPP is required by the Siting Regulations of the Energy Commission and by CEQA. Three aspects of cultural resources were addressed in Applicant's and in Staff's analysis: prehistoric archaeological resources, historic period resources, and ethnographic resources.

SUMMARY OF THE EVIDENCE

Applicant's witness for cultural resources was Jenna Farrel. Ms. Farrel sponsored Exhibit 14 and Section 8.3 of the AFC (Exhibit 1). Staff''s witness for cultural resources was Dorothy Torres who sponsored Section 4.2 of the Staff Assessment, Part I (Exhibit 29). The Applicant carried out a pedestrian survey of the project site, compressor station, natural gas pipeline route and gas metering station, waste water discharge pipeline and construction laydown areas on July 9, 2001. The survey identified several potential historic resources, including Lafayette Street, the Union Pacific Railroad, a quonset structure at 800 Laurelwood road and four structures at the corner of Lafayette and Comstock Streets. Agnews State Hospital (nominated to the NRHP) was also identified as being of potential concern. (Ex. 29, p. 4.2-5)

The Applicant contacted the Native American Heritage Commission (NAHC) to obtain a list of Native Americans to be contacted for the project area. The NAHC provided names of contacts for Santa Clara County. On June 17, 2002, the Applicant sent letters to individuals and groups identified on the list. On December 2, 2002, the Applicant sent a second letter that included a description of the location of the gas compressor station and the wastewater pipeline. As requested by Gloria Sciara, Cultural Resources Coordinator for the City of Santa Clara, Ohlone Family Consulting was also sent a letter. The letter asked Native

Americans who were concerned about the project to contact Applicant's consultant. On December 17, 2002, Energy Commission staff sent a letter to Native American individuals and groups identified by the NAHC in Santa Clara County. A letter was also sent to Ohlone Family Consulting. This letter identified the project and asked Native Americans who were concerned regarding project related construction disturbances in their area to contact staff. No responses have been received by either Applicant's consultant or Staff. (Ex. 29, p. 4.2-6)

The project will involve trenching of Lafayette Street. It was originally called the Santa Clara-Alviso Road and dated to the 1850's. At present it is a four-lane paved road. Since its original construction it has been subject to numerous improvements, and portions of the road were realigned to accommodate the construction of Highway 101. Although the project would impact Lafayette Street, Staff did not believe that it is a significant cultural resource and therefore no mitigation was necessary or proposed. (Ex. 29, p. 4.2-9).

Although the Union Pacific Railroad was originally built in the 1870s, the tracks were entirely replaced in 1992 and since the PPP natural gas line will employ jack and bore drilling construction methods under the railroad tracks, any impacts would therefore be mitigated. (Ex. 29, p. 4.2-9).

Staff also concluded that the quonset structure will not be impacted by the underground natural gas pipeline. (Ex. 29, p. 4.2-9).

There are four previously identified archaeological sites within 1 mile of the project or 0.25 miles of the linears. However, Staff concluded, and Applicant agreed, that since these sites are outside the project site and linear footprint, there would not be an impact to known archaeological resources. (Ex. 29, p. 4.2-8; Ex. 14). Staff also concluded that although no known archaeological resources were discovered within the project or linear footprint, the area is highly sensitive for buried, prehistoric and historic remains based on the topography,

archival research, historic maps and documentation. (Ex. 29, p. 4.2-10). Therefore, Staff has recommended Conditions of Certification that would reduce the potential for impacts to a less than significant level and provide direction for mitigation of impacts if previously unknown cultural resources are encountered during project construction. (Ex. 29, p. 4.2-13 to 4.2-20). Applicant agreed to the Staff proposed Conditions of Certification. (Ex. 14; 5/7 RT p. 18 to 19)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record,

1. No known cultural resources exist within the Project site and linear footprint.

2. Construction activities associated with the PPP project and related facilities present the greatest potential for adverse impacts to cultural resources.

3. The Conditions of Certification that follow contain measures that will assure adequate mitigation of impacts to any cultural resources encountered during construction and modernization of the project site.

We therefore conclude that implementation of the Conditions of Certification will assure that significant adverse impacts do not occur to cultural resources as a result of project construction or operation. Implementation of the Conditions of Certification below will assure that the PPP will comply with all applicable laws, ordinances, regulations, and standards pertaining to cultural resources set forth in the appropriate portion of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of ground disturbance, the project owner shall obtain the services of a Cultural Resources Specialist (CRS), and one or more alternates, if alternates are needed, to manage all monitoring, mitigation and curation activities. The CRS may elect to obtain the services of Cultural Resource Monitors (CRMs) and other technical specialists, if needed, to assist in monitoring, mitigation and curation activities. The project owner shall 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). No ground disturbance shall occur prior to CPM approval of the CRS, unless specifically approved by the CPM.

CULTURAL RESOURCES SPECIALIST

The resume for the CRS and alternate(s) shall include information demonstrating that the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61 are met. In addition, the CRS shall have the following qualifications:

1. The technical specialty of the CRS shall be appropriate to the needs of the project and shall include, a background in anthropology, archaeology, history, architectural history or a related field; and
2. At least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California.

The resume of the CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS on referenced projects, and demonstrate that the CRS has the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during ground disturbance, grading, construction and operation. In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the Compliance Project Manager (CPM), that the proposed CRS or alternate has the appropriate training and background to effectively implement the conditions of certification.

CULTURAL RESOURCES MONITOR

CRMs shall have the following qualifications:

1. a BS or BA degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or
2. an AS or AA degree in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or
3. enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology or a related field and two years of monitoring experience in California.

CULTURAL RESOURCES TECHNICAL SPECIALISTS

The resume(s) of any additional technical specialists, e.g. historic archeologist, historian, architectural historian, physical anthropologist; shall be submitted to the CPM for approval.

Verification: The project owner shall submit the resume for the CRS, and alternate(s) if desired, to the CPM for review and approval at least 45 days prior to the start of ground disturbance.

At least 10 days prior to a 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.

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

At least 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 shall 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 copies to the CRS and CPM. The CPM shall review submittals and in consultation with the CRS approve those that are appropriate for use in cultural resources planning activities.

If construction of the project would proceed in phases, maps and drawings, not previously provided, shall be submitted prior to the start of each phase. Written notification identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

At a minimum, the CRS shall consult weekly with the project construction manager to confirm area(s) to be worked during the next week, until ground disturbance is completed.

The project owner shall notify the CRS and CPM of any changes to the scheduling of the construction phases. No ground disturbance shall occur prior to CPM approval of maps and drawings, unless specifically approved by the CPM.

Verification: The project owner shall submit the subject maps and drawings at least 40 days prior to the start of ground disturbance. The CPM will review submittals in consultation with the CRS and approve maps and drawings suitable for cultural resources planning activities.

If there are changes to any project related footprint, revised maps and drawings shall be provided at least 15 days prior to start of ground disturbance for those changes.

If project construction is phased, if not previously provided, the project owner shall submit the subject maps and drawings 15 days prior to each phase.

A current schedule of anticipated project activity shall be provided to the CRS on a weekly basis during ground disturbance and also provided in each Monthly Compliance Report (MCR).

The project owner shall provide written notice of any changes to scheduling of construction phases within five days of identifying the changes.

CUL-3 Prior to the start of ground disturbance, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by the CRS, to the CPM for approval. The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. Copies of the CRMMP shall reside with the CRS, alternate CRS, each monitor, and the project owner's on-site manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless specifically approved by the CPM.

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

1. A proposed general research design that includes a discussion of research questions and testable hypotheses applicable to the project area. A refined research design will be prepared for any resource where data recovery is required.
2. The following statement shall be added to the Introduction: "Any discussion, summary, or paraphrasing of the conditions in this CRMMP is intended as general guidance and as an aid to the user in understanding the conditions and their implementation. If there appears to be a discrepancy between the conditions and the way in which they have been summarized, described, or interpreted in the CRMMP, the conditions, as written in the Final Decision, supercede any interpretation of the conditions in the CRMMP. (The Cultural Resources Conditions of Certification are attached as an appendix to this CRMMP.)"
3. Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during ground disturbance, construction, and post-construction analysis phases of the project.
4. Identification of the person(s) expected to perform each of the tasks, their responsibilities; and the reporting relationships between project construction management and the mitigation and monitoring team.
5. A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities.
6. A discussion of all avoidance measures (such as flagging or fencing), to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and

identification of areas where these measures are to be implemented. The discussion shall address how these measures would be implemented prior to the start of construction and how long they would be needed to protect the resources from project-related effects.

7. A discussion of the requirement that all cultural resources encountered shall be recorded on a DPR form 523 and mapped (may include photos). In addition, all archaeological materials collected as a result of the archaeological investigations (survey, testing, data recovery) shall be curated in accordance with The State Historical Resources Commission's "Guidelines for the Curation of Archaeological Collections," into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Title 36 of the Federal Code of Regulations, Part 79.

8. A discussion of any requirements, specifications, or funding needed for curation of the materials to be delivered for curation and how requirements, specifications and funding shall be met. If archaeological materials are to be curated, the name and phone number of the contact person at the institution. This shall include information indicating that the project owner will pay all curation fees and state that any agreements concerning curation will be retained and available for audit for the life of the project.

9. 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.

10. A discussion of the proposed Cultural Resource Report (CRR) which shall be prepared according to Archaeological Resource Management Report (ARMR) Guidelines.

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

CUL-4 The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall be written by the CRS and shall be provided in the ARMR format. The CRR shall report on all field activities including dates, times and locations, findings, samplings and analysis. All survey reports, Department of Parks and Recreation (DPR) 523 forms and additional research reports not previously submitted to the California Historic Resource

Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as an appendix to the CRR.

Verification: The project owner shall submit the subject CRR within 90 days after completion of ground disturbance (including landscaping). Within 10 days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the SHPO, the CHRIS and the curating institution (if archaeological materials were collected).

CUL-5 Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment. The training may be presented in the form of a video. The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Samples or visuals of artifacts that might be found in the project vicinity;
3. Information that the CRS, alternate CRS, and CRMs have the authority to halt construction to the degree necessary, as determined by the CRS, in the event of a discovery or unanticipated impact to a cultural resource;
4. Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery, and shall contact their supervisor and the CRS or CRM; and that redirection of work would be determined by the construction supervisor and the CRS;
5. An informational brochure that identifies reporting procedures in the event of a discovery;
6. An acknowledgement form signed by each worker indicating that they have received the training; and
7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

No ground disturbance shall occur prior to implementation of the WEAP program, unless specifically approved by the CPM.

Verification: The project owner shall provide in the Monthly Compliance Report the WEAP Certification of Completion form of persons who have completed the training in the prior month and a running total of all persons who have completed training to date.

CUL-6 The project owner shall ensure that the CRS, alternate CRS, or CRMs shall monitor ground disturbance full time in the vicinity of the project site, linears and ground disturbance at laydown areas or other ancillary areas to ensure there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner. In the event that the CRS determines that full-time monitoring is not necessary in certain locations, a letter or e-mail providing a detailed justification for the decision to reduce the

level of monitoring shall be provided to the CPM for review and approval prior to any reduction in monitoring.

CRMs shall keep a daily log of any monitoring or cultural resource activities and the CRS shall prepare a weekly summary report on the progress or status of cultural resources-related activities. The CRS may informally discuss cultural resource monitoring and mitigation activities with Energy Commission technical staff.

The CRS and the project owner shall notify the CPM by telephone or e-mail of any incidents of non-compliance with the conditions of certification and/or applicable LORS upon becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the conditions of certification.

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

A Native American monitor shall be obtained, to monitor ground disturbance in areas where Native American artifacts may be discovered. Informational lists of concerned Native Americans and Guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that shall be monitored. The Muwekma Ohlone Tribe meets this requirement.

Verification: 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. Documentation justifying a reduced level of monitoring shall be submitted to the CPM at least 24 hours prior to the date of planned reduction in monitoring.

During the ground disturbance phases of the project, the project owner shall include in the MCR to the CPM copies of the weekly summary reports prepared by the CRS regarding project-related cultural resources monitoring. Copies of daily logs shall be retained and made available for audit by the CPM.

Within 24 hours of recognition of a non-compliance issue with the conditions of certification and/or applicable LORS, the CRS and the project owner 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. In the event of any 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.

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

CUL-7 The project owner shall grant authority to halt construction to the CRS, alternate CRS and the CRMs in the event previously unknown cultural resource sites or materials are encountered, or if known resources may be impacted in a previously unanticipated manner (discovery). Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event cultural resources are found or impacts can be anticipated, the halting or redirection of construction shall remain in effect until all of the following have occurred:

1. The CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e. work stoppage or redirection), a recommendation of eligibility and recommendations for mitigation of any cultural resources discoveries whether or not a determination of significance has been made;
2. The CRS, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and
3. Any necessary data recovery and mitigation has been completed.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS and CRMs have the authority to halt construction activities in the vicinity of a cultural resource discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning.

D. GEOLOGICAL AND PALEONTOLOGICAL RESOURCES

The Energy Commission's primary objective in its geological and paleontological resource analyses is to ensure that there will be no significant adverse impacts to significant geologic and paleontological resources during project construction, operation, and closure. Paleontological resources include the fossilized remains or trace evidence of prehistoric plants or animals, which are preserved in soil or rock. These fossils are significant because they help document the evolution of particular groups of organisms and the environment in which they live.

SUMMARY OF THE EVIDENCE

Geology

Applicant sponsored the testimony of Doug Davy on the project's potential impacts to geological and paleontological resources. (Ex. 26, Ex. 1, Section 8.4 and 8.8). Staff's witness was Dr. Patrick A. Piling who sponsored Section 5.2 of the Staff Assessment, Part I (Ex. 29, Section 5.2). Staff concluded that the nearest known active fault (Hayward Fault) is located approximately 6.2 miles northeast of the plant site. The most significant fault in the vicinity is the San Andreas, located approximately 11.5 miles southwest of the PPP site. Based on a magnitude earthquake of 7.9 on the San Andreas Fault the California Building Code requires that a minimum peak horizontal ground acceleration of 0.4g be used in the design within Seismic Zone 4. (Ex. 29, p. 5.2-4).

Staff concluded that the consolidation, settlement, and expansive soils and seismicity represent other geologic hazards at the site. No mineralogic resources are known to exist in the area. Staff concluded that with the implementation of Conditions of Certification GEN-1, GEN-2, and CIVIL-1, any potential impacts associated with these geologic hazards should be mitigated to less than significant levels. (Ex. 29, p. 5.2-7).

Paleontological Resources

Vertebrate fossils have not been identified in the immediate project area, but vertebrate fossil discoveries have been reported in similar geologic units within 2 miles of the plant site. (Ex. 29, p. 5.2-6). Based on this fact, Staff has recognized that the project area should be considered as potentially sensitive for paleontological resources and proposed paleontological monitoring and salvaging as mitigation to reduce the potential impacts to paleontological resources, as set forth in Conditions of Certification (PALEO-1 through PALEO-7) (Ex. 29, p. 5.2-6 to 5.2-13.) Should any unique paleontological resources be encountered during construction, implementation of the monitoring and mitigation measures required by the Conditions of Certification will reduce the impacts to less than significant.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we find:

1. Implementation of the Conditions of Certification will reduce geological and paleontological impacts to less than significant. (Based on Ex. 29, pp. 5.2-6 through 5.2-13.)

2. The PPP project will have no impact on mineral resources in the project area. (Ex. 29, p. 5.2-6.)

3. The Conditions of Certification will ensure that activities associated with construction and operation of the project will cause no significant cumulative adverse impact to geological or paleontological resources. (Ex. 29, p. 5.2-7.)

4. The PPP project will comply with all applicable LORs. (Ex. 29, p. 5.2-7.)

We therefore conclude that the project will not cause any significant adverse direct, indirect, or cumulative impacts to geological, mineral, or paleontological resources, and will comply with all applicable laws, ordinances, regulations, and standards.

CONDITIONS OF CERTIFICATION

PAL-1 The project owner shall provide the CPM with the resume and qualifications of the Paleontological Resource Specialist (PRS) for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontological Resources Report, the project owner shall obtain CPM approval of the replacement PRS. The project owner shall submit to the CPM to keep on file, resumes of the qualified Paleontological Resource Monitors PRMs. If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM.

The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the required paleontological resource tasks.

As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontology guidelines of 1995. The experience of the PRS shall include the following:

1. institutional affiliations or appropriate credentials and college degree;
2. ability to recognize and collect fossils in the field;
3. local geological and biostratigraphic expertise;
4. proficiency in identifying vertebrate and invertebrate fossils and;
5. at least three years of paleontological resource mitigation and field experience in California, and at least one year of experience leading paleontological resource mitigation and field activities.

The project owner shall ensure that the PRS obtains qualified paleontological resource monitors to monitor as he or she deems 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: At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work.

At least 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. The letter shall be provided to the CPM no later than one week prior to the monitor beginning on-site duties.

Prior to the termination or release of a PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.

PAL-2 The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction laydown areas and all related facilities. Maps shall identify all areas of the project where ground disturbance is anticipated. If the PRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the PRS and CPM. The site grading plan and the plan and profile drawings for the utility lines would normally be acceptable for this purpose. The plan drawings should show the location, depth, and extent of all ground disturbances and can be of such a scale that ranges between 1 inch = 40 feet and 1 inch = 100 feet. If the footprint of the power plant or linear facility changes, the project owner shall provide maps and drawings reflecting these changes to the PRS and CPM.

If construction of the project will proceed in phases, maps and drawings may be submitted prior to the start of each phase. A letter identifying the proposed schedule of each project phase shall be provided to the PRS and CPM. Prior to work commencing on affected phases, the project owner shall notify the PRS and CPM of any construction phase scheduling changes.

At a minimum, the project owner shall ensure that the PRS or PRM consults 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.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the maps and drawings to the PRS and CPM.

If there are changes to the footprint of the project, revised maps and drawings shall be provided to the PRS and CPM at least 15 days prior to the start of ground disturbance.

If there are changes to the scheduling of the construction phases, the project owner shall submit a letter to the CPM within 5 days of identifying the changes.

PAL-3 The project owner shall ensure that the PRS prepares, and the project owner shall submit to the CPM for review and approval, a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) to identify general and

specific measures to minimize potential impacts to significant paleontological resources. Approval of the PRMMP by the CPM shall occur prior to any ground disturbance. The PRMMP shall function as the formal guide for monitoring, collecting and sampling activities and may be modified with CPM approval. This document shall be used as a basis for discussion in the event that on-site decisions or changes are proposed. Copies of the PRMMP shall reside with the PRS, each monitor, the project owner's on-site manager, and the CPM.

The PRMMP shall be developed in accordance with the guidelines of the Society of Vertebrate Paleontology (1995) and shall include, but not be limited to, the following:

1. Assurance that the performance and sequence of project-related tasks, such as any literature searches, pre-construction surveys, worker environmental training, field work, flagging or staking; construction monitoring; mapping and data recovery; fossil preparation and collection; identification and inventory; preparation of final reports; and transmittal of materials for curation will be performed according to the PRMMP procedures;
2. Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and the Conditions of Certification;
3. A thorough discussion of the anticipated geologic units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units;
4. An explanation of why, how, and how much sampling is expected to take place and in what units. Include descriptions of different sampling procedures that shall be used for fine-grained and coarse-grained beds;
5. A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed schedule for the monitoring;
6. A discussion of the procedures to be followed in the event of a significant fossil discovery, including halting construction, resuming construction, and how notifications will be performed;
7. A discussion of equipment and supplies necessary for collection of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;
8. Procedures for inventory, preparation, and delivery for curation of fossil materials into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate

Paleontology standards and requirements for the curation of paleontological resources; and

9. Identification of the institution that has agreed to receive any data and fossil materials collected, 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; and,

10. A copy of the paleontological Conditions of Certification.

Verification: At least (30) days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. The PRMMP shall include an affidavit of authorship by the PRS, and acceptance of the PRMMP by the project owner evidenced by a signature.

PAL-4 Prior to ground disturbance and for the duration of construction, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for all project managers, construction supervisors and workers who are involved with or operate ground disturbing equipment or tools. Workers shall not excavate in sensitive units prior to receiving CPM-approved worker training. Worker training shall consist of an initial in-person PRS training during the project kick-off for those mentioned above. Following initial training, a CPM-approved video or in-person training may be used for new employees. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

The Worker Environmental Awareness Program (WEAP) shall address 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 include:

1. A discussion of applicable laws and penalties under the law;

2. Good quality photographs or physical examples of vertebrate fossils for project sites containing units of high paleontologic sensitivity.

3. Information that the PRS or PRM has the authority to halt or redirect construction in the event of a discovery of unanticipated impact to a paleontological resource;

4. Instruction that employees are to halt or redirect work in the vicinity of a find and to contact their supervisor and the PRS or PRM;

5. An informational brochure that identifies reporting procedures in the event of a discovery;

6. A Certification of Completion of WEAP form signed by each worker indicating that they have received the training; and
7. A sticker that 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 submit the proposed WEAP including the brochure with the set of reporting procedures the workers are to follow.

At least 30 days prior to ground disturbance, the project owner shall submit the script and final video to the CPM for approval if the project owner is planning on using a video for interim training.

If an alternate paleontological trainer is requested by the owner, the resume and qualifications of the trainer shall be submitted to the CPM for review and approval. Alternate trainers shall not conduct training prior to CPM authorization.

In the Monthly Compliance Report (MCR) the project owner shall provide copies of the WEAP Certification of Completion forms with the names of those trained and the trainer or type of training offered that month. The MCR shall also include a running total of all persons who have completed the training to date.

PAL-5 The project owner shall ensure that the PRS and PRM(s) monitors 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 project owner shall notify and seek the concurrence of the CPM.

The project owner shall ensure that the PRS and PRM(s) 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 or email from the PRS and the project owner to the CPM prior to the change in monitoring. The letter or email shall include the justification for the change in monitoring and be submitted to the CPM for review and approval.
2. The project owner shall ensure that the PRM(s) keeps 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 project owner shall ensure that the PRS immediately notifies 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 project owner shall ensure that the PRS prepares a summary of the monitoring and other paleontological activities that will be placed in the Monthly Compliance Report. The summary will include the name(s) of PRS or PRM(s) active during the month, general descriptions of training and monitored 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 identified fossils. 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 an explanation in the summary as to why monitoring was not conducted.

Verification: The project owner shall ensure that the PRS submits the summary of monitoring and paleontological activities in the MCR. When feasible, the CPM shall be notified 10 days in advance of any proposed changes in monitoring different from the plan identified in the PRMMP. If there is an unforseen change in monitoring, the notice shall be given as soon as possible prior to implementation of the change.

PAL-6 The project owner, through the designated PRS, shall ensure that all components of the PRMMP are adequately performed including collection of fossil materials, preparation of fossil materials for analysis, analysis of fossils, identification and inventory of fossils, the preparation of fossils for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during project construction .

Verification: The project owner shall maintain in their compliance file copies of signed contracts or agreements with the designated PRS and other qualified research specialists. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resources Report (See PAL-7). The project owner shall be responsible to pay any curation fees charged by the museum for fossils collected and curated as a result of paleontological mitigation. A copy of the letter of transmittal submitting the fossils to the curating institution shall be provided to the CPM.

PAL-7 The project owner shall ensure preparation of a Paleontological Resources Report (PRR) by the designated PRS. The PRR shall be prepared following completion of the ground disturbing activities. The PRR shall include an analysis of the collected fossil materials and related information and submitted to the CPM for review and approval.

The report shall include, but is not limited to, a description and inventory of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the PRS that project impacts to paleontological resources have been mitigated.

Verification: Within 90 days after completion of ground disturbing activities, including landscaping, the project owner shall submit the Paleontological Resources Report under confidential cover to the CPM.

E. WASTE MANAGEMENT

In this subject area the Applicant and Staff witnesses presented assessments of issues associated with managing wastes generated from constructing and operating the proposed Pico Power Project. These assessments evaluated the proposed waste management plans and mitigation measures designed to reduce the risks and environmental impacts associated with handling, storing, and disposing of project-related hazardous and nonhazardous wastes generated during facility construction and operation.

SUMMARY OF THE EVIDENCE

Applicant's witnesses, W. Douglas Urry and Don McArthur sponsored testimony and exhibits that described the project setting and the types and quantities of wastes that would be generated during the construction and operation of the project. (Ex. 24; Ex. 1, Section 8.14; 5/6 RT 47-48.)

Power Plant Site

The applicant completed and submitted a Phase I Environmental Site Assessment (ESA) conducted according to American Society for Testing and Materials (ASTM) standards in June 2002 for the PPP Site. The Phase I ESA performed for the PPP site identified areas of concern and recommended that a Phase II ESA be performed. The Applicant prepared the Phase II ESA for the PPP site in September 2002. The results of the Phase II ESA indicated that the site does not contain detectable concentrations of total petroleum hydrocarbons (TPH) quantified as gasoline, diesel, or polychlorinated biphenyls in near-surface soils. All but two samples results for the total recoverable petroleum hydrocarbons (TRPH) were below the San Francisco Bay Regional Water Quality Control Board's (RWQCB) Risk-Based Screening Level (RBSL). Deeper soil samples indicated that the TRPH samples were not above the RBSL, determining that there was no significant threat to groundwater. (Ex. 29, p. 4.12-3.)

Gas Compressor Site

The Applicant also performed a Phase I ESA for the gas compressor station site in August of 2002. A Phase II ESA was also performed for the compressor site, which indicated that Test results also indicate that lead and pH concentrations are well below the SFRWQCB RBSLs and are representative of the native soil conditions in the region. There are no volatile organic compounds in the groundwater beneath the site (SVP 2003). (Ex. 29, p. 4.12-4.)

Soil sampling does not guarantee that all contamination will necessarily be detected. Thus, proposed Conditions of Certification WASTE-1 and –2 would require that a Professional Engineer or Geologist be given oversight authority if unforeseen contamination is encountered (Ex. 29, p. 412.-6).

Construction Wastes

The types of hazardous wastes normally generated during construction include waste lubricating oil, cleaning solvents, paints, batteries, oily rags and absorbent, and welding materials. Additional wastes such as concrete and contaminated soil will be generated during demolition and removal of existing foundations. Section 8.14.2.1 of the AFC lists the types and quantities of wastes that may be generated during construction, as well as the proposed management method for each. All hazardous wastes generated during construction will be recycled or disposed of in a licensed hazardous waste treatment or disposal facility (Ex. 1, p. 8.14-3 to 8.14-5).

Operation

Hazardous wastes generated during facility operation include spent air pollution control catalyst, used oil, paint and thinner waste, batteries, cooling tower sludge, solvents, and turbine washwater. Table 8.14-1 of the AFC lists the types and quantities of hazardous wastes generated during operation of the facility, as well as the proposed management method for each. (Ex. 1, p. 8.14-7.)

Some of the hazardous wastes can be recycled, such as used oil, solvents, batteries, and the spent SCR catalyst. All hazardous wastes generated during

construction and operation will be managed in accordance with federal and state laws and regulations. The wastes will be properly characterized, and transported offsite to approved treatment, storage, or disposal facilities by licensed hazardous waste haulers. To help ensure the use of appropriate hazardous waste disposal facilities, Staff proposed Condition of Certification WASTE-4, which requires the project owner to notify Staff of any known enforcement actions against hazardous waste facilities or companies used for project wastes. (Ex. 29, p. 4.12-10.)

The Staff witness concluded that there will be no significant impacts to the public or the environment from disposal of project-related hazardous wastes, because the Applicant's program for waste management would comply with all applicable laws, ordinances, regulations, and standards. Since final facility design and operational procedures may impact the amounts and types of wastes ultimately generated, the project owner would be required to submit waste management plans for construction and operation to Staff under Condition of Certification WASTE-5. (Ex. 29, p. 4.12-10 to 4.12-11.)

Additionally, Staff has proposed Condition of Certification WASTE-6 to ensure that a soil management workplan is developed for the disposal of excavated materials from the project site. (Ex. 30, p. 2-29 to 2-30). This Condition was added as a result of a comment form the California Department of Toxic Substances Control requiring that the soil management plan include a protocol for testing for pesticides. (Ex. 30, p. 3-1).

Staff testimony sponsored by Ellen Townsend-Hough examined the waste management related measures proposed by Applicant and concluded that, together with applicable LORS and the Conditions of Certification proposed by staff, they would adequately assure that no significant adverse environmental impacts will result from the management and disposal of project-related waste. (Ex. 29, p. 4.12-9; Ex. 30, pp. 2-29, 2-30)

FINDINGS AND CONCLUSIONS

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

1. The project will generate hazardous and non-hazardous wastes during construction and operation.

2. Phase I and Phase II Environmental Site Assessments carried out by the Applicant found that there exists a potential for contaminated soil to be encountered at the project site and gas compressor site. Conditions of Certification WASTE-4, -5, and -6 ensure that any contaminated soil would be removed in accordance with applicable laws, ordinances, regulations, and standards.

3. The project will comply with all applicable laws, ordinances, regulations, and standards and wastes generated during construction and operation of the proposed project will be managed in an environmentally safe manner.

4. The management of all project wastes will be in compliance with all applicable laws, ordinances, regulations, and standards.

5. Disposal of project wastes will not result in significant adverse impacts to existing waste disposal facilities.

6. The Conditions of Certification set forth below and waste management practices detailed in the Application for Certification will reduce all potential waste management impacts to a level of insignificance.

The Energy Commission therefore concludes that implementation of waste management measures proposed in the Application for Certification and implementation of the Conditions of Certification below will not result in any significant adverse impacts from the management of wastes generated during construction and operation of the Pico Power Project. We further conclude that the project will conform with all laws, ordinances, regulations, and standards relating to waste management in the pertinent portions as identified in Appendix A.

CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall provide the resume of a Registered Professional Engineer or Geologist, who shall be available for consultation during soil excavation and grading activities, to the Compliance Project Manager (CPM)

for review and approval. The resume shall show experience in remedial investigation and feasibility studies.

The Registered Professional Engineer or Geologist shall be given full authority to oversee any earth moving activities that have the potential to disturb contaminated soil.

Verification: At least 30 days prior to the start of site mobilization the project owner shall submit the resume of the designated Registered Professional Engineer or Geologist to the CPM.

WASTE-2 If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Registered Professional Engineer or Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and file a written report to the project owner and CPM stating the recommended course of action.

Depending on the nature and extent of contamination, the Registered Professional Engineer or Geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the Registered Professional Engineer or Geologist, significant remediation may be required, the project owner shall contact (as appropriate) representatives of the San Francisco Regional Water Quality Control Board, the City of Santa Clara Fire Department, and the Berkeley Office of the California Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any final reports filed by the Registered Professional Engineer or Geologist to the CPM within 5 days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

WASTE-3 The project owner shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control prior to generating any hazardous waste.

Verification: The project owner shall keep its copy of the identification number on file at the project site and notify the CPM via the Monthly Compliance Report of its receipt.

WASTE-4 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-5 The project owner shall prepare a Construction Waste Management Plan and an Operation Waste Management Plan for all wastes generated during construction and operation of the facility, respectively, and shall submit both plans to the CPM for review and approval. The plans shall contain, at a minimum, the following:

- A description of all waste streams, including projections of rates and amounts generated and hazard classifications; and
- Methods of managing each type of waste, including treatment methods and companies contracted with for treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/reduction plans.

Verification: No less than 30 days prior to the start of site mobilization, the project owner shall submit the Construction Waste Management Plan to the CPM. 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.

In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to the planned management methods.

WASTE-6 The project owner shall provide soil management workplan to the CPM providing the methods, which will be used to properly handle or dispose of soil, which may contain contaminants. The workplan will discuss: 1) landfill facility disposal options, 2) acceptance criteria, and 3) soil contaminant characterization requirements, including a protocol for testing for chlorinated pesticides and metals from historical pesticide use at the site.

Verification: The project owner shall submit the soil management workplan to the CPM for approval 60 days prior to any earth moving activities, including those associated with sire mobilization, ground disturbance, or grading as defined in the general conditions of certification.

VII. LOCAL IMPACT ASSESSMENT

A. LAND USE

The land use analysis of the PPP focuses on two main issues: the project's consistency with local and state land use plans, ordinances and policies; and the project's compatibility with existing and planned land uses. Indirect land use impacts such as noise, traffic, visual resources, air quality, biology, transmission line safety and nuisance, or public health are discussed in those specific areas of this Presiding Member's Proposed Decision.

SUMMARY OF THE EVIDENCE

Applicant's witness, Brent L. Moore, sponsored Exhibit 17 and section 8.6 of the AFC (Ex. 1, section 8.6; 5/7 RT 21.) and related data responses. The testimony established the proposed site is located in an industrial belt of the city. This area contains a diverse mix of both small and large light industrial, heavy industrial, and office uses. Although some retail commercial uses and a few residences (caretaker facilities) are interspersed through the area, the vicinity of the project site is predominantly industrial in nature, characterized by manufacturing, processing, and public storage facilities; distribution and warehouse facilities; and miscellaneous industrial and business park developments. (Ex. 29, p. 4.4-3.)

The Staff witness David Flores sponsored the Staff's independent analysis of Land Use issues in Section 4.5 of the Staff Assessment, Part I and portions of the Staff Assessment Addendum and subsequent corrections. (Ex. 29, section 4.5; Ex. 30, p. 2-7 and Ex. 32. p. 2-1.) The proposed PPP site is zoned as Public/Quasi-public (B) and the construction laydown areas are zoned either Heavy Industrial (HI) or Public/Quasi-Public (B). Staff determined that the PPP's proposed uses would comply with the City of Santa Clara's LORS. The proposed project is appropriately sited in an area designated for industrial development in the General Plan. The City's General Plan policies concerning the Industrial Corridor are generally supportive of new industrial projects for economic

development reasons, rather than restrictive or prohibitive. Staff has concluded that the proposed project does not conflict with any of the relevant land use policies contained in the City of Santa Clara General Plan. (Ex. 29, p. 4.4-9.)

The Staff witness concluded that "the project would not physically divide an established community, would not conflict with any applicable land use plan, policy, or regulation, and would not conflict with any applicable habitat conservation plan. The proposed use would be consistent with the policies of the City of Santa Clara's General Plan, and is considered a primary use permitted in the "B" District of the Zoning Ordinance. The project appears to conform to the development standards for the "B" District and such conformance can be assured with the implementation of recommended condition of certification LAND-1. Therefore, the project's land use impacts are either less than significant or can be readily mitigated to a less-than-significant level." (Ex. 4.4-12)

FINDINGS AND CONCLUSIONS

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

1. The PPP site is zoned Public/Quasi-Public under the City of Santa Clara zoning ordinance and the predominant land uses surrounding the project site are heavy industrial, light industrial, office and open space.

2. With mitigation, the proposed Project is consistent with the applicable land use requirements. The Project is compatible with existing and planned land uses, and would not preclude or unduly restrict existing or planned land uses.

We therefore conclude that construction and operation of the project will not result in significant adverse direct, indirect, or cumulative land use impacts. Implementation of the Conditions of Certification will ensure that the project will meet all applicable laws, ordinances, regulations, and standards governing land use. The PPP complies with local land use designations and if constructed and operated under the Conditions of Certification that follow, the project will not impose significant adverse impacts upon local land uses.

CONDITIONS OF CERTIFICATION

LAND-1 The project owner shall comply with the minimum design and performance standards for the Public/Quasi-Public (B) District set forth in the City of Santa Clara Zoning Ordinance (Article 26, Sec.26-1 through 13).

Verification: At least 30 days prior to site mobilization of the PPP, the project owner shall submit written evidence to the Energy Commission Compliance Project Manager (CPM) that the project conforms to all applicable design and performance standards for the Industrial (B) District set forth in the City of Santa Clara Zoning Ordinance (Section 26-1 through 13). The submittal to the CPM shall include evidence of review by the City.

LAND-2 The project owner shall comply with the parking standards established by the City of Santa Clara Zoning Ordinance (Article 26, Sec. 26-12).

Verification: At least 30 days prior to site mobilization, the project owner shall submit to the CPM, written documentation, including evidence of review by the City of Santa Clara, that the project conforms to all applicable parking standards.

LAND-3 The project owner shall ensure that any signs erected (either permanent or for construction only) comply with the outdoor advertising regulations established by the City of Santa Clara zoning ordinance (Article 40, Sec. 40-1 through 17).

Verification: At least 30 days prior to start of construction, the project owner shall submit to the CPM, written documentation, including evidence of review by the City/County, that all erected signs will conform to the zoning ordinance.

LAND-4 The project owner shall provide the Director of the City of Santa Clara Planning Department for review and comment and the CPM for review and approval, descriptions of the final lay down/staging areas identified for construction of the project. The description shall include:

a. Assessor's Parcel Number;
b. Addresses;
c. Land use designations;
d. Zoning;
e. Site plan showing dimensions;
f. Owners name and address (if leased);
g. Duration of lease (if leased); and,
h. if a discretionary permit was required, two copies of all discretionary and/or administrative permits necessary for use as laydown/staging areas.

Verification: The project owner shall provide the specified documents at least 30 days prior to the start of any ground disturbance activities.

LAND-5 The project owner shall provide to the CPM for approval, a site plan with dimensions showing the locations of the proposed buildings and structures in compliance with the minimum yard area requirements (setbacks) from the property line as stipulated in the City of Santa Clara Zoning Ordinance.

Verification: At least 30 days prior to the start of construction, the project owner shall submit a site plan showing that the project conforms to all applicable yard area requirements as set forth in the City of Santa Clara Zoning Ordinance.

LAND-6 Prior to the start of construction, the project owner shall obtain the necessary approval(s) from the City of Santa Clara and complete any lot merger or lot line adjustments necessary to ensure that the proposed project site, including associated on-site facilities, improvements and buffer areas that would allow adjacent parcels to be developed to their full extent as presently zoned, will be located on a single legal lot.

Verification: At least 30 days prior to the start of construction, the Project Owner shall provide the CPM with proof of completion of the above adjustments or satisfactory evidence that no such adjustments are necessary.

LAND-7 Prior to the start of construction, the project owner shall obtain the necessary approval(s) from the City of Santa Clara and complete the street right-of-way abandonment of Pico Way that crosses the Pico power plant site.

Verification: At least 30 days prior to the start of construction, the project owner shall provide the CPM with proof of completion of the above roadway abandonment of Pico Way.

LAND-8 The project owner shall ensure that the pedestrian/bicycle pathway within the 60-foot dedicated right-of-way located at Gianera Street and Wilcox Avenue is partially realigned to accommodate the gas metering station prior to construction of the gas metering station.

Verification: At least 30 days prior to the start of construction of the gas metering station, the project owner shall provide the CPM with proof of a contract indicating that completion of the above realignment of the pedestrian/bicycle pathway will be accomplished prior to construction of the gas metering station.

B. NOISE

The construction and operation of any power plant creates noise, or unwanted sound. The character and loudness of this sound, the times of day or night during which it is produced, and the proximity of the facility to sensitive receptors combine to determine whether a project's noise will cause significant adverse impacts to the environment. In the licensing process, the Energy Commission evaluates those impacts and determines whether noise produced by project-related activities will be consistent with applicable noise control laws and ordinances. In this portion of the Decision, we examine the likely noise impacts from the Pico Power Project and the sufficiency of measures proposed to control them.

SUMMARY OF THE EVIDENCE

Applicant's noise engineer was Thomas Adams who sponsored Exhibit 18 and section 8.7 of the AFC, (Exhibit 1). Mr. Adams testified that the project will comply with all applicable LORS relating to noise and that, with the application of the Conditions of Certification proposed in the Staff Assessment, Part I (Exhibit 29) and Staff Assessment Addendum (Exhibit 30), the project will not have any significant adverse noise impacts on the environment. (Ex. 25; 5/7 RT 24.)

Staff testimony was sponsored by Steve Baker. (Ex. 29, Section 4.6, Ex. 30) After reviewing Applicant's design proposals for noise attenuation, the Staff witness concluded that, with the Conditions of Certification, the project will meet all noise LORS and will impose no significant impacts on the environment due to noise (Ex. 29, p. 4.5-17).

<u>Power Plant Operation</u>

The Applicant's modeling of the power plant's expected contribution to existing ambient noise in the project area (Ex. 1, Section 8.7.2.3) indicated that residential and recreational receptors would not experience noise from PPP above the existing background noise levels. To reduce plant noise to below the

City of Santa Clara's noise standards for neighboring industrial uses, the Applicant has identified the following additional noise control features that could be used to reduce operating noise at the site boundary (Ex. 1, p. 8.7-20, modification described in Ex. 30, p. 2-9):

1. noise barrier walls on the north, west, and northeast site boundaries;
2. splash baffles, closed ends, and closable louvers on the cooling tower;
3. purchase of quiter equipment; and
4. a building enclosing the natural gas compressors.

With the above measures, the operational noise level at the northern plant boundary is predicted to be below the City General Plan Limit of 63.3 dBA L_{eq}. This is an area of adjacent industrial uses. (Ex. 29, p. 4.5-14 to 4.5-15)

The Applicant performed a noise survey at the closest sensitive receptors. These locations included residences on Lafayette Street, Granada Islamic School, and the Laurelwood Road Apartments. (Ex. 1, p. 8.7-2). Applicant modeled the impacts of the operations of the power plant using the average nighttime ambient measurements. Staff performed a more conservative analysis by averaging the ambient measurements of the 4 quietest hours of the nighttime. Staff's conservative analysis confirmed that the PPP would not result in significant noise impacts to these sensitive receptors. (Ex. 29, pp. 4.5-13 to 4.5-14).

Staff's evaluation determined that the PPP would result in a net increase in background, or constant-level noise, of 2 dBA. Such an increase is practically undetectable, is below the level of significance, and should not be annoying to residents. Since the Granada Islamic School is only in use during daytime, Staff compared projected plant noise to the daytime average ambient during (assumed) school hours. The comparison revealed that plant noise would be 14 dBA less than ambient noise levels and that the plant would be inaudible at the school. (Ex. 29, p. 4.5-14).

The Applicant has acknowledged the need to protect plant operating and maintenance workers from noise hazards, and has committed to comply with applicable LORS (Ex. 1, p. p. 8.7-21 and 8.7-24). Signs would be posted in areas of the plant with noise levels exceeding 85 dBA (the level that OSHA recognizes as a threat to workers' hearing), and hearing protection would be required. Applicant would also implement a comprehensive hearing conservation program. To ensure that plant operating and maintenance workers are, in fact, adequately protected, Energy Commission staff has proposed Condition of Certification NOISE-7. (Ex. 29, p. 4.5-16).

Tonal and Intermittent Noises

One possible source of annoyance would be strong tonal noises. Tonal noises are individual sounds (such as pure tones) that, while not louder than permissible levels, stand out in sound quality. Intermittent noises would include steam relief valves venting during startup, shutdown, or unplanned unit trips. Applicant plans to address overall noise in design, and to install appropriate vent silencers to eliminate these factors as possible sources of annoyance (Ex. 1, p. 8.7-19) by a fan enclosure. Should tonal noise occur during project operation, proposed Condition of Certification NOISE-6 would require that the tonal noise be eliminated. (Ex. 29, p. 4.5-15.)

Plant Vibration

The operating components of a combined cycle power plant consist of high-speed gas and steam turbines, compressors, and various pumps. All of these pieces of equipment must be carefully balanced in order to operate; permissible vibration levels are on the order of 0.06 inches/second. Applicant calculates that, given normal attenuation through the soil, any equipment vibration would be reduced to less than 0.004 inches/second at the site boundary (Ex. 1, p. 8.7-8 to 8.7- 8.7-14). This is approximately the threshold at which an individual could detect the vibration, and is much less than the City Noise Ordinance limit of 0.01 inches/second. Staff agrees with this estimate, and agrees with the Applicant

that groundborne vibration from the PPP will be undetectable by any likely receptor. (Ex. 29, p. 4.5-15.)

The PPP's chief source of airborne vibration would be the gas turbines' exhaust. In a combined cycle plant such as the PPP, however, the exhaust must pass through the HRSGs before it reaches the atmosphere. The HRSGs act as extremely efficient mufflers; it would be exceedingly rare for such a plant to cause perceptible airborne vibration effects at receptors located as far away (approximately one-third to one-half mile) as the PPP's nearest sensitive receptors. (Ex. 29, p. 4.5-15).

Construction Noise

The City of Santa Clara places no limit on the level of construction noise, but limits such noise to certain hours. However, the City's Construction Regulation ordinance applies only to construction on privately-owned land, within 300 feet of residentially-zoned property, and specifically exempts work on utilities, and work performed under a state permit. As such, this ordinance restricting construction hours would not apply to work on the power plant site itself, since this is City-owned property, and the work would be done under a state permit. The City of Santa Clara provided further clarification that construction of the linear facility to support the PPP would also be exempt from the ordinance. (Ex. 29, p. 4.5-9 as modified by Ex. 30, p. 2-10).

The PPP will not drive piles. (Ex. 29, p. 4.5-12). Other than steam blowing (discussed separately, below), the predicted worst-case average hourly noise levels during construction would range from approximately 54 to 58 dBA at the nearest noise sensitive receptors. Yet the ambient levels at these locations range from 55 to 58 dBA L_{eq} during the nighttime, when noisy construction work is typically not performed. During the daytime, L_{eq} levels at these locations range from 62 dBA to as high as 72 dBA Ex. 1, Table 8.7-1). Construction noise will be effectively inaudible during the day. If nighttime work were required, it would

represent an increase in noise levels of only 3 to 4 dBA, a barely noticeable intrusion. (Ex. 29, p. 4.5-9).

The Applicant anticipates conducting construction activities between the hours of 6:00 a.m. and 6:00 p.m. Monday through Saturday. Towards the end of project construction, certain critical construction activities associated with plant startup could continue 24 hours per day on any day of the week. Limitations on the hours of certain construction activities such as steam blows could be necessary in order to reduce local impacts to sensitive receptors. These limitations and further measures to ensure resolution of noise complaints would reduce any potential impacts. Noise effects from construction would be reduced through the implementation of proposed Conditions of Certification NOISE-1, NOISE-2, and NOISE-8. (Ex. 29, p. 4.6-17 to 4.5-20; as modified by Ex. 30, p. 2-11.)

Steam Blows

High-pressure steam blows could produce noise as loud as 110 dBA at a distance of 100 feet. The Staff witness has recommended the use of a quieter steam blow process, referred to as QuietBlowTM or SilentsteamTM. This method utilizes lower pressure steam over a continuous period of 36 hours or so. Resulting noise levels reach only about 86 dBA at 50 feet, according to the Staff witness. (Ex. 1, page 4.6-9 and 10.) Applicant has predicted steam blow noise levels at the nearest sensitive receptors; (Ex. 1, p. 8.7-18, Table 8.7-4). Compared to ambient L_{eq} noise levels, noise from high pressure steam blows would at least equal normal daytime L_{eq} ambient noise at all three receptors, or exceed it by as much as 10 to 15 dBA. The short-term nature of such steam blows, and its restriction to daytime hours, would likely render such noise levels tolerable to residents. It is possible that noise from steam blow operations heard at the Granada Islamic School would be more noticeable than aircraft noise from Santa Clara International Airport, but likely not significantly so. Staff believes that high pressure steam blows, performed with the appropriate silencers in place, could be employed at PPP without presenting significant unmitigated impacts on sensitive receptors. (Ex. 29. p. 4.5-10)

Staff has proposed Conditions of Certification to limit noise from steam blows by limiting the hours when high pressure steam blows can be performed, prohibiting the use of high-pressure steam blows unless appropriately silenced and to implement a notification process to make neighbors aware of impending steam blows. (see proposed Conditions of Certification NOISE-4, NOISE-5 and NOISE-8.) (Ex. 1, p. 4.5-18 to 4.5-20, as modified by Ex. 30, p. 2-9 and 2-11.)

Linear Facilities

Potential noise effects where the project would involve construction of linear facilities (recycled water and natural gas pipelines) would be primarily the result of heavy equipment use when excavating and filling the trenches for the gas and water lines. The Applicant has estimated that typical heavy construction equipment used for the transmission line and pipeline construction will produce noise levels of about 80-91 dBA at a distance of 50 feet. (Ex. 1, p. 8.7-18.) The work is expected to proceed in a sequential fashion, without producing construction noise in any given area for a substantial length of time. (*ibid*.)

Noise levels in the project area would increase during the construction of linear facilities. These increases would be perceptible, especially for residences nearest the new gas pipeline. Because construction noise from linear facilities would be temporary and would be limited to daytime hours, the effects would not be significant. (Ex. 1, p. 8.7-18.).

Based upon the potential impacts of construction noise, the Staff has recommended the inclusion of two Conditions of Certification (NOISE-1 and NOISE-2) to monitor and mitigate potential construction noise impacts. Staff agrees that with the implementation of the proposed Conditions of Certification, construction activity for the linear facilities will not result in significant noise impacts. (Ex. 29, p. 4.5-17).

Construction Worker Exposure

The Applicant recognizes the applicable LORS that would protect construction workers, and commits to complying with them (Ex. 1, p. 8.7-21 and 8.7-24). To ensure that construction workers are, in fact, adequately protected, Staff has proposed Condition of Certification NOISE-3. (Ex. 29, p. 4.5-12.)

FINDINGS AND CONCLUSIONS

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

1. Construction and operation of the Pico Power Project will not increase noise levels significantly above existing ambient levels in the surrounding community.

2. The nearest residential receptors to the project are located at the 0.34 miles northwest of the project site.

3. Noise associated with construction activities at the project will be temporary in nature and mitigated to the extent feasible; therefore, they will not result in a significant impact to the surrounding community.

4. Implementation of the Conditions of Certification, which follow, will ensure that noise levels in the community will not significantly increase as a result of the project.

5. With implementation of the Conditions of Certification, the project will be constructed and operated in conformity with the applicable laws, ordinances, regulations, and standards.

We therefore conclude that the PPP will not create any significant direct, indirect, or cumulative adverse noise impacts, and will comply with all applicable laws, ordinances, regulations, and standards.

CONDITIONS OF CERTIFICATION

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 and the linear facilities, 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: Prior to ground disturbance, the project owner shall transmit to the Compliance Project Manager (CPM) a statement, signed by the project owner's project manager, stating that the above notification has been performed, and describing the method of that notification, verifying that the telephone number has been established and posted at the site, and giving that telephone number.

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:

1. Use the Noise Complaint Resolution Form (below), or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
2. Attempt to contact the person(s) making the noise complaint within 24 hours;
3. Conduct an investigation to determine the source of noise related to the complaint;
4. If the noise is project related, take all feasible measures to reduce the noise at its source; and
5. Submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to 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, with the local jurisdiction and the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 3-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is implemented.

NOISE-3 The project owner shall submit to the CPM for review and approval 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 noise control program. The project owner shall make the program available to Cal-OSHA upon request.

STEAM BLOW MANAGEMENT

NOISE-4 If a traditional, high-pressure steam blow process is employed, the project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 80 dBA measured at a distance of 100 feet. The project owner shall conduct steam blows only during the hours specified in Condition of Certification NOISE-8, unless the CPM agrees to longer hours based on a demonstration by the project owner that offsite noise impacts will not cause annoyance.

If a low-pressure continuous steam blow or air blow process is employed, the project owner shall submit a description of this process, with expected noise levels and projected hours of execution, to the CPM, who shall review the proposal with the objective of ensuring that the resulting noise levels from the steam or air blows alone will not exceed 49 dBA L_{eq} measured at the apartments at 1425 Laurelwood Road. If the low-pressure process is approved by the CPM, the project owner shall implement it in accordance with the requirements of the CPM.

Verification: At least 15 days prior to the first high-pressure steam blow, the project owner shall submit to the CPM drawings or other information describing the temporary steam blow silencer and the noise levels expected, and a description of the steam blow schedule.

At least 15 days prior to any low-pressure continuous steam blow, the project owner shall submit to the CPM drawings or other information describing the process, including the noise levels expected and the projected time schedule for execution of the process.

STEAM BLOW NOTIFICATION

NOISE-5 Prior to the first high-pressure steam blow(s), the project owner shall notify all residents, school principals or business owners within one mile of the site of the planned steam blow activity, and shall make the notification available to other area residents in an appropriate manner.

The notification may be in the form of letters to the area residences, telephone calls, fliers or other effective means. The notification shall include a description of the purpose and nature of the steam blow(s), the proposed schedule, the expected sound levels, and the explanation that it is a one-time operation and not a part of normal plant operations.

Verification: Project owner shall notify residents, schools and businesses at least 15 days prior to the first high-pressure steam blow(s). Within five days of notifying these entities, the project owner shall send a letter to the CPM confirming that the residents, schools and businesses have been notified of the planned steam blow activities, including a description of the method(s) of that notification.

NOISE RESTRICTIONS

NOISE-6 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause noise levels due to plant operation alone to exceed 45 dBA L_{eq} measured at the apartments at 1425 Laurelwood Road, and that the noise due to plant operation will comply with the noise standards of the City of Santa Clara General Plan, or 63.3 dBA L_{eq} at the site boundaries.

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.

A. When the project first achieves a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at the monitoring site near the apartments at 1425 Laurelwood Road. This survey during power plant operation 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.

B. If the results from the noise survey indicate that the power plant noise level (L_{eq}) at the affected receptor exceeds the above value for any given hour during the 25-hour period, or that the noise standards of the LORS have been exceeded, mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

C. If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: The survey shall take place within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity. Within 15 days after completing the survey, the project owner shall submit a summary report of the survey to the City of Santa Clara Planning Department, and to the CPM. Included in the 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. When these measures are in place, the project owner shall repeat the noise survey.

Within 15 days of completion of the new survey, the project owner shall submit to the CPM a summary report of the new noise survey, performed as described above and showing compliance with this condition.

NOISE-7 Following 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-8 Noise due to high pressure steam blows shall be restricted to the times of day delineated below:

Monday through Friday	7 a.m. to 6 p.m.
Saturday	9 a.m. to 6 p.m.
Sunday and Holidays	Not permissible

Holidays are defined as January 1st, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, Thanksgiving Day and the day after, and December 25th.

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: Prior to ground disturbance, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

NOISE COMPLAINT RESOLUTION FORM

Pico Power Project (02-AFC-3)
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

This section of the Decision addresses the potential direct and cumulative impacts of the proposed PPP project on local communities, community resources, and public services, such as schools, medical, and police services. It also considers the effect of project-related impacts on minority and low-income populations. Executive Order 12898, Federal Actions to address Environmental Justice in Minority Populations and Low-Income Populations, focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The order requires the U.S. Environmental Protection Agency, all other federal agencies, and state agencies receiving federal funds to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

SUMMARY OF THE EVIDENCE

The Applicant's witness, Doug Davy sponsored Exhibit 20 and Section 8.10 of the AFC. (Ex. 1; 5/7 RT 26-27.)

The Staff's independent analysis of Socioeconomics is set forth in the Staff Assessment, Part I and is sponsored by Amanda Stennick. (Ex. 29, pp. 4.7-1 to 4.7-10.)

The Applicant's witness testified that total construction personnel requirements during the 18 to 20 months of construction will be approximately 2,158 person-months, or 180 person-years. (Ex. 1, p. 8.10-8). Due to the small scale of the project, it is not likely that project construction would generate a significant increase in area population. Almost all of the construction workforce, 114 workers on average peaking to 206 in months 11 and 12, will be drawn from the regional

labor pool. Virtually the entire construction workforce is expected to commute to the project site, as opposed to relocating to the area. As a result, the construction of the PPP will not create any significant adverse impacts to the local school system since there will likely be no new students entering the local school districts. The construction of the proposed project will not cause significant demands on public services or facilities. All utilities are readily available from local utility providers and the construction of the proposed project will not cause significant demands to electricity and gas, sewer, water, or telephone service. (Ex. 1, pp. 8.10-8 to 8.8-10).

Workers employed during construction will be paid $38.8 million as wages and salaries, including benefits. The total tax revenue from the sale of local products used for construction would be in the range of $412,500 to $825,000. (Ex. 1, p. 8.10-10.)

The Applicant's witness further testified that when the facility becomes operational, the PPP is expected to employ approximately 15 full-time employees with no significant impact on population due to plant operations. There would also be no anticipated significant impacts to local housing resources. There will be no significant impact to the local educational system from the operation of the PPP. (Ex. 1, pp. 8.10-11 to 8.10-12). Operation of the proposed project will not cause significant demands on public services or facilities. Required utilities are readily available from local providers. PG&E has agreed to supply natural gas to the facility. The primary source of industrial makeup water will be tertiary-treated water from the San Jose/Santa Clara Water Pollution Control Plant. The source for potable water will be the City of Santa Clara. Since the Applicant is a municipal entity, the PPP will not pay property tax. (Ex. 1, p. 8.10- 12)

The Staff testimony similarly concludes the PPP should result in gross benefits for the affected area from increased sales taxes, and a higher employment base. The community should also benefit from the economic activity generated by the

purchase of services, manufactured goods and equipment from local businesses. The PPP should not cause a significant adverse impact on the affected area's housing, schools, police, fire, emergency services, or hospitals, during construction and operation. The PPP will comply with all applicable policies in the Economic Development Element of the City of Santa Clara's General Plan. (Ex. 29, p. 4.7-9.)

Minorities and people of color represent 63.08 percent of the population within a 6-mile radius of the project. (Ex. 29, p. 4.7-8.) However, both Staff and Applicant agree that the PPP will not disproportionately impact local minority and low-income populations because these groups will not be exposed to disproportionately high and adverse impacts from the project. (Ex. 1, p. 8.10-24; Ex. 29, p. 4.7-9.) This is because potential project impacts will be mitigated to levels below significance.

FINDINGS AND CONCLUSIONS

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

1. The PPP will draw primarily upon the local labor force from the Bay Area for construction and operation workers, and have a construction payroll of approximately $38.8 million.

2. The project will not cause an influx of a significant number of construction or operation workers into the local area.

3. The proposed project is not likely to have a significant adverse effect on traditional socioeconomic considerations including employment, housing, schools, medical, tax revenues, and fire and police protection.

4. The project will likely result in increased revenue from sales taxes due to construction activities.

5. The project owner will recruit employees and purchase materials within the Bay Area to the greatest extent possible.

6. The project will have no significant adverse impacts on minority populations in the local area.

We therefore conclude that project-related construction and operation activities will not impose any significant adverse socioeconomic impacts and that the project will conform with all applicable laws, ordinances, regulations, and standards relating to socioeconomic factors. In summary, the PPP will not result in any significant direct, indirect, or cumulative adverse socioeconomic impacts.

Therefore, no Conditions of Certification are proposed.

D. TRAFFIC AND TRANSPORTATION

In this section, we examine the extent to which the PPP will affect the regional and local transportation systems in the vicinity of the project. In some cases, large numbers of construction workers can, over the course of the construction period, increase roadway congestion and affect traffic flow. Traffic related to plant operation does not tend to produce similar types of impacts because of the limited number of vehicles involved.

Therefore, during these licensing proceedings, we identified the roads and routings to be used during construction and operation phases of the project; analyzed potential traffic problems associated with those routings; examined whether adequate parking capacity was available and whether the project would lead to inadequate emergency access; and analyzed the frequency of and routes associated with the delivery of hazardous materials.

SUMMARY OF THE EVIDENCE

Applicant's witness Doug Davy sponsored Exhibit 20 and Section 8.12 of the AFC (Ex. 1, Section 8.12; 5/7 RT 40) and testified that significant effects on the local transportation system are not expected from power plant construction or operational activities and that with implementation of the Conditions of Certification recommended by Staff, any potential traffic and transportation impacts would be reduced to a less than significant level. (Ex. 20)

Staff witness James Adams conducted an independent analysis of project impacts on traffic and transportation as described in the Staff Assessment, Part I (Ex. 29) as modified by the Staff Assessment Addendum (Ex. 30) and Staff's Memo on Changes to Staff's Proposed Conditions of Certification (Staff's Brief dated may 14, 2003).

Roadways

For traffic impact analysis purposes, the Applicant has assumed that construction workers in their vehicles will reach the PPP site by using Central Expressway and Lafayette Street followed by a left turn onto Duane Street. Staff drove this route and observed that the left turn onto Duane was a difficult, potentially hazardous maneuver, because it involves waiting to make the left turn onto Duane while oncoming traffic is hidden by a retaining wall on a curved portion of Lafayette Street, about a thousand feet north of the intersection with Duane Street. Staff estimated that the oncoming traffic was moving at 45-50 miles per hour. There is no signal at this intersection and completing the turn involves a calculated risk. The situation is aggravated when it comes to larger, slow moving vehicles such as trucks making the turn. To address this concern, Staff has proposed a condition prohibiting these dangerous turns and has, with input from the City of Santa Clara and Applicant identified three alternate routes. See Condition of Certification TRANS-7. (Ex. 29, p. 4.9-7; Staff's May 14, 2003 Brief; 5/7 RT 41-42).

The combination of commute, truck, and visitor traffic associated with the construction phase of the PPP would increase the volume of traffic in the local area. However, if Staff's preferred route (Space Park Drive) for construction traffic, specified in Condition of Certification TRANS-7, is utilized, the level of service will not change between existing and "existing plus project" conditions on affected road segments during the construction phase of the PPP. With the measures committed to by the Applicant and memorialized in Condition of Certification TRANS-6**,** all of the roadway segments listed previously under existing conditions will remain at the same levels of service.

Prior to plant construction, a traffic control plan (see Condition of Certification TRANS-6) will be developed and implemented so that traffic flow and access on local roads and intersections will not seriously degrade existing traffic patterns. The traffic control plan will outline what measures will need to be taken on a month-to-month basis, given the expected construction traffic volumes. The

construction contractor will be required to prepare this plan to address timing of heavy equipment and building materials deliveries; an employee ridesharing/trip reduction plan; and signing, lighting, and traffic control device placement.

As a result of Condition of Certification TRANS-7, the Staff witness offered testimony that no significant long-term traffic impacts are expected as a result of the PPP's operational workforce and visitor traffic. (Ex. 29, p. 4.9-11). While the PPP will contribute to the region's traffic volumes, the addition of PPP construction and operation traffic will not result in any significant cumulative impacts. (Ex. 29, p. 4.9-13).

Potential impacts of the transportation of hazardous substances can be mitigated to insignificance by compliance with federal and state standards established to regulate the transportation of hazardous substances. Condition of Certification TRANS-3 addresses compliance with these regulations. (Ex. 29, pp. 4.9-12 to 4.9-13).

Airport Traffic

The PPP site is located approximately one mile northwest of the Norman Y. Mineta/San Jose International Airport. As noted above in the LORS and setting descriptions, the Federal Aviation Administration (FAA) Regulations, Part 77 establishes standards for determining if a structure could endanger airport operations. Pursuant to the City of Santa Clara filing FAA Form 460-1, the FAA issued a Determination of No Hazard to Air Navigation from the two exhaust stacks for the PPP. (Ex. 29, p. 4.9-11)

The heights of the exhaust stacks (i.e. 95 feet above ground) do not require a navigation easement from the Santa Clara County Airport Land Use Commission (SCCALUC). In addition, according to Energy Commission Staff, SCCALUC staff are not concerned about plumes that may be generated by the PPP. Given the SCCALUC experience with existing plumes in the airport vicinity, Energy Commission Staff felt that PPP plumes would not create an aviation safety

hazard. Staff believes that the PPP will not result in a change in air traffic patterns, or constitute any hazard to air traffic safety. (Ex. 29, p. 4.9-11)

Public Comment

Mr. Clark Freitag, representing two properties directly across Lafayette Street from the PPP site, spoke at the Informational Site Visit and Informational Hearing on December 16, 2002 (12/16/02 RT 54 to 56). Mr. Freitag was concerned about the safety of left turns from Duane Street onto Lafayette Street and left turns from Lafayette Street onto Duane Street. Staff recommended Condition of Certification TRANS-7, which we shall adopt, to prohibit such turns.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we find:

1. The addition of traffic associated with construction or operation of the PPP will not have a significant effect on existing levels of service at local intersections in the project vicinity.

2. Development and implementation of a construction traffic control plan will offset any temporary, short-term increases in congestion.

3. The transportation of hazardous materials can be mitigated to insignificance by compliance with federal, state, and local standards.

4. The PPP will not adversely impact airport traffic of the Norman Y. Mineta/San Jose International Airport.

We therefore conclude that the project will not cause any significant adverse direct, indirect, or cumulative impacts to traffic and transportation, and will comply with all applicable laws, ordinances, regulations, and standards.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall comply with California Department of Transportation (Caltrans) and Santa Clara County limitations on vehicle sizes and weights. Overload Limit Permits will be obtained from Caltrans, as necessary. In addition, the project owner or its contractor shall obtain other necessary transportation permits from Caltrans and all relevant jurisdictions for both rail and roadway use.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any oversize and overweight transportation permits or other

necessary transportation permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

TRANS-2 The project owner or its contractor shall comply with California Department of Transportation (Caltrans), City and County of Santa Clara, and other applicable jurisdictions' limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans, City and County of Santa Clara, and all other relevant jurisdictions.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any encroachment permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

TRANS-3` The project owner shall ensure that all federal and state regulations for the transport of hazardous materials are observed.

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 transport of hazardous materials.

TRANS-4 Following completion of project construction of the PPP and all linear facilities, the project owner shall restore Space Park Drive, Kenneth, Duane, and Lafayette Streets, and any other adversely affected road to their pre-construction condition.

Prior to start of site preparation or earth moving activities, the project owner shall photograph, videotape, or digitally record images of Duane Street from Lafayette Street to Kenneth Street, Lafayette Street from Montague Expressway to Central Expressway, Kenneth Street from Duane Street to Space Park Drive, and Space Park Drive from Kenneth Street to Scott Boulevard. The project owner shall provide the CEC Compliance Project Manager (CPM), Santa Clara County, City of Santa Clara and Caltrans (as necessary) a copy of these images. At least 60 days prior to start of site preparation or earth moving activities, the project owner shall also notify Caltrans about the schedule for project construction. The purpose of this notification is to postpone any planned roadway resurfacing and/or improvement projects until after the project construction has taken place and to coordinate construction related activities associated with other projects.

Verification: Within 30 days after completion of project construction, the project owner shall meet with the CPM, Santa Clara County, City of Santa Clara and Caltrans (as needed) to determine and receive approval for the actions necessary and schedule to complete the repair of identified sections of public roadways to original or as near original condition as possible. The project owner shall provide to the CPM a letter from Santa Clara County, City of Santa Clara and CalTrans (as necessary) stating their satisfaction with the road improvements.

TRANS-5 During construction of the power plant and all related facilities, the project owner shall enforce a policy that all project-related parking occurs in designated parking areas.

Verification: At least 45 days prior to start of site preparation or earth moving activities, the project owner shall submit a parking and staging plan for all phases of project construction to the City of Santa Clara for review and comment, and to the CPM for review and approval.

TRANS-6 The project owner shall develop a construction traffic control plan that outlines what measures need to be taken on a month-to-month basis with input from the City of Santa Clara, Caltrans and the CPM. Specifically, the construction Contractor will be required to prepare a traffic control plan and implementation program that addresses timing of heavy equipment and building material deliveries; employee trip reduction; and signing, lighting, and traffic control device placement. The following specific best management practices will be incorporated into the construction traffic control plan:

- Truck loads will not exceed legal limits.
- Loads of material (i.e. excavated soil) will either be enclosed by vehicle covers, wetted, or centered in the truck to prevent wind blowing materials out of the truck.
- Trucks and trailers will be swept clean or hosed after unloading and before entering a public roadway.
- Mufflers, brakes, and all loose items on trucks will be maintained to minimize noise and ensure safe operation.
- Truck operations will be kept to quietest operating speeds. Drivers will be advised to avoid downshifting while driving through or near residential communities.

Verification: At least 30 days prior to start of site preparation or earth moving activities, the project owner shall provide the plan to the City of Santa Clara and Caltrans for review and comment, and to the CPM for review and approval.

TRANS-7 During construction and operation of the PPP, the project owner and contractors shall enforce a policy that all project-related traffic traveling north on Lafayette Street avoid turning left across traffic onto Duane Street, and from turning left onto Lafayette Street from Duane Street. Staff has identified two alternate routes for reaching the site that avoid the left turn off at Lafayette Street.

The project owner and construction contractor will need to require that the construction workforce and truck drivers choose among alternate three routes.

1. The first involves using Central Expressway or San Tomas to Scott Boulevard followed by a turn onto Space Park Drive, a left turn onto

Kenneth Street, and a right turn onto Duane Street and proceed east to the site.

2. The second route involves going south on De La Cruz to Central Expressway and turning right and proceeding west to Scott Boulevard, followed by a right turn on Space Park Drive and proceeding in the same manner identified in the first route.

3. The third route involves going north on Lafayette Street from either the westbound or eastbound lanes on Central Avenue, followed by a left turn onto Comstock and then an immediate right turn into the southern perimeter gate for the PPP site. This route will only be used to transport heavy loads by truck from the rail transfer site to the project. The deliveries will require a flagman and will only occur during early morning hours (3 a.m. to 6 a.m.)

Verification: At least 60 days prior to start of site preparation or earth moving activities, the project owner shall provide a traffic routing plan for all phases of project construction and operation to City of Santa Clara and Caltrans for review and comment, and to the CPM for review and approval.

E. VISUAL RESOURCES

CEQA requires the Energy Commission to analyze the change in any of the physical conditions within the area affected by the project, including objects of aesthetic significance. In order to make this assessment the CEQA guidelines suggest four questions that must be examined:

Would the project:

a) Have a substantial adverse effect on a scenic vista?

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?" (Cal. Code of Regs., tit. 14, Appendices G and I.)

We examine these four questions in this section of the Decision.

SUMMARY OF THE EVIDENCE

Visual Impacts of the Pico Power Project

Applicant's witnesses, Doug Davy and Scott Muller, sponsored Exhibit 23 and section 8.13 of the AFC (Ex. 1) that analyzed the Project's visual impact on the local viewshed. Applicant has reviewed the Staff Assessment and Addendum and subsequent modifications to the proposed Conditions of Certification and agrees with Staff's conclusions and proposed Conditions of Certification. (5/7 RT 46; 6/22 RT 9).

The Staff's visual analysis prepared by Eric Knight was presented in section 4.11 of the Staff Assessment, Part 1. (Ex. 29, pp. 4.11-1 to 4.11-44). Staff further modified its proposed Conditions of Certification in its Addendum to the Staff Assessment (Ex. 30, pp. 2-23 to 2-28) and an additional Memorandum to the Committee. (Ex. 32, p. 2-4 to 2-5).

The PPP site is located immediately south of the Bayshore Freeway (Highway 101) within an industrial area bounded on the south by the Union Pacific Railroad and to the north by Highway 101. Immediately north and west of the site are light industrial uses with attractively designed buildings and landscaped properties. Immediately northeast of the site across Duane Avenue is a public storage facility. East of the site on Lafayette Street is a landscaped office park. Immediately south of the site is the Kifer Receiving Station, which has a complex and chaotic industrial appearance. Approximately 1,000 feet south of the site at the corner of Central Expressway and Lafayette Street is the Owens Corning fiberglass insulation manufacturing plant. This is a large, heavy industrial facility with one large smokestack and a half dozen smaller stacks. The Owens Corning facility emits a water vapor plume, contributing to its heavy industrial character. The Owens Corning plant is shown in AFC Figure 8.13-3a (Visual Character Views - photograph #1). The Norman Y. Mineta San Jose International Airport lies approximately 0.5-mile southeast of the site. (Ex. 29, p. 4.11-7).

The dimensions of the various PPP structures are listed in AFC Table 8.13-2 (Ex. 1. p. 8.3-11). The most visually prominent structures of the PPP would be the two heat recovery steam generator (HRSG) units, the two HRSG stacks, and the cooling tower. The HRSG units and the stacks would be 53 feet tall and 95 feet tall, respectively. The HRSG units would be 40 feet long. The cooling tower would be 62 feet tall (to the top of the fan cones) and 126 feet long. The project would also include two 35-foot tall combustion turbine generators and an approximately 25-foot tall steam turbine generator enclosure. Sound-attenuation walls (ranging in height from 8 feet to 25 feet) would be constructed around the western, northern and eastern boundaries of the site. These walls, which would partially screen the project facilities, would be given a textured, decorative façade. (Ex. 29, pp. 4.11-5 to 4.11-6)

The project has been designed so that the scale of the project structures would transition from the smaller structures located nearer to Lafayette Street to the

larger structures in the center and western part of the site. The 33-foot tall Plant Operations Building, proposed at the corner of the project site at Lafayette Street and Duane Avenue, would incorporate design elements (e.g., reddish roof) to blend in with an adjacent mini-storage facility on Duane Avenue. To partially screen the power plant structures and to comply with City policies and regulations, landscaping would be installed within the setback and right-of-way area along Duane Avenue and Lafayette Street. (Ex. 29, p. 4.11-6)

The Applicant will construct a new gas compressor station at the corner of Comstock and Lafayette Streets. The compressor station would be located within the City's current utility yard at Comstock and Lafayette, 500 feet southwest of the PPP site. The gas compressor equipment would be housed in a 15-foot tall, roofed building, with a footprint of approximately 85 by 80 feet. The gas pipeline would also require a metering station at the line's interconnection point with the PG&E gas distribution line, at the corner of Gianera and Wilcox. The metering station would require an area measuring approximately 30 feet by 60 feet. It would be located within an existing bicycle and pedestrian pathway that runs north from the east end of Gianera Street (at Wilcox Avenue) to the Hetch Hetchy Aqueduct right-of-way, and beyond the right-of-way to Stars and Stripes Drive. The metering station site is situated between the bike path to the east and the fence line of the Gianera Street residences to the west. The bike path would be partially realigned to the east to accommodate the facility. For access and security reasons, either a 6-foot high wall or a security fence with landscaping would surround the metering station. (Ex. 29, p. 4.11-6 to 4.11-7).

Construction Phase

Due to the temporary nature of project construction, the adverse visual impacts that would occur during construction of the power plant and linear facilities would not be significant if complete restoration of construction areas and rights-of-way is accomplished. In addition, given the very close proximity of residences to the gas metering station site, staging and material and equipment storage areas for

gas metering station construction will be visually screened with temporary opaque or semi-opaque fencing. Proper implementation of Condition of Certification VIS-1 would ensure that the visual impacts associated with project construction remain less than significant. (Ex. 29, p. 4.11-14).

Operation Phase

Project Features

Staff conducted a visual assessment of the project structures based on visual simulations created from several key observation points provided by the Applicant. (Ex. 29, pp. 4.11-15 to 4.11-20). Staff has concluded that project structures would cause significant adverse visual impacts (on a direct and cumulative basis) at key observation points 1, 2 and 6 (Lafayette Street). Effective implementation of staff's proposed Conditions of Certification VIS-2 and VIS-3 would reduce these impacts to less than significant levels. With the implementation of the Applicant's proposed mitigation measures and Staff's proposed conditions of certification, the project would be built consistent with local laws, ordinances, regulations, and standards related to visual resources. (Ex. 29, p. 4.11-38). In particular, Staff proposed Conditions of Certification VIS-3 and VIS-5 which require the project owner to submit project plans to the City of Santa Clara for design review so that the City can determine consistency with City policies and guidelines for landscaping and mechanical equipment screening. (Ex. 30, p. 2-23)

Light and Glare

The project would require nighttime lighting for operational safety and security. To reduce offsite impacts, lighting at the facility would be restricted to areas required for safety, security, and operation, and would be turned off in areas where personnel are not present. High illumination areas not occupied on a regular basis would be provided with switches or motion detectors to light these areas only when occupied. Exterior lights would be hooded and directed on-site to minimize the amount of light or glare that would be dispersed or reflected onto adjacent properties. Fixtures of a non-glare type would be specified. The

proposed perimeter sound walls and landscaping along the east side of the site would further reduce the visibility of night lighting. Effective implementation of the Applicant's proposed mitigation measures and Staff's proposed Condition of Certification VIS-4 would ensure that impacts of nighttime lighting would not be significant. (Ex. 29, p. 4.11-22).

Visible Plumes

The Applicant has proposed a plume-abated tower. Staff conducted a plume modeling analysis and concluded that visible plumes from the proposed plume-abated cooling tower and HRSGs are not expected to occur more than 10 percent of seasonal daylight clear hours. Therefore, the project is not expected to cause significant visual impacts under the expected operating conditions. (Ex. 29, p. 4.11-25). However, Condition of Certification VIS-4 will ensure that the frequency of occurrence of the cooling tower plumes is kept below levels of significance. (Ex. 29, p. 4.11-38).

Scenic Vistas and Viewsheds

There are no scenic vistas in the project viewshed and the proposed project is not located within the viewshed of a state scenic highway. Therefore, the project will not result in significant adverse visual impacts to scenic vistas or viewsheds. (Ex. 29, p. 4.11-25).

FINDINGS AND CONCLUSIONS

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

1. Implementation of the Conditions of Certification will reduce the project's visual impacts to less than significant levels in the area.

2. The PPP does not substantially degrade the existing visual character or quality of the site and its surroundings. The project's architectural treatment and landscaping around the perimeter of the site and will help the project visually relate it to its immediate setting.

3. With the mitigation measures that the Applicant has agreed to implement and those required as Conditions of Certification, the project will not have a

substantial adverse effect on a scenic vista, nor will it substantially damage scenic resources.

4. The PPP project does not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

5. The PPP project will not create significant visual impacts associated with visible plumes from the HRSGs or cooling towers.

6. With the implementation of the Conditions of Certification the PPP project does comply with all applicable local laws, ordinances, regulations, and standards.

We therefore conclude that the project will comply with applicable LORS, and will not create significant adverse direct or indirect visual impacts, nor will it contribute to significant adverse cumulative visual impacts.

CONDITIONS OF CERTIFICATION

VIS-1 The project owner shall ensure that visual impacts of construction of the sound walls, gas pipeline, metering station, and underground transmission line (if relocated offsite) are adequately mitigated. To accomplish this, the project owner shall require the following as a condition of contract with its contractors involved in constructing the sound walls, gas pipeline, metering station, and underground transmission line:

a. The construction site and staging and material and equipment storage areas for gas metering station construction shall be visually screened from view from adjacent residences with temporary opaque or semi-opaque fencing. Fencing will be of an appropriate design and color, as determined by the Energy Commission Compliance Project Manager (CPM).

b. All evidence of sound wall, gas pipeline and offsite underground transmission line construction activities, including ground disturbance in staging and storage areas, shall be removed, and all disturbed areas shall be remediated to an original or improved condition upon completion of construction, including the replacement of any vegetation or paving removed during construction. Any replacement plantings shall be monitored for a period of three years to ensure survival. During this period, all dead plant material shall be replaced.

The project owner shall submit to the CPM for review and approval and to the City of Santa Clara for review and comment a specific screening and restoration plan whose proper implementation will satisfy these requirements.

The project owner shall not implement the screening and restoration plan until receiving written approval from the CPM.

Verification: At least 60 days prior to construction of the gas metering station, the project owner shall submit a temporary visual screening plan to the CPM for review and approval and to the City of Santa Clara for review and comment.

At least 60 days prior to construction of the perimeter sound walls, gas pipeline and metering station, and offsite underground transmission line, the project owner shall submit restoration plans to the CPM for review and approval and to the City of Santa Clara 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.

The project owner shall notify the CPM within seven days after installing the temporary screening that it is ready for inspection.

The project owner shall notify the CPM within seven days after completing surface restoration that the restored areas are ready for inspection.

VIS-2 Prior to commercial operation, the project owner shall treat the surfaces of all project structures, buildings, and walls visible to the public such that: their colors minimize visual intrusion and contrast by blending with the landscape; their surfaces do not create excessive glare; and they are designed consistent with the City of Santa Clara Community Design Guidelines. The project owner shall submit to the CPM for review and approval and to the City of Santa Clara for review and comment, a specific treatment and design plan, the proper implementation of which will satisfy these requirements. The submittal to the CPM shall include the City's comments. The treatment and design plan shall include:

a. Specification, and 11" x 17" color photo simulations (KOPs 2 and 5) at life size scale when viewed at 18 inches, of the treatment/design proposed for use on project structures, including structures treated during manufacture;

b. A list of each major project structure, piping, building, tank, transmission line tower and/or pole, and wall and/or fence specifying the color(s) and finish proposed for each (colors must be identified by name and by vendor brand or a universal designation). The transmission line structures shall have a neutral gray finish. The conductors shall be non-specular conductors and non-reflective, and the insulators shall be non-refractive;

c. Two sets of brochures and/or color chips for each proposed color;

d. If practicable, samples at least 5” by 7” of each proposed treatment and color on each material to which they would be applied that would be visible to the public;

e. A detailed schedule for completion of the treatment; and

f. A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated on site, until the project owner receives notification of approval of the treatment plan by the CPM.

Verification: The project owner shall submit its proposed treatment and design plan to the CPM and the City of Santa Clara at least 60 days prior to ordering the first structures that are color treated during manufacture.

If the CPM notifies the project owner that any revisions of the plan are needed, the project owner shall submit to the CPM a revised plan within 30 days after that notification.

Prior to commercial operation, the project owner shall notify the CPM that all buildings and structures are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

VIS-3 The project owner shall prepare and implement a landscape plan to substantially screen views of the power plant and gas metering station and to soften views of perimeter sound walls. Landscaping shall consist of a mix of trees, shrubs, vines, and groundcovers. Fast growing evergreen species shall be used to ensure that maximum screening of the project is achieved as quickly as possible and is effective year-around. Landscaping shall be provided along Lafayette Street and Duane Avenue of sufficient density and height, to substantially screen project structures from southbound views from Lafayette Street within five years after completion of construction. Landscaping shall be installed around the gas metering station to substantially screen it from view from residences at Gianera Street and Wilcox Avenue. Suitable irrigation shall be installed to ensure survival of all plantings. Landscaping shall be installed consistent with the City of Santa Clara Zoning Ordinance and Community Design Guidelines.

The project owner shall submit a landscaping plan to the CPM for review and approval and to the City of Santa Clara Architectural Committee (or other appropriate entity) for review and comment. The submittal to the CPM shall include the City’s comments. The plan shall include:

a. 11”x17” color photo simulations of the proposed landscaping for the power plant, as viewed from KOPs 2, 5 and 6, and for the gas metering station, as viewed from the residences to the west, at 5 years after planting and at maturity;

b. A detailed list of plants to be used, specifying their rates of growth and times to maturity and their proposed size and age at planting;

c. Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and

d. A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project.

The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

Verification: The project owner shall submit the landscaping plan prior to commercial operation and at least 90 days prior to installing the landscaping.

If the CPM notifies the project owner that revisions of the submittal are needed, 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 seven days after completing installation of the landscaping that the plantings and irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in each Annual Compliance Report.

VIS-4 The project owner shall design and install all permanent lighting such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project, the vicinity, and the nighttime sky is minimized. Lighting shall be installed consistent with the City of Santa Clara Zoning Ordinance and Community Design Guidelines. To meet these requirements the project owner shall ensure that:

a. Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to reduce light trespass outside the project boundary while taking into consideration security concerns.

b. All lighting shall be of minimum necessary brightness consistent with worker safety and security concerns;

c. High illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have switches or motion detectors to light the area only when occupied; and

d. Plant operations staff shall record all lighting complaints received and document the resolution of those complaints. All records (following the general format of that in the "Lighting Complaint Resolution Form", Exhibit 29, p. 4.11 – 51, **Visual Resources Appendix VR-3** of the Staff Assessment, Part I) of lighting complaints shall be kept in the on-site compliance file.

Verification: At least 90 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to arrange a meeting to discuss the documentation required in the lighting mitigation plan.

At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and to the City of Santa Clara for review and comment a plan that describes the measures to be used and demonstrates that the requirements of the condition will be satisfied. The submittal to the CPM shall include the City's comments. The project owner shall not order any exterior lighting until it receives CPM approval of the lighting mitigation plan.

Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection.

The project owner shall report any complaints about permanent lighting and provide documentation of resolution in the Annual Compliance Report for that year.

VIS-5 To the extent required by the City of Santa Clara Community Design Guidelines, the project owner shall minimize the visibility of mechanical equipment located on top of the heat recovery steam generator (HRSG) units from public rights-of-way and nearby properties. The color or colors of any screening materials shall minimize visual intrusion and contrast by blending with the landscape and other project structure colors.

The project owner shall develop a plan for screening or otherwise minimizing the visibility of mechanical equipment located on the HRSG units for CPM approval to ensure that the treatment is effective and does not unduly contrast with the surrounding landscape. The project owner shall also submit the plan to the City of Santa Clara Architectural Committee (or other appropriate entity) for review and comment. The submittal to the CPM shall include the City's comments. The plan shall include:

a. Specification, and 11" x 17" color photo simulations at life-size scale as seen from a northbound viewpoint on Lafayette Street

(between KOPs 1 and 2), Highway 101 (KOP 4), and Raymond Street (KOP 5) of the proposed measure or measures to reduce the visibility of the equipment;

b. A detailed schedule for completion of the measures; and,

c. A procedure to ensure proper maintenance of the measures for the life of the project.

The project owner shall not implement the plan until approved by the CPM.

Verification: At least 45 days prior to start of construction of the HRSG, the project owner shall submit the plan for reducing the visibility of the HRSG equipment to the CPM for review and approval.

If the CPM notifies the project owner of any revisions that 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.

Not less than 30 days prior to the start of commercial operation, the project owner shall notify the CPM that the screening measures are ready for inspection.

The project owner shall provide a status report regarding maintenance of the screening measures in the Annual Compliance Report.

VIS-6 The project owner shall reduce cooling tower visible vapor plumes through the use of a dry-cooling section that has a stipulated plume abatement design point of 35 degrees Fahrenheit and 85 percent relative humidity. An automated control system will be used to ensure that plumes are abated to the maximum extent possible for the stipulated design point.

Verification: At least 30 days prior to construction of the cooling tower, the project owner shall provide to the CPM for review and approval the specifications for the automated control systems and related systems and sensors that will be used to ensure maximum plume abatement from the dry-cooling section of the cooling tower.

VIS-7 The project owner shall design project signs using non-reflective materials and unobtrusive colors. The project owner shall ensure that trash disposal areas are fully screened from view from public rights-of-way. The project owner shall ensure that signs and trash disposal areas are installed consistent with the City of Santa Clara Zoning Ordinance Section Sec. 26-13 and the Community Design Guidelines. The design of any signs required by safety regulations shall conform to the criteria established by those regulations.

Verification: At least 60 days prior to installing signs, and construction of trash disposal areas, the project owner shall provide information to the City of Santa Clara for review and comment, and to the CPM for review and approval

demonstrating that the requirements of the condition will be met. The submittal to the CPM shall include the City's comments.

The project owner shall not install signs or construct trash disposal areas until the project owner receives approval of the submittal from the CPM.

If the CPM notifies the project owner that revisions 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.

Appendix A

LORS: Laws, Ordinances, Regulations, and Standards

AIR QUALITY

FEDERAL

Under the Federal Clean Air Act (42 U.S.C. §7401 et seq.), there are two major components of air pollution law, New Source Review (NSR) and Prevention of Significant Deterioration (PSD). NSR is a regulatory process for evaluation of those pollutants that violate federal ambient air quality standards. Conversely, PSD is a regulatory process for evaluation of those pollutants that do not violate federal ambient air quality standards. The NSR analysis has been delegated by the United States Environmental Protection Agency (U.S. EPA) to the Bay Area Air Quality Management District. The U.S. EPA determines conformance with the PSD regulations. The PSD requirements apply only to those projects (known as major sources) that exceed 100 tons per year for any pollutant.

STATE

Health and Safety Code section 41700 requires that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

LOCAL

The project is subject to all applicable Bay Area Air Quality Management District (District or BAAQMD) rules and regulations, briefly described below:

<u>Regulation 2</u>

Rule 1 - General Requirements. This rule contains general requirements, definitions, and a requirement that an applicant submit an application for an authority to construct and permit to operate.

Rule 2 - New Source Review. This rule applies to all new and modified sources. The following sections of Rule 2 are the regulations that are applicable to this project.

- Section 2-2-301 - Best Available Control Technology (BACT) Requirement: This rule requires that BACT be applied for each pollutant which is emitted in excess of 10.0 pounds per day.
- Section 2-2-302 - Offset Requirement, Precursor Organic Compounds (POC) and Nitrogen Oxides (NO_x). This section applies to projects with an emissions increase of 50 tons per year or more of POC and/or NO_x. Offsets shall be provided at a ratio of 1.15 tons of emission reduction credits for each 1.0 ton of proposed project permitted emissions.
- Section 2-2-303 - Offset Requirements, Particulate Matter (TSP), PM10 and Sulfur Dioxide: If a Major Facility (a project that emits more than 100 tons per year of PM10) has a *cumulative increase* of 1.0 ton per year of

PM10 or SO_2, emission offsets must be provided for the entire cumulative increase at a ratio of 1.0:1.0.

Emission reductions of nitrogen oxides and/or sulfur dioxide may be used to offset increased emissions of PM10 at offset ratios deemed appropriate by the Air Pollution Control Officer. A facility that emits less than 100 tons of any pollutant may voluntarily provide emission offsets for all, or any portion, of their PM10 or sulfur dioxide emissions increase at the offset ratio required above (1.0:1.0).

- Section 2-2-606 - Emission Calculation Procedures, Offsets. This section requires that emission offsets must be provided from the District's Emissions Bank, and/or from contemporaneous actual emission reductions.

Rule 7-Acid Rain. This rule applies the requirements of Title IV of the federal Clean Air Act, which are spelled out in Title 40, Code of Federal Regulations, section 72. The provisions of Section 72 will apply when the U.S. EPA approves the District's Title IV program, which has not been approved at this time. The Title IV requirements will include the installation of continuous emission monitors to monitor acid deposition precursor pollutants.

Regulation 6

Regulation 6 - Particulate Matter and Visible Emissions. The purpose of this regulation is to limit the quantity of particulate matter in the atmosphere. The following two sections of Regulation 6 are directly applicable to this project:

- Section 301 - Ringelmann No. 1 Limitation: This rule limits visible emissions to no darker than Ringelmann No. 1 for periods greater than three minutes in any hour.
- Section 310 - Particulate Weight Limitation: This rule limits source particulate matter emissions to no greater than 0.15 grains per standard dry cubic foot.

Regulation 9

Rule 1 - Limitations

- Section 301: Limitations on Ground Level Sulfur Dioxide Concentration. This section requires that emissions of sulfur dioxide shall not impact at ground level in excess of 0.5 ppm for 3 consecutive minutes, or 0.25 ppm averaged over 60 minutes, or 0.05 ppm averaged over 24 hours.
- Section 302: General Emission Limitation. This rule limits the sulfur dioxide concentration from an exhaust stack to no greater than 300 ppm dry.

Rule 9 - Nitrogen Oxides from Stationary Gas Turbines. This rule limits gaseous fired, selective catalytic reduction (SCR) equipped, combustion turbines rated greater than 10 MW to 9 ppm @ 15 percent O_2.

Regulation 10

Rule 26 - Gas Turbines - Standards of Performance for New Stationary Sources. This rule adopts the national maximum emission limits (40 C.F.R. §60) which are 75 ppm NO_x and 150 ppm SO_2 at 15 percent O_2. Whenever any source is subject to more than one emission limitation rule, regulation, provision or requirement relating to the control of any air contaminant, the most stringent limitation applies.

BIOLOGICAL RESOURCES

FEDERAL

- Clean Water Act of 1977
- Title 33, United States Code, sections 1251-1376, and Code of Federal Regulations, part 30, section 330.5(a)(26), prohibit the discharge of dredged or fill material into the waters of the United States without a permit.
- Endangered Species Act of 1973,Title 16, United States Code, section 1531 et seq., and Title 50, code of Federal Regulations, part 17.1 et seq., designate and provide for protection of threatened and endangered plant and animal species, and their critical habitat.
- Migratory Bird Treaty Act, Title 16, United States Code, sections 703-712, prohibit the take of migratory birds.

STATE

- California Endangered Species Act of 1984
- Fish and Game Code sections 2050 et seq. protect California's rare, threatened, and endangered species.
- Nest or Eggs-Take, Possess, or Destroy Fish and Game Code section 3503 protects California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird.
- Birds of Prey or Eggs-Take, Possess, or Destroy Fish and Game Code section 3503.5 protects California's birds of prey and their eggs by making it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.
- Migratory Birds-Take or Possession Fish and Game Code section 3513 protects California's migratory birds by making it unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act or any part of such migratory non-game bird.
- Fully Protected Species Fish and Game Code sections 3511, 4700, 5050, 5515 prohibit take of animals that are classified as Fully Protected in California.
- Significant Natural Areas Fish and Game Code section 1930 et seq. designates certain areas such as refuges, natural sloughs, riparian areas and vernal pools as significant wildlife habitat.
- Native Plant Protection Act of 1977 Fish and Game Code section 1900 et seq. designates state rare, threatened, and endangered plants.
- California Code of Regulations Title 14, sections 670.2 and 670.5 list animals of California designated as threatened or endangered.
- Regional Water Quality Control Board To verify that the federal Clean Water Act permitted actions comply with state regulations, the project owner must obtain a Section 401 certification from the San Francisco Bay Regional Water Quality Control Board (RWQCB). The Regional Board

provides its certification after reviewing the federal Nationwide Permit(s) provided by the U.S. Army Corp of Engineers.

LOCAL

- **Santa Clara County General Plan**
  Environmental Protection and Resource Management Plan defines the County's fundamental, long term goals and policies for the natural environment and natural resources conservation.
- **City of Santa Clara General Plan**
  Goals of Chapter 5, Environmental Quality Element, Section 5.3 Flora and Fauna are to conserve and improve the environmental quality of the City of Santa Clara.

CULTURAL RESOURCES

FEDERAL

- Federal Guidelines for Historic Preservation Projects (36 C.F.R. § 61): The US Secretary of the Interior has published a set of Standards and Guidelines for Archaeology and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archaeological and historic properties. The State Historic Preservation Office refers to these standards in its requirements for selection of qualified personnel and in the mitigation of potential impacts to cultural resources on public lands in California.

- Title 36, Code of Federal Regulations, Part 800 et seq, the implementing regulations of Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470, requires federal agencies to take into account the effects of their undertakings on historic properties through consultations beginning at the early stages of project planning, or if unanticipated discoveries occur during activities conducted under a federal permit. The regulations implementing this act, which were revised in 1997, set forth procedures for determining eligibility of cultural resources, determining the effect of the undertaking on the historic properties, and how the effect will be taken into account. The eligibility criteria and the process described in these regulations are used by federal agencies. Very similar criteria and procedures are used by the state in identifying cultural resources eligible for listing in the California Register of Historical Resources.

STATE

- Title 14, California Code of Regulations, section 4852 defines the term "cultural resource" to include buildings, sites, structures, objects, and historic districts.

- Public Resources Code, section 5000 establishes a California Register of Historic Resources (CRHR), criteria for eligibility to the CRHR and defines eligible resources. It identifies any unauthorized removal or destruction of historic resources on sites located on public land as a misdemeanor. It also prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and establishes the penalty for possession of such artifacts with intent to sell or vandalize them as a felony. This section defines procedures for the notification of discovery of Native American artifacts or remains, and states that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated.

- The California Environmental Quality Act (Pub. Resources Code, §21000 et seq.); requires analysis of potential environmental impacts of proposed projects and requires application of feasible mitigation measures.

- Public Resources Code, section 21083.2 states that the lead agency determines whether a project may have a significant effect on "unique" archaeological resources. If so, an EIR shall address these resources. If a potential for damage to unique archaeological resources can be demonstrated, the lead agency may require reasonable steps to preserve the resource in place. Otherwise, mitigation measures shall be required as prescribed in this section. The section discusses excavation as mitigation, limits the applicant's cost of mitigation, sets time frames for excavation, defines "unique and non-unique archaeological resources," and provides for mitigation of unexpected resources. The California Energy Commission process is a CEQA equivalent process and Staff Assessments serve as the CEQA environmental documents.

- Public Resources Code, section 21084.1 states that a project may have a significant effect on the environment if it causes a substantial adverse change in the significance of a historic resource. The section further defines an "historic resource" and describes what constitutes a "significant" historic resource.

- The CEQA Guidelines prescribe the manner of maintenance, repair, stabilization, restoration, conservation, or reconstruction as mitigation of a project's impact on a historical resource (Cal. Code Reg, Tit.14, § 15126.4(b)). This section also discusses documentation as a mitigation measure and discusses mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

- Section 15064.5 of the CEQA Guidelines defines the term "historical resources," explains when a project may have a significant effect on historic resources, describes CEQA's applicability to archaeological sites, and specifies the relationship between "historical resources" and "unique archaeological resources."

- Penal Code, section 622 1/2 states that anyone who willfully damages an object or thing of archaeological or historic interest is guilty of a misdemeanor.

- Health and Safety Code, section 7050.5 states that if human remains are discovered during construction, the project owner is required to contact the county coroner.

LOCAL

City of Santa Clara

The City of Santa Clara General Plan, Section 2.8 Architecturally and Historically Significant Properties, considers the preservation of historic cultural resources in general and specifies that it incorporates by reference the List of Designated Architecturally and/or Historically Significant Properties (City 2002a, p. 66 to 68).

A letter to the applicant from Gloria Sciara, the City's Historic Resources Coordinator, on July 18, 2002, provided information that the area is sensitive for archaeological resources. Staff also spoke with Gloria Sciara by telephone on January 14, 2003. Ms. Sciara confirmed that there were no additional General Plan Elements that addressed cultural resources (Sciara 2003a).

EFFICIENCY

FEDERAL

No federal LORS apply to the efficiency of this project.

STATE

No State LORS apply to the efficiency of this project.

LOCAL

No local or county ordinances apply to power plant efficiency.

FACILITY DESIGN

Lists of LORS applicable to each engineering discipline (civil, structural, mechanical and electrical) are described in the AFC (SVP 2002a, Appendices 10-A through 10-G). Some of these LORS include the California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations), American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME), American Society for Testing and Materials (ASTM), and American Welding Society (AWS).

GEOLOGY AND PALEONTOLOGIC RESOURCES

FEDERAL

The proposed project is not located on federal land. As such, there are no federal LORS for geologic hazards or geologic, mineralogic, and paleontologic resources for the proposed project.

STATE AND LOCAL

The California Building Code (*CBC*), 1998 edition, is based upon the Uniform Building Code (*UBC*), 1997 edition, which was published by the International Conference of Building Officials. The *CBC* is a series of standards used in project investigation, design (Chapters 16 and 18) and construction (including grading and erosion control as found in Appendix Chapter 33). The *CBC* supplements the *UBC*'s grading and construction ordinances and regulations. The California Environmental Quality Act Guidelines Appendix G provides a checklist of questions that a lead agency should normally address if relevant to a project's environmental impacts.

- Section (V) (c) asks if the project will directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Sections (VI) (a), (b), (c), (d), and (e) pose questions that are focused on whether or not the project would expose persons or structures to geologic hazards.
- Sections (X) (a) and (b) pose questions about the project's effect on mineral resources.

The "Measures for Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources: Standard Procedures" (Society of Vertebrate Paleontology, 1995) is a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. They were adopted in October 1995 by the Society of Vertebrate Paleontology, a national organization.

HAZARDOUS MATERIALS

FEDERAL

The Superfund Amendments and Reauthorization Act of 1986 (42 USC §9601 et seq.), contains the Emergency Planning and Community Right to Know Act (also known as SARA Title III). The Clean Air Act (CAA) of 1990 (42 USC 7401 et seq. as amended) established a nationwide emergency planning and response program and imposed reporting requirements for businesses that store, handle, or produce significant quantities of extremely hazardous materials. The CAA section on Risk Management Plans - codified in 42 USC §112(r) - requires states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility. The requirements of both SARA Title III and the CAA are reflected in the California Health and Safety Code, section 25531 et seq

STATE

The California Accidental Release Prevention Program (Cal-ARP) - Health and Safety Code, section 25531 - directs facility owners storing or handling acutely hazardous materials in reportable quantities to develop a Risk Management Plan (RMP) and submit it to appropriate local authorities, the United States Environmental Protection Agency (EPA), and the designated local Administering Agency for review and approval. The plan must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any 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. This new, recently developed program supersedes the California Risk Management and Prevention Plan (RMPP).

Section 25503.5 of the California Health and Safety Code requires facilities that store or use hazardous materials to prepare and file a Business Plan with the local Certified Unified Program Authority (CUPA), in this case the Santa Clara County Health Department, Division of Environmental Health. This Business Plan must contain information on the business activity, the owner, a hazardous materials inventory, facility maps, an Emergency Response Contingency Plan, an Employee Training Plan, and other record-keeping forms.

Title 8, California Code of Regulations, section 5189, requires facility owners to develop and implement effective safety management plans to ensure that large quantities of hazardous materials are handled safely. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the RMP process.

Title 8, California Code of Regulations, section 458 and sections 500– 515, set forth requirements for design, construction and operation of vessels and equipment used to store and transfer anhydrous ammonia. These sections generally codify the requirements of several industry codes, including the American Society of Mechanical Engineers (ASME) Pressure Vessel Code, American National Standards Institute (ANSI) K61.1, and the National Boiler and Pressure Vessel Inspection Code. While these codes apply to anhydrous ammonia, they may also be used to design storage facilities for aqueous ammonia.

California Health and Safety Code, section 41700, requires that "No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property."

LOCAL AND REGIONAL

The Uniform Fire Code (UFC) contains provisions regarding the storage and handling of hazardous materials in Articles 79 and 80. The latest revision to Article 80 was adapted in 1997 (Uniform Fire Code, 1997) and includes minimum setback requirements for outdoor storage of ammonia.

The California Building Code contains requirements regarding the storage and handling of hazardous materials. The Chief Building Official must inspect and verify compliance with these requirements prior to issuance of an occupancy permit. A further discussion of these requirements is provided in the **Geology, Mineral Resources and Paleontology** section of this document.

If not for Energy Commission jurisdiction, the Santa Clara City Fire Department would be the issuing agency for the Consolidated Hazardous Materials Permit. The permit review and mitigation authority covers hazardous materials, hazardous waste, compressed gases and tiered treatment, the Hazardous Materials Business Plan, and the Risk Management Plan for anhydrous ammonia. In regards to seismic safety issues, the site is located in Seismic Risk Zone 3. Construction and design of buildings and vessels storing hazardous materials must conform to the 1997 Uniform Building Code, the 1998 California Building Code, and the Santa Clara County Building Code.

Gas Pipeline

FEDERAL

The natural gas pipeline must be constructed and operated in accordance with the Federal Department of Transportation (DOT) regulations, Title 49, Code of

Federal Regulations, sections 190, 191, and 192: The pipeline classes are defined as follows (Title 49, Code of Federal Regulations, Part 192):

A Class Location Unit is an area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline.

- Class 1: Pipelines in class location units with 10 or fewer buildings intended for human occupancy.
- Class 2: Pipelines in class location units with more than 10 but fewer than 46 buildings intended for human occupancy. This class also includes drainage ditches of public roads and railroad crossings.
- Class 3: Pipelines in class location units with more than 46 buildings intended for human occupancy, or where the pipeline is within 100 yards of any building or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12 month period (the days and weeks need not be consecutive).
- Class 4: Pipelines in class location units where buildings with 4 or more stories above ground are prevalent.

Other Federal LORS that apply to the planned natural gas pipeline include:

- Title 49, Code of Federal Regulations, section 190, outlines the pipeline safety program procedures.
- Title 49, Code of Federal Regulations, section 191, Transportation of Natural and Other Gas by Pipeline; Annual Reports, Incident Reports, and Safety-Related Condition Reports, requires operators of pipeline systems to notify the U.S. Department of Transportation of any reportable incident by telephone and then submit a written report within 30 days;
- Title 49, Code of Federal Regulations, section 192, Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, specifies minimum safety requirements for pipelines and includes material selection, design requirements, and corrosion protection. The safety requirements for pipeline construction vary according to the population density and land use, which characterize the surrounding land. This section contains regulations governing pipeline construction, which must be followed for Class 2 and Class 3 pipelines.

LOCAL AND REGIONAL

The safety requirements for pipeline construction vary according to the population density and land use, which characterize the surrounding land. The natural gas pipeline constructed for the PPP would be designed for Class 3 service and must meet California Public Utilities Commission General Order 112-D and 58-A standards, as well as various PG&E standards.

LAND USE

STATE

Subdivision Map Act (Pub. Resources Code, § 66410-66499.58)

The Subdivision Map Act provides procedures and requirements regulating land divisions (subdivisions) and the determining of parcel legality. Regulation and control of the design and improvement of subdivisions, by this Act, has been vested in the legislative bodies of local agencies. Each local agency by ordinance regulates and controls the initial design and improvement of common interest developments and subdivisions for which the Map Act requires a tentative and final map.

CITY OF SANTA CLARA GENERAL PLAN

Land uses are controlled and regulated through a series of goals and policies contained in plans adopted by the local jurisdiction that has land use authority over the area (in this case, the City of Santa Clara). Local agencies with land use authority (i.e., cities and counties) are required to adopt a General Plan for the area within their jurisdiction that sets forth policies regarding land use and other planning topics. The General Plan is the broadest planning document applicable to the site, expressing overall goals and policies to guide local decisions on future growth, development, and conservation. Other local plans, as well as the zoning ordinance that regulates land use, must be consistent with the goals and policies expressed in the General Plan.

The City of Santa Clara General Plan was adopted in 1960 and was most recently revised on July 28, 1992. In its preface, the Santa Clara General Plan is described as an official policy document adopted as a guide for making decisions concerning the development of the community according to desired goals. When adopted in 1960, it was intended to shape the future physical development of the city, and subsequent amendments to the Plan have been adopted from time to time, reflecting important changes in City policy. The City of Santa Clara General Plan Land Use Element designates the project site as Heavy Industrial (HI). The HI industrial land use designation is intended to provide the City of Santa Clara with enough land area for the most intense industrial uses and encourage a stable employment demand corresponding to the City's labor characteristics.

The Land Use Element of the General Plan has two major components that address the description of land uses and land use policies. First, the goals and policies state that the City will continue to encourage the development of a sound and diverse economic base to support public services. Second, the City will promote the best use of land through protection of desirable existing uses, orderly development and consideration of the City's future needs. The “HI” District permits a broad array of industrial uses, administrative and professional

offices/services, automobile-related uses, trade schools, retail commercial uses, and service commercial uses.

Public Facilities and Services Element

Subsection 6.6.2: The City continues to investigate additional resources to provide low cost power for citizens and business customers as required. Current generation projects actively being pursued by the City are cogeneration, hydroelectric, out-of-state purchases, and natural gas-fired plants.

CITY OF SANTA CLARA ZONING ORDINANCE

Zoning is the specific administrative tool used by a jurisdiction to regulate land use and development, and is one of the primary tools for implementing the goals and policies of the General Plan. Zoning is typically more specific than the General Plan and includes detailed land use regulations and development standards. The City's Zoning Ordinance divides the land in the city into zones that permit different types of uses and imposes development standards appropriate to the uses permitted in each zoning district. The PPP project site is located in the Public/Quasi-public (B) zoning district.

The objective of the Zoning Ordinance in designating sites for public facilities is to preserve public amenities and necessary public facilities for which alternative sites would be difficult to procure. Permitted public facilities include educational uses, utilities, and other government buildings or open space areas.

The Zoning Ordinance (Article 26, Section 26-7 through 13) includes minimum design and performance standards applicable to the construction of industrial and commercial buildings in the "B" District. These include standards for building density, outdoor recreation facilities, storage requirements, parking spaces, and other design features.

NOISE AND VIBRATION

FEDERAL

Under the Occupational Safety and Health Act of 1970 (OSHA) (29 U.S.C. § 651 et seq.), the Department of Labor, Occupational Safety and Health Administration (OSHA) has adopted regulations (29 C.F.R. § 1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise exposure levels as a function of the amount of time during which the worker is exposed. The regulations further specify a hearing conservation program that involves monitoring the noise to which workers are exposed, assuring that workers are made aware of overexposure to noise, and periodically testing the workers' hearing to detect any degradation.

There are no federal laws governing off-site (community) noise.

The Federal Transit Administration (FTA) has published guidelines for assessing the impacts of ground-borne vibration associated with construction of rail projects, which have been applied by other jurisdictions to other types of projects. The FTA-recommended vibration standards are expressed in terms of the "vibration level," which is calculated from the peak particle velocity measured from ground-borne vibration. The FTA measure of the threshold of perception is 65 VdB, which correlates to a peak particle velocity of about 0.002 inches per second (in/sec). The FTA measure of the threshold of architectural damage for conventional sensitive structures is 100 VdB, which correlates to a peak particle velocity of about 0.2 in/sec.

STATE

California Government Code section 65302(f) encourages each local governmental entity to perform noise studies and implement a noise element as part of its General Plan. In addition, the California Office of Planning and Research has published guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. The State land use compatibility guidelines are listed in the following **NOISE Table 1**.

The State of California, Office of Noise Control, prepared a Model Community Noise Control Ordinance, which provides guidance for acceptable noise levels in the absence of local noise standards. The Model also contains a definition of a simple tone, or "pure tone," in terms of one-third octave band sound pressure levels that can be used to determine whether a noise source contains annoying tonal components. The Model Community Noise Control Ordinance further recommends that, when a pure tone is present, the applicable noise standard should be lowered (made more stringent) by five dBA.

Other State LORS include the California Environmental Quality Act (CEQA) and the California Occupational Safety and Health Administration (Cal-OSHA) regulations.

California Environmental Quality Act

CEQA requires that significant environmental impacts be identified, and that such impacts be eliminated or mitigated to the extent feasible. Section XI of Appendix G of CEQA Guidelines (Cal. Code Regs., tit. 14, App. G) sets forth some characteristics that may signify a potentially significant impact. Specifically, a significant effect from noise may exist if a project would result in:

a) exposure of persons to, or generation of, noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies;

b) exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

c) a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or

d) a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

It is reasonable to assume that an increase in background noise levels up to 5 dBA in a residential setting is insignificant; an increase of more than 10 dBA is clearly significant. An increase between 5 and 10 dBA should be considered adverse, but may be either significant or insignificant, depending on the particular circumstances of a case.

NOISE Table 1
Land Use Compatibility for Community Noise Environment

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE - Ldn or CNEL (dB)													
	50		55		60		65		70		75		80	
Residential - Low Density Single Family, Duplex, Mobile Home														
Residential - Multi-Family														
Transient Lodging – Motel, Hotel														
Schools, Libraries, Churches, Hospitals, Nursing Homes														
Auditorium, Concert Hall, Amphitheaters														
Sports Arena, Outdoor Spectator Sports														
Playgrounds, Neighborhood Parks														
Golf Courses, Riding Stables, Water Recreation, Cemeteries														
Office Buildings, Business Commercial and Professional														
Industrial, Manufacturing, Utilities, Agriculture														

	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development generally should not be undertaken.

Source: State of California General Plan Guidelines, Office of Planning and Research, June 1990.

Factors to be considered in determining the significance of an adverse impact as defined above include:

1. the resulting noise level for example, a noise level of 40 dBA would be considered quiet in many locations. A noise limit of 40 dBA would be consistent with the recommendations of the California Model Community Noise Control Ordinance for rural environments, and with industrial noise regulations adopted by European jurisdictions. If the project would create an

increase in ambient noise no greater than 10 dBA at nearby sensitive receptors, and the resulting noise level would be 40 dBA or less, the project noise level would likely be insignificant.

2. the duration and frequency of the noise;
3. the number of people affected;
4. the land use designation of the affected receptor sites; and
5. public concern or controversy as demonstrated at workshops or hearings, or by correspondence.

Noise due to construction activities is usually considered to be insignificant in terms of CEQA compliance if:

1 the construction activity is temporary;

2 use of heavy equipment and noisy activities is limited to daytime hours; and

3 all industry-standard noise abatement measures are implemented for noise-producing equipment.

Cal-OSHA

Cal-OSHA has promulgated Occupational Noise Exposure Regulations (Cal. Code Regs., tit. 8, §§ 5095-5099) that set employee noise exposure limits. These standards are equivalent to the federal OSHA standards (see **NOISE Appendix A, Table A4**).

LOCAL

City of Santa Clara General Plan

Chapter 5.8 of the City's General Plan (Santa Clara 1992) deals with noise. The applicable noise standards for various uses are expressed in Figure 5-G: Noise and Land Use Compatibility, summarized below in **NOISE Table 2**. These standards declare that noise impacts on a neighboring residential receptor no greater than 55 dBA

NOISE Table 2
City of Santa Clara General Plan Noise Standards

Zone	Noise Limit, dBA CNEL
Residential	55
Public – Educational	55
Recreational	65
Commercial	65
Industrial	70
Open Space	76

CNEL are compatible with that use, and impacts on an industrial receptor no greater than 70 dBA CNEL are compatible with that use. When the noise source is constant, as is a typical power plant, 55 dBA CNEL is equivalent to 48.3 dBA L_{eq}, and 70 dBA CNEL is equivalent to 63.3 dBA L_{eq}.

City of Santa Clara Noise Ordinance

The City's Noise Ordinance (Santa Clara 1988) limits are expressed in *Schedule A: Exterior Sound or Noise Limits*, and summarized in **NOISE Table 3** below. The noise that may be received at a neighboring residential property line is restricted to 55 dBA L_{eq} during the daytime, and to 50 dBA L_{eq} at night. Noise at a neighboring light industrial use is restricted to 70 dBA L_{eq} at any time.

NOISE Table 3
City of Santa Clara Noise Ordinance

Zone	Time of Day	Hourly Limit, dBA L_{eq}
Single Family & Duplex Residential	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Multiple Family Residential, Public Space	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Commercial, Office	7 a.m. to 10 p.m.	65
	10 p.m. to 7 a.m.	60
Light Industrial	Anytime	70
Heavy Industrial	Anytime	75

This ordinance also addresses vibration, stating that, "It shall be unlawful… to operate or cause… any fixed source of vibration or disturbing, excessive, or offensive vibration… such that the vibration… is above the vibration perception threshold… at the closest property line point to the vibration source…." (Santa Clara 1988, § 18-26.5) "Vibration perception threshold" is further defined as, "The minimum ground or structure-borne vibrational motion necessary to cause a reasonable person of average sensitiveness to be aware of the vibration, including by… touch or visual observation of moving objects. The perception threshold shall be presumed to be a motion velocity of 0.01 inch/second over the range of 1 to 100 Hz…." (Santa Clara 1988, § 18-26.2(p))

City of Santa Clara Construction Regulation

The City's Construction Regulation ordinance restricts the times of day, and the days of the week and the year, that construction may occur near residentially-zoned property (Santa Clara 1996). Construction is permitted:

- Weekdays between 7 a.m. and 6 p.m., and
- Saturdays between 9 a.m. and 6 p.m.

Construction is prohibited on Sundays and on eight specified annual holidays.

This ordinance, however, applies only to construction on privately-owned land within 300 feet of residentially-zoned property. Specifically exempted from the provisions of this ordinance is work that is preempted from local regulation by state law, and the construction and maintenance of utility-type services.

PUBLIC HEALTH

The following LORS were established to protect against the impacts of the noted criteria pollutants and the air toxics-related impacts of specific concern in this analysis.

FEDERAL

Clean Air Act section 112 (42 U.S. Code section 7412)

This section requires new sources that emit more than 10 tons per year of any specified hazardous air pollutant (HAP) or more than 25 tons per year of any combination of HAPs to apply Maximum Achievable Control Technology (MACT).

STATE

California Health and Safety Code section 41700

This section of the code states that "[n]o person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause or have a natural tendency to cause injury or damage business or property."

California Health and Safety Code section 39650 et seq.

This section of the code mandates that the California Environmental Protection Agency (Cal-EPA) establish safe exposure limits for toxic, non-criteria air pollutants and identify the best available methods for controlling their emission. These laws also require that the new source review rules for each Air District include regulations establishing procedures for controlling the emission of these pollutants. The toxic emissions from natural gas combustion are listed in ARB's Toxic Emissions Factors (CATEF) database for natural gas-fired combustion turbines to allow for uniform assessment of toxic emissions from combustion and non-combustion sources in the state. Cal-EPA has developed specific cancer potency estimates for assessing any cancer risk that these air toxics may pose at specific exposure levels. For toxic air pollutants that do not cause cancer, Cal-EPA established specific no-effects levels (known as reference exposure levels or RELs) for assessing the likelihood of producing health effects at specific exposure levels. Such health effects would be considered significant only when exposure exceeds these reference levels. Staff uses these Cal-EPA potency estimates and reference exposure values in its health risk analyses.

California Code of Regulations, Title 22, Section 60306

This section requires that, whenever a cooling system uses recycled water in conjunction with an air conditioning facility and a cooling tower that creates a mist that could come into contact with employees or members of the public, a drift eliminator shall be used and chlorine or other biocides shall be used to treat the

cooling system recirculating water to minimize the growth of Legionella and other micro-organisms.

LOCAL

Bay Area Air Quality Management District (BAAQMD) Rule 2-1-316

This rule specifies the procedures necessary to minimize the emission of air toxics from specific sources as required by the Health and Safety Code section 44300.

BAAQMD Regulation 1, Section 301, "Public Nuisance" (Amended 10/98).

Requirements of this regulation allow for implementation of the emission control measures necessary for compliance with provisions of the Health and Safety Code, section 41700.

RELIABILITY

Presently, there are no laws, ordinances, regulations or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the commission must make findings as to the manner in which the project is to be designed, sited and operated to ensure safe and reliable operation [Cal. Code Regs., tit. 20, § 1752(c)].

SOCIOECONOMIC RESOURCES

STATE

California Government Code, sections 65995-65997

As amended by SB 50 (Stats. 1998, ch. 407, sec. 23), these sections state that public agencies may not impose fees, charges or other financial requirements to offset the cost for school facilities. The relevant provisions restrict fees for the development of commercial and industrial space to a maximum of $0.34 per square foot of “chargeable covered and enclosed space.” However, because the applicant is a municipal government, the City of Santa Clara is not required to pay school impact fees.

SOIL AND WATER RESOURCES

FEDERAL

CLEAN WATER ACT

The Clean Water Act (33 USC § 1257 et seq.) requires states to set standards to protect water quality through the regulation of point source and certain non-point source discharges to surface water. These discharges are regulated through requirements set forth in specific or general National Pollutant Discharge Elimination System (NPDES) permits. Storm water discharges during construction and operation of a facility, and incidental non-storm water discharges associated with pipeline construction also fall under this act, and are addressed through a general NPDES permit. In California, requirements of the Clean Water Act regarding regulation of point source discharges and storm water discharges are delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCB). In the case of the PPP, water quality is administered by the San Francisco Bay RWQCB.

RESOURCE CONSERVATION AND RECOVERY ACT

The Resource Conservation Recovery Act (RCRA) of 1976 (40 CFR Part 260 et seq.) seeks to prevent surface and groundwater contamination, sets guidelines for determining hazardous wastes, and identifies proper methods for handling and disposing of those wastes.

STATE

CALIFORNIA CONSTITUTION, ARTICLE X, SECTION 2

This section requires that the water resources of the State be put to beneficial use to the fullest extent possible. It states, in part, “The waste, unreasonable use, or unreasonable method of use of water is prohibited. The conservation of such waters is to be exercised with a view to the reasonable and beneficial use in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in the State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use, or unreasonable method of use, or unreasonable method of diversion of water.”

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq., requires the State Water Resources Control Board (SWRCB) and the nine RWQCBs to adopt water quality criteria to protect state waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards and implementation procedures. These standards are typically applied to the proposed project through the Waste Discharge Requirements (WDRs) permit. The Porter-Cologne Water Quality Control Act also requires the

SWRCB and nine RWQCBs to ensure the protection of water quality through the regulation of waste discharges to land. Such discharges are regulated under Title 23, California Code of Regulations, Chapter 15, Division 3. These regulations require that the RWQCB issue Waste Discharge Requirements specifying conditions regarding the construction, operation, monitoring and closure of the waste disposal site, including injection wells and evaporation ponds for waste disposal.

CALIFORNIA WATER CODE

California Water Code 13550 requires the use of reclaimed water, where available. Section 13551 of the Water Code prohibits the use of "…water from any source of quality suitable for potable domestic use for non-potable uses, including …industrial… uses, if suitable recycled water is available…" given conditions set forth in Section 13550 as determined by the SWRCB.

Recycling Act of 1991

The California Legislature's Water Recycling Act of 1991 (Water Code § 13575 et seq.) makes the following findings and declarations:

- the State is subject to periodic drought conditions;
- the development of traditional water resources in California has not kept pace with the State's population, which is growing at the rate of over 700,000 per year and is anticipated to reach 36 million by the year 2010;
- there is a need for a reliable source of water for uses not related to the supply of potable water to protect investments in agriculture, green belts, recreation, to replenish groundwater basins, and to protect and enhance fisheries, wildlife habitat, and riparian areas;
- the environmental benefits of reclaimed water include a reduced demand for water in the Sacramento-San Joaquin Delta, reduced discharge of waste into the ocean, and the enhancement of groundwater basins, recreation, fisheries, and wetlands;
- the use of reclaimed water has proven to be safe, and the State DHS is updating regulations for its use;
- the use of reclaimed water is a cost-effective, reliable method of helping to meet California's water supply needs;
- the development of the reclaimed water infrastructure will provide jobs and enhance the economy of the state;
- retail water suppliers and reclaimed water producers and wholesalers should promote the substitution of reclaimed water for potable and imported water in order to maximize the appropriate cost-effective use of reclaimed water in California;
- reclaimed water producers, retail water suppliers, and entities responsible for groundwater replenishment should cooperate in joint technical, economic, and environmental studies, as appropriate, to determine the feasibility of providing reclaimed water service;
- retail water suppliers and reclaimed water producers and wholesalers should be encouraged to enter into contracts to facilitate the service of

reclaimed and potable water by the retail water suppliers in their service areas in the most efficient and cost-effective manner; and

- reclaimed water producers, wholesalers and entities responsible for groundwater replenishment should be encouraged to enter into contracts to facilitate the use of reclaimed water for groundwater replenishment if reclaimed water is available and the authorities having jurisdiction approve its use.
- Wholesale prices set by reclaimed water producers and reclaimed water wholesalers should reflect an equitable sharing of the costs and benefits associated with the development and use of reclaimed water.

Water Well Standards

The California Department of Water Resources (DWR) has responsibility for developing standards for wells for the protection of water quality under California Water Code Section 231. Statewide standards for water wells were first formally published in 1968 as DWR Bulletin 74, *Water Well Standards: State of California*. Well standards contained in Bulletin 74-81 together with well standards in Bulletin 74-90 are recommended minimum statewide standards for the protection of groundwater quality.

State Water Code Section 13801 was implemented on January 15, 1990, and requires that all counties and cities, and water agencies where appropriate, adopt a well ordinance that meets or exceeds DWR well standards. DWR's Water Well Standards specifies that "local enforcing agencies may need to adopt more stringent standards for local conditions to ensure groundwater quality protection."

THE CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT **(California Health & Safety Code Section 25249.5et seq.).**

This Act prohibits actions contaminating drinking water with chemicals known to cause cancer or possessing reproductive toxicity. The requirements of the Act are administered by the RWCQB.

POLICIES

STATE WATER RESOURCES CONTROL BOARD

The SWRCB has also adopted a number of policies that provide guidelines for water quality protection. The principal policy of the SWRCB that addresses the specific siting of energy facilities is the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling (adopted by the Board on June 19, 1976 by Resolution 75-58). This policy states that use of fresh inland waters should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. This SWRCB policy requires that power plant cooling water should come from, in order of priority: wastewater being discharged to the ocean, ocean water, brackish water from natural sources or irrigation return flow,

inland wastewaters of low total dissolved solids, and other inland waters. This policy also addresses cooling water discharge prohibitions.

State Water Resources Control Board Resolution No. 68-16 (the "Anti-Degradation Policy") declares the State's policy that, among other things, the discharging of wastes will not pollute or result in a nuisance.

SWRCB RESOLUTION 77-1

State Water Resources Control Board Resolution 77-1 encourages and promotes reclaimed water use for non-potable purposes.

SWRCB RESOLUTION 68-16

The SWRCB has adopted a policy for maintaining existing high quality waters to the maximum extent possible. The existing high water quality must be maintained until demonstrated to the State that any proposed change will be consistent with the maximum benefit to the people of the state and will not unreasonably affect present or future beneficial uses. Any activity that discharges a waste to existing high quality waters must provide the best practicable treatment necessary to assure that pollution or nuisance will not occur and that the highest water quality, consistent with maximum benefit to the people of the State, will be maintained.

LOCAL

SANTA CLARA COUNTY

Ordinance NS1203.35 and NS517.55 establish permitting requirements for grading land and activities that can cause the discharge of pollutants into storm water systems or watercourses.

SANTA CLARA VALLEY WATER DISTRICT

Santa Clara Valley Water District (SCVWD) is the local agency authorized under State Water Code (Section 13801) to manage the water resources for the Santa Clara Valley Groundwater Basin. SCVWD requires well permits under Ordinance 90-1 for all classification, construction, modification and destruction of wells within the District boundaries. Ordinance 90-1 requires a well permit for any well or excavation deeper than 45 feet.

CITY OF SANTA CLARA

The City of Santa Clara Planning and Public Works Department sets forth grading, drainage and erosion control requirements.

The City requires a sewer permit for cooling tower blowdown and plant wastewater sent to the San Jose/Santa Clara Water Pollution Control Plant (WPCP). The City of Santa Clara Code, Rules and Regulations, 1996 regulates discharges to the Santa Clara/San Jose sanitary sewer system and the WPCP.

TRANSMISSION LINE SAFETY AND NUISANCE

Discussed below by subject area are design-related LORS applicable to the physical impacts of the overhead transmission lines as proposed to be used to transmit the energy from PPP. There are presently no local laws or regulations specifically aimed at those aspects of the structure or dimensions of electric power lines that influence the magnitude of the impacts noted above. The only such regulations are those requiring such lines to be located underground because of the potential for visual impacts on the landscape.

AVIATION SAFETY

Any hazard to area aircraft would relate to the potential for collision in the navigable air space. The applicable federal LORS discussed below are intended to ensure the distance and visibility necessary to prevent such collisions.

Federal

- Title 14, Code of Federal Regulations (CFR), Part 77, "Objects Affecting the Navigation Space." Provisions of these regulations specify the criteria used by the Federal Aviation Administration (FAA) for determining whether a "Notice of Proposed Construction or Alteration" is required for potential obstruction hazards. The need for such a notice depends on factors related to the height of a structure, the slope of an imaginary surface from the end of nearby runways to the top of the structure, and the length of the runway involved. Such notification allows the FAA to ensure that all structures are located to avoid the aviation hazards of concern.
- FAA Advisory Circular (AC) No. 70/460-2H, "Proposed Construction and or Alteration of Objects that May Affect the Navigation Space." This circular informs each proponent of a project that could pose an aviation hazard of the need to file the "Notice of Proposed Construction or Alteration" (Form 7640) with the FAA.
- FAA AC No. 70/460-1G, "Obstruction Marking and Lighting." This circular describes the FAA standards for marking and lighting objects that may pose a navigation hazard as established using the criteria in Title 14, Part 77 of the CFR.

INTERFERENCE WITH RADIO-FREQUENCY COMMUNICATION

Transmission line-related radio-frequency interference is one of the indirect effects of line operation produced by the physical interactions of line electric fields. Since electric fields are unable to penetrate most materials, including the ground, such interference and other electric field effects are not associated with underground lines. The level of any such interference usually depends on the magnitude of the electric fields involved. Because of this, the potential for such impacts can be assessed from field strength estimates obtained for the line. The interference is due to the radio noise produced by the action of the electric fields on the surface of the energized conductor. The process involved is known as

corona discharge, but is referred to as spark gap electric discharge when it occurs within gaps between the conductor and insulators or metal fittings. When generated, such noise manifests itself as perceivable interference with radio or television signal reception or interference with other forms of radio-frequency communication. Since the level of interference depends on factors such as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration, and weather conditions, maximum interference levels are not specified as design criteria for modern transmission lines. The following regulations are intended to ensure that such lines are located away from areas of potential interference and that any interference is mitigated whenever it occurs.

Federal

- Federal Communications Commission (FCC) regulations in Title 47 CFR, Section 15.25. Provisions of these regulations prohibit operation of any devices producing force fields, which interfere with radio communications, even if (as with transmission lines) such devices are not intentionally designed to produce radio-frequency energy. For such lines, such interference is minimized from the use of specific low-corona cables as conductors. The FCC requires each line operator to mitigate all complaints about interference on a case-specific basis.

State

- General Order 52 (GO-52), California Public Utilities Commission (CPUC). Provisions of this order govern the construction and operation of power and communications lines and specifically deal with measures to prevent or mitigate inductive interference. Such interference is produced in the case of power lines by the electric field directly induced by the energized conductor in the antenna of a radio signal receiver.

Several design and maintenance options are available for minimizing these induced fields. When incorporated into the line design and operation, such measures also serve to reduce the line-related audible noise discussed below.

AUDIBLE NOISE

Industry Standards

There are no design-specific federal regulations that limit the audible noise from transmission lines. As with radio noise, such noise is limited instead through design, construction, or maintenance practices established from industry research and experience. These practices are effective and do not significantly impact line safety, efficiency, maintainability, and reliability. All modern overhead high-voltage lines are designed to assure compliance. As with radio-frequency noise, such noise usually results from the action of the electric field at the surface of the line conductor and could be perceived as a characteristic crackling, frying

or hissing sound, or hum, especially in wet weather. Since the noise level depends on the strength of the line electric field, the potential for perception can be assessed from estimates of the field strengths expected during operation. Such noise is usually generated during rainfall, but mainly from overhead lines of 345 kV or higher. Research by the Electric Power Research Institute (EPRI 1982) has validated this by showing the fair-weather audible noise from modern transmission lines to be generally indistinguishable from background noise at the edge of a 100-foot right-of-way. Underground lines do not generate such noise since they cannot produce surface-level electric fields as previously noted

NUISANCE SHOCKS

Industry Standards

There are no design-specific federal regulations to limit nuisance shocks in the transmission line environment. For modern overhead high-voltage lines, such shocks are effectively minimized through grounding procedures specified in the National Electrical Safety Code (NESC) and the joint guidelines of the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). Nuisance shocks are caused by current flow at levels generally incapable of causing significant physiological harm. They result mostly from direct contact with metal objects electrically charged by fields from the energized line. Such electric charges are induced in different ways by the line's electric and magnetic fields. As with the proposed overhead line, the applicant is responsible in all cases for ensuring compliance with these grounding-related practices within the right-of-way.

FIRE HAZARDS

The fire hazards addressed through the following regulations are those that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and nearby trees and other combustible objects.

State

- General Order 95 (GO-95), CPUC. "Rules for Overhead Electric Line Construction" specify tree-trimming criteria to minimize the potential for power line-related fires.
- Title 14 California Code of Regulations Section 1250. "Fire Prevention Standards for Electric Utilities" specify utility-related measures for fire prevention.

HAZARDOUS SHOCKS

The hazardous shocks addressed through the following regulations and standards are those that could result from direct or indirect contact between an individual and the energized line whether overhead or underground. Such shocks are capable of serious physiological harm or death and remain a driving force in the design and operation of transmission and other high-voltage lines.

State

- GO-95, CPUC. "Rules for Overhead Line Construction" specify uniform statewide requirements for overhead line construction regarding ground clearance, grounding, maintenance, and inspection. Implementing these requirements ensures the safety of the general public and line workers.
- GO-128, CPUC. "Rules for Construction of Underground Electric Supply and Communications Systems" specify the standards for the safe construction and operation of underground lines, AC power, and communication circuits.
- Title 8, California Code of Regulations (CCR), Sections 2700 through 2974. "High Voltage Electric Safety Orders" establish essential requirements and minimum standards for safely installing, operating, working around, and maintaining electrical installations and equipment

Industrial Standards

No design-specific federal regulations have been established to prevent hazardous shocks from overhead power lines. Safety is assured within the industry from compliance with the requirements in the National Electrical Safety Code, Part 2: Safety Rules for Overhead Lines. These provisions specify the minimum national safe operating clearances applicable in areas where the line might be accessible to the public. They are intended to minimize the potential for direct or indirect contact with the energized line.

ELECTRIC AND MAGNETIC FIELD (EMF) EXPOSURE

The possibility of deleterious health effects from electric and magnetic field exposure has increased public concern in recent years about living near high-voltage lines. Both fields occur together whenever electricity flows, hence the general practice of describing exposure to them together as EMF exposure. The available evidence as evaluated by CPUC, other regulatory agencies, and staff, has not established that such fields pose a significant health hazard to exposed humans. However, staff considers it important, as does the CPUC, to note that while such a hazard has not been established from the available evidence, the same evidence does not serve as proof of a definite lack of a hazard. Staff, therefore, considers it appropriate, in light of present uncertainty, to recommend feasible reduction of such fields without affecting safety, efficiency, reliability, and maintainability.

While there is considerable uncertainty about EMF health effects, the following facts have been established from the available information and have been used to establish existing policies:

- Any exposure-related health risk to the exposed individual will likely be small.
- The most biologically significant patterns (e.g., high-level, short-term versus low-level, long-term) of exposures have not been established.
- Most health concerns are about the magnetic field.

- The measures employed for such field reduction can affect line safety, reliability, efficiency, and maintainability, depending on the type and extent of such measures.

State

In California, the CPUC (which regulates the installation and operation of high-voltage lines in California) has determined that only no-cost or low-cost measures are presently justified in any effort to reduce power line fields below levels existing before the present health concern arose. The CPUC has further determined that such reduction should be made only in connection with new or modified lines. It requires each electric utility within its jurisdiction to establish EMF-reducing measures and incorporate such measures into the designs for all new or upgraded power lines and related facilities within their respective service areas. The CPUC further established specific limits on the resources to be used in each case for field reduction. Such limitations were intended by the CPUC to apply to the cost of any redesign to reduce field strength or relocation to reduce exposure.

The other utilities that are not within the jurisdiction of the CPUC voluntarily comply with these CPUC requirements by designing their lines in keeping with the guidelines of the major area utility, which for this project is PG&E. This CPUC policy resulted from assessments made to implement CPUC Decision 93-11-013.

In keeping with this CPUC policy, staff requires each applicant to show how each proposed overhead line would be designed to comply with the EMF-reducing design guidelines applicable to the utility service area involved. These field-reducing measures can impact line operation if applied without appropriate regard for environmental and other local issues bearing on safety, reliability, efficiency, and maintainability. Therefore, it is up to each applicant to ensure that such measures are applied to an extent that does not significantly affect line operation and safety. The extent of such applications would be reflected by the ground-level field strengths as measured during operation. When estimated or measured for lines of similar voltage and current-carrying capacity, such field strength values can be used by staff and other regulatory agencies to assess each line design for effectiveness at field strength reduction. These field strengths can be estimated for any given design using established procedures. Estimates are specified for a height of one meter above the ground, in units of kilovolts per meter (kV/m), for the electric field, and milligauss (mG) for the companion magnetic field. Their magnitude depends on line voltage (in the case of electric fields), the geometry of the structures, degree of cancellation from nearby conductors, distance between conductors and, in the case of magnetic fields, amount of current in the line.

Since each new line in California is currently required to be designed according to the EMF-reducing guidelines of the utility in the service area involved, its fields are required under existing CPUC policies to be similar to fields from similar lines

in that service area. It is this similarity in field strengths that staff assesses for compliance with the present requirements on field management.

One of the most effective ways to reduce line fields is to closely place the lines together to allow for maximum cancellation from the interaction of all the fields involved. Such field strength cancellation occurs maximally with underground lines because they are placed within their burial casings. As a result of this close placement, underground lines produce fields of much lower strengths than their overhead counterparts of the same voltage and current-carrying capacity. The strength of the surface-level magnetic fields from such underground lines diminishes more rapidly away from the line than with their overhead counterparts of the same current-carrying capacity. Because of such rapid strength diminution, such lines are unlikely to contribute significantly to residential magnetic field levels as currently located along city streets and roadways.

Design and placement guidelines are established by the CPUC-regulated utilities in keeping with CPUC requirements for safety, efficiency and reliability. As with overhead lines, the other utilities voluntarily comply with such requirements when undergrounding is necessary. Since undergrounding produces the lowest-intensity fields possible for high-voltage lines, staff only requires a showing of the applicant's plan to design, place and operate the line according to the applicable utility guidelines.

Industrial Standards

There are no health-based federal regulations or industry codes specifying limits on the strengths of fields from power lines. However, the federal government continues to conduct and encourage research necessary for an appropriate policy on the EMF health issue.

In the face of the present uncertainty, several states have opted for design-driven regulations ensuring that fields from new lines are generally similar to those from existing lines. Some states (such as Florida, Minnesota, New Jersey, New York, and Montana) have set specific environmental limits on one or both fields in this regard. These limits are, however, not based on any specific health effects. Most regulatory agencies believe, as does the CEC, that health-based limits are inappropriate at this time and that the present knowledge of the issue does not justify any retrofit of existing lines.

Before the present health-based concern developed, measures to reduce field effects from power line operations were mostly aimed at the electric field component whose effects can manifest themselves as the previously noted radio noise, audible noise, and nuisance shocks. The present focus is on the magnetic field because only it can penetrate the soil, building, and other materials to potentially produce the types of health impacts at the root of the present concern. As one focuses on the strong magnetic fields from the more visible overhead transmission and other high-voltage power lines, the CEC considers it important

for perspective, to note that an individual in a home could be exposed for short periods to much stronger fields while using some common household appliances such as hair dryers, electric shavers, and electric tooth brushes (National Institute of Environmental Health Services and the U.S Department of Energy, 1995). Scientists have not established which of these types of exposures would be more biologically meaningful in the individual.

TRAFFIC AND TRANSPORTATION

FEDERAL

- Title 49, Code of Federal Regulations. Chapter 11, Subchapter C. These authorities establish national standards for the transportation of hazardous materials.
- Title 49, Code of Federal Regulations, Sections 171-177, governs the transportation of hazardous materials, the type of materials defined as hazardous, and the marking of the transportation vehicles.
- Title 49, Code of Federal Regulations, Sections 350-399, and Appendices A-G, Federal Motor Carrier Regulations, addresses safety considerations for the transport of goods, materials, and substances over public highways.
- Part 77, Federal Aviation Administration (FAA) Regulations, establishes standards for determining obstructions in navigable airspace and sets forth requirements for notification to the FAA of proposed construction. Notification is also required if the structure or obstruction is more than a specified height and falls within any restricted airspace in the approach to airports.

STATE

- The California Vehicle Code and the Streets and Highways Code contain requirements applicable to the licensing of drivers and vehicles, and the transportation of hazardous materials and rights-of-way. In addition, the California Health and Safety Code addresses the transportation of hazardous materials. Provisions within the California Vehicle Code are as follows:
- Section 353 defines hazardous materials.
- Sections 31303-31309 regulate the highway transportation of hazardous materials, the routes used, and restrictions thereon.
- Section 31030 identifies commercial shipping routes for specified waste streams.
- Sections 31600-31620 regulate the transportation of explosive materials.
- Sections 32000-32053 regulate the licensing of carriers of hazardous materials and include noticing requirements.
- Sections 32100-32109 establish special requirements for the transportation of inhalation hazards and poisonous gases.
- Sections 34000-34121 establish special requirements for the transportation of flammable and combustible liquids over public roads and highways.
- Sections 34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5, and 34510-11 regulate the safe operation of vehicles, including those used for the transportation of hazardous materials.
- Section 25160 et seq. address the safe transport of hazardous materials.

- Sections 2500-2505 authorize the issuance of licenses by the Commissioner of the California Highway Patrol for the transportation of hazardous materials including explosives.
- Sections 13369, 15275, and 15278 address the licensing of drivers and the classifications of licenses required for the operation of particular types of vehicles. These sections also require certificates permitting the operation of vehicles transporting hazardous materials.
- California Streets and Highways Code, sections 117 and 660-72, and California Vehicle Code, section 35780 et seq., require permits for the transportation of oversized loads on county roads.
- California Street and Highways Code, sections 660, 670, 1450, 1460, 1470, and 1480, regulates right-of-way encroachment and the granting of permits for encroachments on state and county roads.
- Per the California Department of Transportation (Caltrans), all construction within the public right-of-way will need to comply with the "Manual of Traffic Controls for Construction and Maintenance of Work Zones."

LOCAL

- City of Santa Clara Comprehensive General Plan, Transportation Element.
- The General Plan's Transportation Element establishes goals and policies, and identifies implementation measures for County traffic and transportation systems. The Santa Clara County Board of Supervisors is the administering agency.
- Part of the General Plan includes a Transportation Demand Management Program which seeks to reduce traffic impacts within the City of Santa Clara by: 1) reducing the number of commute-generated vehicular trips and total miles traveled, and 2) lowering vehicular emissions, energy usage, and ambient noise levels by reducing the number of vehicle trips, total vehicle miles traveled, and traffic congestion (City of Santa Clara 1992).

TRANSMISSION SYSTEM ENGINEERING

- California Public Utilities Commission (CPUC) General Order 95 (GO-95), "Rules for Overhead Electric Line Construction," formulates uniform requirements for construction of overhead lines. Compliance with this order ensures adequate service and safety to persons engaged in the construction, maintenance, operation, or use of overhead electric lines and to the public in general.

- Western Electricity Coordinating Council (WECC) Reliability Criteria provide the performance standards used in assessing the reliability of the interconnected system. These Reliability Criteria require the continuity of service to loads as the first priority and preservation of interconnected operation as a secondary priority. The WECC Reliability Criteria include the Reliability Criteria for Transmission System Planning, Power Supply Design Criteria, and Minimum Operating Reliability Criteria. Analysis of the WECC system is based to a large degree on WECC Section 4 "Criteria for Transmission System Contingency Performance," which requires that the results of power flow and stability simulations verify established performance levels. Performance levels are defined by specifying the allowable variations in voltage, frequency and loading that may occur on systems other than the one in which a disturbance originated. Levels of performance range from no significant adverse effect outside a system area during a minor disturbance (loss of load or facility loading outside emergency limits) to a performance level that only seeks to prevent system cascading and the subsequent blackout of islanded areas. While controlled loss of generation, load, or system separation is permitted in extreme circumstances, their uncontrolled loss is not permitted (WECC 1998).

- North American Electric Reliability Council (NERC) Planning Standards provide policies, standards, principles and guides to assure the adequacy and security of the electric transmission system. With regard to power flow and stability simulations, these Planning Standards are similar to WECC's Criteria for Transmission System Contingency Performance. The NERC planning standards provide for acceptable system performance under normal and contingency conditions. The NERC planning standards apply not only to interconnected system operation but also to individual service areas (NERC 1998).

- Cal-ISO's Reliability Criteria also provide policies, standards, principles, and guides to assure the adequacy and security of the electric transmission system. With regard to power flow and stability simulations, these Planning Standards are similar to WECC's Criteria for Transmission System Contingency Performance and the NERC Planning Standards. The Cal-ISO Reliability Criteria incorporate the WECC Criteria and NERC

Planning Standards. However, the Cal-ISO Reliability Criteria also provide some additional requirements that are not found in the WECC Criteria or the NERC Planning Standards. The Cal-ISO Reliability Criteria apply to all existing and proposed facilities interconnecting to the Cal-ISO controlled grid. It also applies when there are any impacts to the Cal-ISO grid due to facilities interconnecting to adjacent controlled grids not operated by the Cal-ISO.

VISUAL RESOURCES

FEDERAL

The proposed PPP site and linear facility routes are not located on federally administered public lands and therefore not subject to federal regulations pertaining to visual resources.

STATE

The project site lies approximately 400 feet south of Highway 101 (Bayshore Freeway). Highway 101 in this location is not an eligible or designated State Scenic Highway (California Scenic Highway System – Caltrans Web Site: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm). Therefore, no state regulations pertaining to scenic resources are applicable to the project.

LOCAL

The PPP site is located within the City of Santa Clara and therefore the project would be subject to local LORS pertaining to the protection and maintenance of visual resources. Policies, regulations, and design guidelines applicable to the proposed project are found in the Santa Clara General Plan (Chapter 5 - Environmental Quality Element), the Santa Clara Zoning Ordinance, and the Community Design Guidelines. The project's consistency with these policies, regulations, and guidelines is discussed later in this analysis.

WASTE MANAGEMENT

FEDERAL

Resource Conservation and Recovery Act (42 U.S.C. § 6922)

RCRA establishes requirements for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal. Section 6922 requires generators of hazardous waste to comply with requirements regarding:

- Record keeping practices that identify quantities of hazardous wastes generated and their disposition,
- Labeling practices and use of appropriate containers,
- Use of a manifest system for transportation, and
- Submission of periodic reports to the U.S. Environmental Protection Agency or authorized state.

Title 40, Code of Federal Regulations, part 260

These sections contain regulations promulgated by the EPA to implement the requirements of RCRA as described above. Characteristics of hazardous waste are described in terms of ignitability, corrosivity, reactivity, and toxicity; and specific types of wastes are listed.

STATE

California Health and Safety Code §25100 et seq. (Hazardous Waste Control Act of 1972, as amended).

This act creates the framework under which hazardous wastes must be managed in California. It mandates the State Department of Health Services (now the Department of Toxic Substances Control (DTSC) under the California Environmental Protection Agency, or Cal EPA) to develop and publish a list of hazardous and extremely hazardous wastes, and to develop and adopt criteria and guidelines for the identification of such wastes. It also requires hazardous waste generators to file notification statements with Cal EPA and creates a manifest system to be used when transporting such wastes.

Title 14, California Code of Regulations, §17200 et seq. (Minimum Standards for Solid Waste Handling and Disposal)

These regulations set forth minimum standards for solid waste handling and disposal; guidelines to ensure conformance of solid waste facilities with county solid waste management plans, as well as enforcement and administration provisions.

Title 22, California Code of Regulations, §66262.10 et seq. (Generator Standards)

These sections establish requirements for generators of hazardous waste. Under these sections, waste generators must determine if their wastes are hazardous according to either specified characteristics or lists of wastes. As in the federal program, hazardous waste generators must obtain EPA identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Additionally, hazardous waste must only be handled by registered hazardous waste transporters. Generator requirements for record keeping, reporting, packaging, and labeling are also established.

Title 22, California Code of Regulations, §67100.1 et seq. (Hazardous Waste Source Reduction and Management Review)

These sections establish reporting requirements for generators of certain hazardous and extremely hazardous wastes in excess of specified limits. The required reports must indicate the generator's waste management plans and performance over the reporting period.

LOCAL

The Santa Clara County Department of Environmental Health has the responsibility for administration and enforcement of the California Integrated Waste Management Act for non-hazardous solid waste at the proposed PPP. Local agencies are responsible for the administration and enforcement of the hazardous material laws. The City of Santa Clara Fire Department, Hazardous Materials Division, is the local agency that will regulate hazardous waste at PPP.

The City of Santa Clara Fire Department enforcement of the Uniform Fire Code, Article 80, the code requires that a Hazardous Materials Inventory Statement and a Hazardous Materials Management Plan be prepared.

WORKER SAFETY AND FIRE PROTECTION

FEDERAL

In December 1970 Congress enacted Public Law 91-596, the Federal Occupational Safety and Health Act of 1970 (OSH Act). This Act mandates safety requirements in the workplace and is found in Title 29 of the United States Code, § section 651 (29 U.S.C. §§ 651 through 678). Implementing regulations are codified at Title 29 of the Code of Federal Regulations, under General Industry Standards §§ 1910.1 - 1910.1500 and clearly define the procedures for promulgating regulations and conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector. Most of the general industry safety and health standards now in force under this OSH Act represent a compilation of materials from existing federal standards and national consensus standards. These include standards from the voluntary membership organizations of the American National Standards Institute (ANSI), and the National Fire Protection Association (NFPA), which publishes the National Fire Codes.

The purpose of the OSH Act is to "assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources," (29 U.S.C. § 651). The Federal Department of Labor promulgates and enforces safety and health standards that are applicable to all businesses affecting interstate commerce. The Department of Labor established the Occupational Safety and Health Administration (OSHA) in 1971 to discharge the responsibilities assigned by the OSH Act.

Applicable Federal requirements include:

- Occupational Safety and Health Act of 1970 29 U.S.C. § 651 et seq.;
- Occupational Safety and Health Administration Safety and Health Regulations 29 C.F.R. §1910.1 - 1910.1500;
- Federal approval of California's plan for enforcement of its own Safety and Health requirements, in lieu of most of the Federal requirements found in 29 C.F.R. §§1910.1 – 1910.1500 and §§ 1952.170 – 1952.175.

STATE

California passed the Occupational Safety and Health Act of 1973 (Cal/OSHA) as codified in the California Labor Code § 6300 et seq. Regulations promulgated as a result of the Act are codified at Title 8 of the California Code of Regulations, beginning with sections 337-560 and continuing with sections1514 through 8568. The California Labor Code requires that the Cal/OSHA Standards Board adopt standards at least as effective as the federal standards (Labor Code § 142.3(a)). Thus all Cal/OSHA health and safety standards meet or exceed the Federal requirements. California obtained federal approval of its State health and safety regulations, in lieu of the federal requirements codified at 29 CFR §1910.1 - 1910.1500. The Federal Secretary of Labor, however, continually oversees

California's program and will enforce any federal standard for which the State has not adopted a Cal/OSHA counterpart.

Employers are responsible for informing their employees about workplace hazards, potential exposure and the work environment (Labor Code § 6408). Cal/OSHA's principal tool in ensuring that workers and the public are informed is the Hazard Communication standard first adopted in 1981 Cal. Code Regs., tit. 8, §5194. This regulation was promulgated in response to California's Hazardous Substances Information and Training Act of 1980. It was later revised to mirror the Federal Hazard Communication Standard (29 C.F.R. §1910.1200), which established on the federal level an employee's "right to know" about chemical hazards in the workplace, and added the provision of applicability to public sector employers. A major component of this regulation is that project owners must make Material Safety Data Sheets (MSDSs) available to workers. MSDSs provide information on the identity, toxicity, and precautions to take when using or handling hazardous materials in the workplace.

Finally, California Code of Regulations, title 8 section 3203 requires that employers establish and maintain a written Injury and Illness Prevention Program to identify workplace hazards and communicate them to its employees through a formal employee-training program.

Applicable State requirements include:

- Cal. Code Regs., tit. 8, §339 - List of hazardous chemicals relating to the Hazardous Substance Information and Training Act;
- Cal. Code Regs., tit. 8, §337, et seq. Cal/OSHA regulations;
- Cal. Code Regs., tit. 24, § 3 et seq. - incorporates the current addition of the Uniform Building Code;
- Health and Safety Code § 25500 et seq. - Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at the facility; and
- Health and Safety Code §§ 25500 - 25541 - Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at the facility.

LOCAL

The California Building Standards Code published at Title 24 of the California Code of Regulations section 3 et seq is comprised of 11 parts containing the building design and construction requirements relating to fire and life safety and structural safety. The Building Standards Code includes the electrical, mechanical, energy, and fire codes applicable to the project. Local planning/building & safety departments enforce the California Uniform Building Code.

NFPA standards are published in the California Fire Code. The fire code contains general provisions for fire safety, including but not restricted to:

1) required road and building access; 2) water supplies; 3) installation of fire protection and life safety systems; 4) fire-resistive construction practices; 5) general fire safety precautions; 6) storage of combustible materials; 7) exits and emergency escapes; and 8) fire alarm systems. The California Fire Code reflects the body of regulations published at Cal. Code Regs., 24 (Health and Safety Code §18901 et seq.) pertaining to the California Fire Code.

Similarly, the Uniform Fire Code (UFC) Standards, a companion publication to the California Fire Code, contains standards of the American Society for Testing and Materials and the NFPA. It is the United States' premier model fire code. It is updated annually as a supplement and published every third year by the International Fire Code Institute to include all approved code changes in a new edition.

Applicable local (or locally enforced) requirements include:

- 1998 Edition of California Fire Code and all applicable NFPA standards (Title 24, California Code of Regulations, sections 901-907);
- California Building Code Title 24, California Code of Regulations, section 3 et seq.
- Uniform Fire Code, 1997

Appendix B

Proof of Service List

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

Application for Certification For **Pico Power Project** By Silicon Valley Power _____	))))	Docket No. 02-AFC-3 **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

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 00-AFC-17
DOCKET UNIT, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

APPLICANT

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Intervenors

California Unions for Reliable Energy
C/o Marc Joseph
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South San Francisco, CA 94080

I declare under penalty of perjury that the foregoing is true and correct

_____
[signature]

INTERNAL DISTRIBUTION LIST

JOHN L. GEESMAN, Commissioner
Presiding Member
MS-31

ARTHUR H. ROSENFELD, Commissioner
Associate Member
MS-35

Gary Fay
Hearing Officer
MS-9

Mathew Trask
Project Manager
MS-3000

Dick Ratliff
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Chief Counsel
MS-14

Roberta Mendonca
Public Adviser
MS-12

Appendix C

Exhibit List

STATE OF CALIFORNIA

State Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 02-AFC-3**
Application for Certification for the Pico Power Project (PPP)	PPP Exhibit List

EXHIBIT LIST

Exhibit 1: Application for Certification for the Pico Power Project. Sponsored by Applicant; Docketed on October 7, 2002, received into evidence on May 7, 2003.

Exhibit 2: Applicant's Responses to Data Adequacy Requests. Sponsored by Applicant; Docketed on November 14, 2002, received into evidence on May 7, 2003.

Exhibit 3: Applicant's Responses to First Set of Data Requests, Nos. 1 through 65. Sponsored by Applicant; Docketed on December 23, 2002, received into evidence on May 7, 2003.

Exhibit 4: Applicant's Supplemental Response to Data Request 55. Sponsored by Applicant; Docketed on January 7, 2003, received into evidence on May 7, 2003.

Exhibit 5: Applicant's Supplemental to AFC relating to Land Use and Waste Management. Sponsored by Applicant; Docketed on January 10, 2003, received into evidence on May 7, 2003.

Exhibit 6: Applicant's System Impact Study. Sponsored by Applicant; Docketed on January 15, 2003 received into evidence on May 7, 2003.

Exhibit 7: Applicant's Statement of Work for Proposed Aquifer Test Program for Backup Supply Well. Sponsored by Applicant; Docketed on January 30, 2003, received into evidence on May 7, 2003.

Exhibit 8: Applicant's Responses to Second Set of Data Requests Nos. 66 through 70. Sponsored by Applicant; Docketed on January 30, 2003, received into evidence on May 7, 2003.

Exhibit 9: Applicant's Responses to Third Set of Data Requests Nos. 71 through 73. Sponsored by Applicant; Docketed on February 5, 2003, received into evidence on May 7, 2003.

Exhibit 10: Applicant's Resource Management Plan. Sponsored by Applicant; Docketed on March 17, 2003, received into evidence on May 7, 2003.

Exhibit 11: Applicant's Comments on Staff Assessment Part 1. Sponsored by Applicant; Docketed on April 15, 2003, received into evidence on May 7, 2003.

Exhibit 12: Testimony of John Roukema and Les Ward, Project Description. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 13: Deleted

Exhibit 14: Testimony of Jenna Farell, Cultural Resources. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 15: Testimony of Doug Urry, Hazardous Materials. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 16: Testimony of Doug Urry, Worker Safety and Fire Protection. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 17: Testimony of Brett Moore, Land Use. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 18: Testimony of Tom Adams, Noise and Vibration. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 19: Testimony of Rick Booth, Public Health. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 20: Testimony of Doug Davy, Socioeconomics. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 21: Testimony of Suzanne Burnell and Mike Fox, Soil & Water Resources. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 22: Testimony of Doug Davy, Traffic and Transportation. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 23: Testimony of Doug Davy and Scott Muller, Visual Resources. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 24: Testimony of Doug Urry, Waste Management. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 25: Testimony of George Claypoole, Facility Design, Power Plant Reliability and Efficiency. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 26: Testimony of Doug Davy, Geology and Paleontology. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 27: Testimony of Jim Carlson, Transmission System Engineering and Transmission Line Safety and Nuisance. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 28: Testimony of Andrea Grenier, Compliance Monitoring and Facility Closure. Sponsored by Applicant, Docketed on May 1, 2003, received into evidence on May 7, 2003.

Exhibit 29 Staff Assessment, Part I, Sponsored by Staff, Docketed on March 26, 2003, received into evidence on May 7, 2003.

Exhibit 30 Addendum to Staff Assessment, Part I, Sponsored by Staff, Docketed on April 19, 2003, received into evidence on May 7, 2003.

Exhibit 31 General Arrangement Drawing, Sponsored by Applicant, Docketed on June 17, 2003, received into evidence on June 11, 2003

Exhibit 32 Staff corrections to Conditions of Certification in Hazardous Materials, Soil and Water Resources and Facility Design, Sponsored by Staff, Docketed on June 11, 2003, received into evidence on June 11, 2003

Exhibit 33	Testimony of Brett Hartman, Biological Resources, Sponsored by Applicant, Docketed on June 6, 2003, received into evidence on June 11, 2003.
Exhibit 34	Email relating to Low Effect Habitat Conservation Plan from Cecelia Brown, USFWS to Stuart Itoga, CEC dated May 21, 2003, Sponsored by Applicant, received into evidence on June 11, 2003.
Exhibit 35	Testimony of Doug Davy, Alternatives, Sponsored by Applicant, Docketed on June 6, 2003, received into evidence on June 11, 2003.
Exhibit 36	Staff Assessment, Phase 2, Sponsored by Staff, Docketed on May 30, 2003, received into evidence on June 11, 2003.
Exhibit 37	Testimony of Greg Darvin, Sponsored by Applicant, Docketed on June 6, 2003, received into evidence on June 11, 2003.
Exhibit 38	Corrections to Air Quality Conditions of Certification, Sponsored by Staff, Docketed on June 11, 2003, received into evidence on June 11, 2003.
Exhibit 39	Final Determination of Compliance, Sponsored by Applicant, Docketed on July 23, 2003, received into evidence on September 3, 2003.
Exhibit 40	Final Revisions to Staff's Air Quality Assessment, Sponsored by Staff, Docketed on July 22, 2003, received into evidence on September 3, 2003.