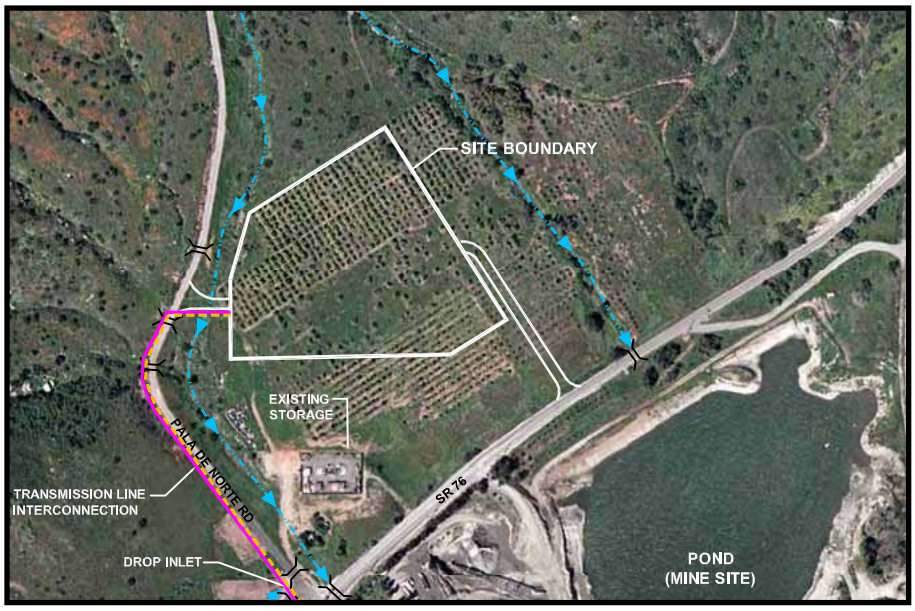
CALIFORNIA
ENERGY
COMMISSION

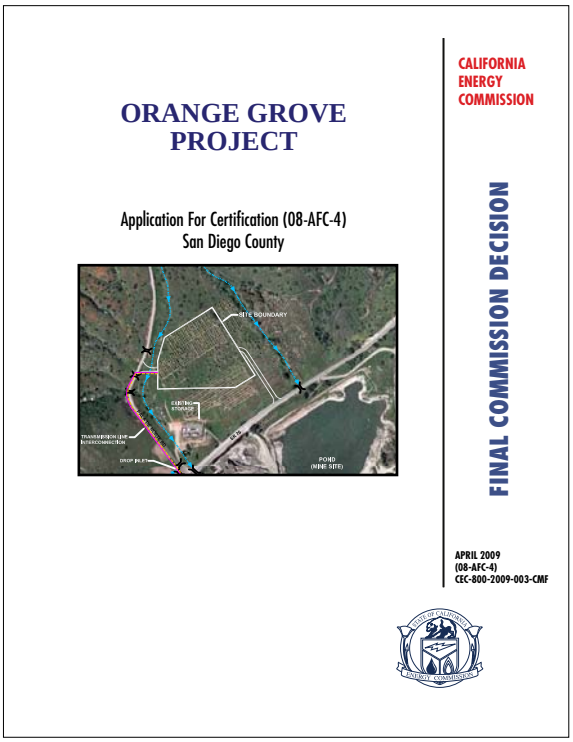
ORANGE GROVE PROJECT

Application For Certification (08-AFC-4)
San Diego County



FINAL COMMISSION DECISION

APRIL 2009
(08-AFC-4)
CEC-800-2009-003-CMF



CALIFORNIA ENERGY COMMISSION

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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION FOR THE *ORANGE GROVE POWER PLANT PROJECT* BY *ORANGE GROVE ENERGY, LLC*

DOCKET NO. 08-AFC-4

ORDER NO. 09-0408-02

COMMISSION ADOPTION ORDER

This Commission Order adopts the Commission Decision on the Orange Grove Power Plant Project. It incorporates the Presiding Member's Proposed Decision (PMPD) in the above-captioned matter and the Committee Errata. The Commission Decision is based upon the evidentiary record of these proceedings and considers the comments received at the April 8, 2009, business meeting. The text of the attached Commission Decision contains a summary of the proceedings, the evidence presented, and the rationale for the findings reached and Conditions imposed.

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

FINDINGS

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

1. The Orange Grove Power Plant Project will provide a degree of economic benefits and electricity reliability to the local area.

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

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

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

5. The project is subject to Fish and Game Code section 711.4 and the project owner must therefore pay an eight hundred fifty dollar ($850) fee to the California Department of Fish and Game.

6. Construction and operation of the project, as mitigated, will not create any significant adverse environmental impacts. Therefore, the evidence of record also establishes that no feasible alternatives to the project, as described during these proceedings, exist which would reduce or eliminate any significant environmental impacts of the mitigated project.

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

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

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

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

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

ORDER

Therefore, the Commission **ORDERS** the following:

1. The Application for Certification of the Orange Grove Power Plant Project as described in this Decision is hereby approved and a certificate to construct and operate the project is hereby granted.

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

3. This Decision is adopted, issued, effective, and final on April 8, 2009.

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

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

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

7. The project owner shall provide the Executive Director a check in the amount of eight hundred fifty dollars ($850), payable to the California Department of Fish and Game.

8. The Executive Director of the Commission shall transmit a copy of this Decision and appropriate accompanying documents, including the Department of Fish and Game fee, as provided by Public Resources Code section 25537, California Code of Regulations, title 20, section 1768, and Fish and Game Code section 711.4.

9. We order that the Application for Certification docket file for this proceeding be closed effective the date of this Decision, with the exception that the docket file shall remain open for 30 additional days solely to receive material related to a petition for reconsideration of the Decision.

Dated April 8, 2009, at Sacramento, California.

Original Signed By:

KAREN DOUGLAS
Chairman

Original Signed By:

JAMES D. BOYD
Vice Chair

Original Signed By:

JEFFREY D. BYRON
Commissioner

Original Signed By:

ARTHUR H. ROSENFELD
Commissioner

Original Signed By:

JULIA LEVIN
Commissioner

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INTRODUCTION

A. SUMMARY

This Decision contains our rationale for determining whether the Orange Grove Energy Project complies with all applicable laws, ordinances, regulations, and standards (LORS) and whether it can, therefore, be certified. Our findings and conclusions are based exclusively upon the evidentiary record established during the certification proceeding, which is summarized in this document. We have independently evaluated the evidence, provided references to the record[1] which support our findings and conclusions, and specified the measures required to ensure that the Orange Grove Project is designed, constructed, and operated in a manner that will protect public health and safety, promote the general welfare, and preserve environmental quality.

The Orange Grove Project was initiated in response to a San Diego Gas & Electric (SDG&E) "Request for Offer" (RFO) for a peaking power plant to serve loads during high electricity peak demand periods. The project site is owned by SDG&E and will be available to the Applicant for the purpose of building and operating the project through a 25-year tolling agreement that allows SDG&E to provide natural gas to the project, and utilize 100 percent of the proposed plant electrical output.

The proposed Orange Grove Project would be constructed on an approximately 8.5-acre site that is part of an approximately 202-acre property located in an unincorporated area of northern San Diego County, approximately five miles east of the town of Fallbrook and two miles west of the community of Pala. The site is located off State Route 76 (SR 76) approximately four miles from Interstate 15 (I-15).

The proposed Orange Grove Project is a 96-megawatt (MW) simple-cycle electric generating facility designed as a peaking facility to serve loads during peak demand. The power plant would use two combustion turbine generators (CTGs) that will be fueled with natural gas. Natural gas would be supplied to the Orange Grove Project from an existing SDG&E 16-inch gas main located near the intersection of Rice Canyon Road and SR 76. An approximately 2.4-mile

[1] The Reporter's Transcript of the evidentiary hearings conducted on December 19, 2008, is cited as "12/19/08 RT [page]:[line]." The exhibits included in the evidentiary record are cited as "Ex. number." A list of all exhibits is contained in Appendix B of this Decision.

underground gas pipeline will be constructed from the gas main to the project site to convey natural gas to the project.

The Orange Grove Project would require approximately 62 acre feet per year (AFY) of fresh water and 38.7 AFY of reclaimed tertiary treated water to meet its operational needs if the facility operates at the maximum allowable number of hours. Water will be trucked to the project site using new Class 9 single-trailer semi trucks with a capacity of approximately 6,500 gallons. Water delivery will require approximately one truck per hour for fresh water and one truck per hour for reclaimed water during times when the plant is operational.

Construction of the electric transmission line interconnection to the Pala substation will occur within the limits of SDG&E's contiguous property. The transmission line interconnection will be installed in a 0.3-mile long, 69 kilovolt (kV), single circuit, underground transmission line. Transmission system upgrades will be required beyond the Pala Substation, including reconductoring, changing relay settings, and other work. Transmission system upgrades will be performed by SDG&E.

The Orange Grove Project proposes to begin construction in April 2009, and is expected to last approximately six months, with scheduled commercial operations beginning October 2009. The on-site construction workforce would peak at approximately 105 workers in the fifth month of construction, and average 70 workers over the construction period. Construction hours will typically occur between 7 a.m. and 6 p.m. Monday through Friday. Operation and maintenance of the project will require nine full-time permanent staff. Construction costs are estimated to be approximately $100 million

B. SITE CERTIFICATION PROCESS

The Orange Grove Project and its related facilities are subject to the Energy Commission's jurisdiction. (Pub. Res. Code, § 25500 et seq.). During certification proceedings, the Commission acts as lead state agency under the California Environmental Quality Act (CEQA). (Pub. Res. Code, §§ 25519 (c), 21000 et seq.) The Commission's regulatory process, including the evidentiary record and associated analyses, is functionally equivalent to the preparation of an Environmental Impact Report. (Pub. Res. Code, § 21080.5.) The process is designed to complete the review within a specified time period, typically one year. A certificate issued by the Commission is in lieu of other state and local permits.

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

The Commission's process allows for and encourages public participation so that members of the public may become involved either informally or on a formal level as intervenor parties who have the opportunity to present evidence and cross-examine witnesses. Public participation is encouraged at every stage of the process.

The process begins when an Applicant submits an Application for Certification (AFC). Commission staff reviews the data submitted as part of the AFC and makes a recommendation to the Commission on whether the AFC contains adequate information to begin the certification process. After the Commission determines an AFC contains sufficient threshold information, it appoints a Committee of two Commissioners to conduct the formal certification process. This process includes public conferences and evidentiary hearings, where the evidentiary record is developed and becomes the basis for the Presiding Member’s Proposed Decision (PMPD). The PMPD determines a project's conformity with applicable laws, ordinances, regulations, and standards and provides recommendations to the full Commission.

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

Following this, the Committee conducts a Prehearing Conference to assess the adequacy of available information, identify issues, and determine the positions of the parties. Based on information presented at this event, the Committee issues a Hearing Order to schedule formal evidentiary hearings. At the evidentiary hearings, all formal parties, including Intervenors, may present sworn testimony, which is subject to cross-examination by other parties and questioning by the

Committee. Members of the public may offer oral or written comments at these hearings. Evidence submitted at the hearings provides the basis for the Committee's analysis and recommendations to the full Commission.

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

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

C. PROCEDURAL HISTORY

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

On June 19, 2008, the California Energy Commission received an Application for Certification (AFC) from Orange Grove Energy, L.P. (Applicant), a subsidiary of J-Power USA Development Company Ltd. Prior to filing this AFC, on July 19, 2007, the Applicant submitted an Application for a Small Power Plant Exemption (SPPE) to the California Energy Commission to construct and operate the Orange Grove Project, pursuant to Public Resources Code section 2554.1. On September 24, 2007, the Committee conducted a Public Site Visit and Informational Hearing. During the course of the SPPE proceedings, the Applicant ran into obstacles concerning some of their linear facilities which ultimately led to the withdrawal of the SPPE Application on April 24, 2008. On April 28, 2008, the Energy Commission terminated the SPPE proceedings and in view of Applicant's stated intention to re-file the same project as an AFC, ordered Staff to take

advantage of work already completed on the Orange Grove Project and to process the AFC as quickly as reasonably possible.

On June 19, 2008, Orange Grove Energy, L.P. (Applicant), submitted an Application for Certification (AFC) with the California Energy Commission to construct and operate the Orange Grove Energy Project. The Commission then assigned a Committee of two Commissioners to conduct proceedings. On July 9, 2008, the Energy Commission accepted the AFC as complete, assigned the same SPPE Committee to the proceeding, which started the Energy Commissions' formal review of the proposed project.

On July 29, 2008, the Committee held an Informational Hearing, Issues Identification and Scheduling Conference. The Hearing was held in the city of Fallbrook. The Notice was mailed to members of the community who were known to be interested in the project, including the owners of land adjacent to or in the vicinity of the project. The Committee Schedule contained a list of events that had to occur in order to complete the certification process on time.

In the course of their analysis and review, Staff conducted a public Data Response and Issue Resolution Workshop on September 11, 2008, which focused on the Applicant's responses to Staff Data Requests, and the resolution of related issues and concerns.

Staff published its Staff Assessment (SA) on November 6, 2008, and conducted a public workshop on Thursday, November 20, 2008, in the city of Fallbrook, for the purpose of receiving public comments on the SA.

On November 6, 2008, the Committee issued a "Notice of Prehearing Conference, and Notice of Evidentiary Hearing." The Prehearing Conference was held on December 1, 2008 at the Energy Commission in Sacramento. The Evidentiary Hearing was held in Fallbrook, California on December 19, 2008.

The formal parties to the proceedings were Energy Commission Staff, the Applicant, and Intervenors Anthony J. Arand, Alliance for a Cleaner Tomorrow (ACT), and Archie D. McPhee. Of the Intervenors, only Archie D. McPhee appeared at the evidentiary hearing.

Public comment received at the evidentiary hearing was for the most part supportive. **Keith Battle** commented in favor of the project and offered that the Palomar Mountain Spring Water Company is already transporting water in 6500

gallon trucks as proposed in the Orange Grove Project (12/19/08 RT 198:9-20). **Jackie Reynolds** stated that more electricity generation was needed in the area, especially for people with medical conditions for whom loss of electric power may be life threatening (12/19/08 RT 200:12-201:1). **Ted Felicett**i agreed with Ms. Reynolds and opined that the project would fit well in the rural community setting (12/19/08 RT 203:16-204:8). **Linda Cooper** and **Greg Valdez** both voiced support for the project to supply needed power, and Mr. Valdez applauded the projects proposed use of recycled water for cooling (12/19/08 RT 207:3-17; 211:22-212:22).

During the review process, extensive coordination occurred with numerous other local, state and federal agencies that have an interest in the project including the San Diego County Local Area Formation Commission (LAFCO), San Diego County Office of Planning and Land Use, North County Fire Protection District, California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Army Corp of Engineers, Fallbrook Public Utilities District, Rainbow Municipal Water District, California Department of Transportation, District 9, San Diego Regional Water Quality Control Board, San Diego Air Pollution Control District, Native American tribes, and other interested parties.

After reviewing the evidentiary record, including Intervenor testimony and the Exhibits, the Committee published the Presiding Member's Proposed Decision (PMPD) on February 25, 2009, and scheduled a Committee Conference to discuss comments on the PMPD, for March 16, 2009. The 30-day comment period on the PMPD ends on March 25, 2009. The full Commission will consider adoption of the PMPD at a regularly scheduled business meeting on April 8, 2009. Notice of Availability of the PMPD was also published in the *North County Times,* on February 26, 2009.

I. PROJECT DESCRIPTION AND PURPOSE

Orange Grove Energy, L.P. (Applicant) has applied to construct and operate the Orange Grove Project, a 96-megawatt (MW) power plant designed to serve loads during peak demand. The evidence describes the project as follows. [RT 39.]

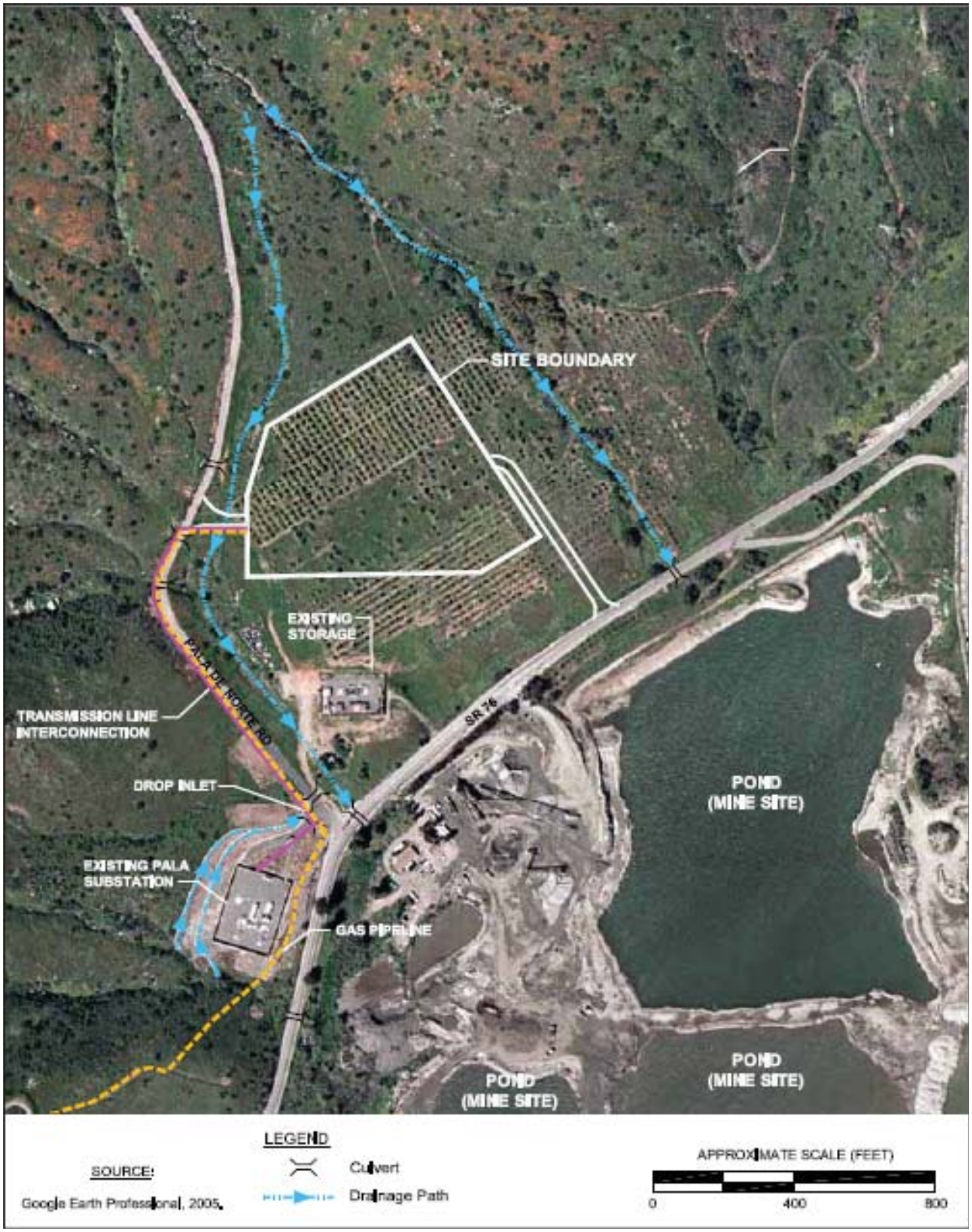
1. Site Conditions

The Orange Grove Project is located on an 8.5-acre site that is part of a 202-acre property owned by San Diego Gas & Electric (SDG&E). The site is located in an unincorporated area of northern San Diego County, approximately five miles east of the town of Fallbrook and two miles west of the community of Pala. The site is accessed via State Route 76 (SR 76) approximately four miles east of Interstate 15**.** The region is primarily rural, with some agriculture and open space surrounding scattered low density residential areas or small communities. A future landfill is planned near the project site, as well as an expansion to the existing Pala Casino. (Ex. 1 pp. 1-1 to 1-3; Ex. 200, p. 3-1; see **Project Description Figure 1**.)

The site does not have any undisturbed natural habitat. The majority of the site has been used for agriculture and is occupied by a fallow citrus grove. South of the site, across the SR 76, lies a former aggregate mine within the San Luis Rey River bed, where the mine pits have filled with groundwater forming large ponds. The mine pits are owned by a local tribe which has no plans for further development of the site. (Ex. 200, p. 3-1.)

Primary construction access would be from Interstate 15 to SR 76. Five acres of the approximately 202-acre property will serve as a lay down area accommodating storage of construction materials, equipment, construction offices, and parking. Orange Grove Energy proposes to restore and re-vegetate this area after construction is complete. (Ex. 200, p. 3-4.)

PROJECT DESCRIPTION - FIGURE 1
Source: Ex. 200



The construction period is expected to last approximately six months. The on-site construction workforce would peak at approximately 105 workers in the fifth month of construction, and average 70 workers over the construction period. Construction hours will typically occur between 7 a.m. and 6 p.m. Monday through Friday. Operation and maintenance of the OGP will require nine full-time permanent staff. Construction costs are estimated to be approximately $100 million. (Ex. 200, p. 3-4.)

2. Power Plant

The Orange Grove Project is a 96-megawatt (MW) simple-cycle electric generating facility. The power plant would use two combustion turbine generators (CTGs) that will be fueled with natural gas. High-efficiency emission control technologies will be utilized to meet Best Available Control Technology (BACT) requirements. The CTGs will be equipped with power boost technology to increase output from the plant during warm or hot ambient temperature conditions. Demineralized, finely atomized water is injected into the compressor section of the engines, which reduces the heat of compression, and increases power output. (Ex. 200 pp. 3-1 to 3-2.)

The major components of the power plant are:

- two General Electric (GE) LM6000 PC SPRINT combustion turbine generators (CTGs) equipped with GE's SPRay-INTercooled (SPRINT) power boost technology;
- inlet air chiller cooling tower;
- chilled water system package;
- a 0.3-mile underground transmission line from the project to the Pala Substation;
- a 10-inch, approximately 2.4-mile length of natural gas lateral pipeline connected to the SDG&E main gas line;
- a 535,000-gallon raw water-fire water storage tank;
- The actual size of the demineralized water storage tank will be 100,000 gallons;
- a 414,000 gallon recycled water storage tank;

- a CO oxidation catalyst, as well as an aqueous ammonia SCR system;
- a gas-fired black start generator; and
- a diesel emergency fire water pump.

(Ex. 200, p. 3-2.)

The project will utilize a packaged wet cooling tower for only the air inlet chiller system. Emissions will be controlled with a carbon monoxide (CO) emission oxidation catalyst, as well as an aqueous ammonia Selective Catalytic Reduction (SCR) system that will reduce emissions. Noise control features will include sound walls that will surround the combustion turbines, the inlet chiller and cooling tower, as well as fuel gas compressors to control noise from the plant. Output of the generators would be connected to step-up transformers within an onsite switchyard that will require construction of an underground transmission circuit to interconnect at the existing SDG&E Pala substation. (Ex. 200, p. 3-2.)

The record shows that the Orange Grove Project is designed to be a peaking power plant that is expected to operate only about 60 days per year. (Ex. 1, p.1-5.)

3. Associated Facilities

Construction of the electric transmission line interconnection to the SDG&E's Pala substation will occur within the limits of SDG&E's contiguous property. The transmission line interconnection will be installed in a 0.3-mile long, 69 kilovolt (kV), single circuit, underground transmission line. (See **Project Description Figure 2**.) Transmission system upgrades required beyond the Pala Substation, including reconductoring, changing relay settings, and other work will be performed by SDG&E. The reconductoring will take place entirely within the existing SDG&E transmission line right-of-way between the Monserate and Pala Substations, a distance of approximately seven miles. Reconductoring work consists of preparing existing transmission line poles to receive new conductions, which will involve replacing 33 of the 117 existing poles, installing nine new poles, and removing two existing poles. (Ex. 10, Attachment 11; Ex. 59, 200, p. 3-3.)

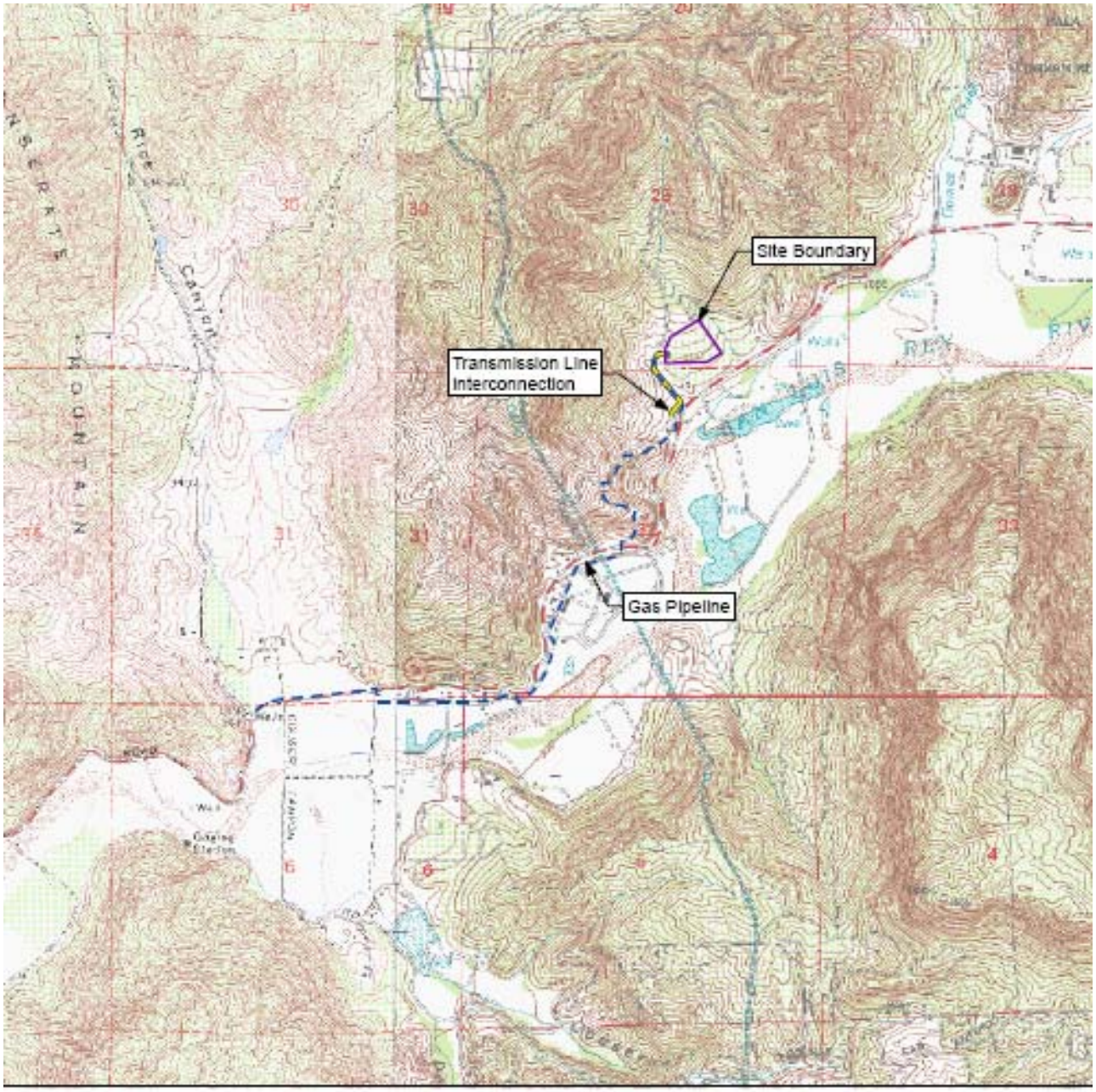
Natural gas will be supplied to the Orange Grove Project from an existing SDG&E 16-inch gas main located near the intersection of Rice Canyon Road and SR 76. An approximately 2.4-mile underground gas pipeline will be constructed

from the gas main to the project site to convey natural gas to the project. A new 10-inch pipeline will be constructed with a metering station located onsite. (See **Project Description Figure 2.**) (Ex. 200, p. 3-2.)

The Orange Grove Project will require approximately 62 acre feet per year (AFY) of fresh water and 38.7 AFY of recycled tertiary treated water to meet its operational needs if the facility operates at the maximum allowable number of hours. It is highly likely the facility will operate at a fraction of the maximum hours (i.e., up to 6,400 hours/year). Therefore, it is expected that plant operation will consume around 21 AFY of fresh water and 12 AFY of reclaimed water. Orange Grove Energy has obtained rights to purchase water for the project from Fallbrook Public Utilities District (FPUD). Water will be picked up from two offsite pickup locations that will be constructed, owned and operated by FPUD. The fresh water pickup station is in Fallbrook, approximately 9.0 miles west of the site. The reclaimed water pickup station, also in Fallbrook, will be located within an existing FPUD water reclamation plant facility approximately 15.6 miles from the project site. (Ex. 200, pp. 3-2 to 3-3.)

Sanitary wastewater will be managed with an onsite septic system. Process wastewater consisting of blowdown water from the chiller system cooling towers and other non-oily wastewater streams will be collected and recycled using an onsite reverse osmosis (RO) water treatment system. Only a few hundred gallons per month of wastewater will not be recyclable onsite and will need to be trucked offsite for treatment at a licensed facility. With the RO system to recycle process wastewater onsite, the plant will function with essentially zero liquid discharge technology that eliminates wastewater and reduces water use. Surface drainage from the plant will flow to an on-site detention basin designed to receive flows from a 100-year storm and to manage storm water runoff in accordance with local ordinances. (Ex. 200, p. 3-3.)

PROJECT DESCRIPTION - FIGURE 2
Source: Ex. 200



1" = 2,000'

2,000 1,000 0 2,000 4,000 6,000 Feet

Hazardous wastes generated by the plant would include spent selective catalytic reduction and oxidation catalyst, used oil filters, used oil and chemical waste. The record specifies that recycling is the preferred waste management practice wherever possible. All other wastes will be disposed of in accordance with applicable LORS at appropriately licensed waste disposal facilities. The handling and disposal of hazardous substances are addressed in the **WASTE MANAGEMENT, WORKER SAFETY AND FIRE PROTECTION** and **HAZARDOUS MATERIALS** sections of this Decision. (Ex. 200, p. 3-3.)

4. Project Ownership and Objectives

The record shows that the Orange Grove Project was initiated in response to a SDG&E Request for Offer (RFO) for peaking power to serve loads during high electricity peak demand periods. The evidence indicates that the project site is owned by SDG&E and will be available to Orange Grove Energy for the purpose of building and operating the project through a 25-year tolling agreement that allows SDG&E to provide natural gas to the project, and utilize 100 percent of the electrical output. (Ex. 1, p. 1-1; Ex. 200 p. 3-1.)

The Orange Grove Project's stated objectives are to:

- Provide environmentally sound, efficient and reliable power generation using commercially-available proven technology to respond to the SDG&E RFO for new generating capacity to support reliability in an environmentally responsible and economically feasible manner;

- Use a site location within SDG&E's service territory that has infrastructure with available capacity and ability to reliably support project electric transmission, fuel supply and water needs with minimal impact on existing infrastructure systems or required new construction;

- Use a site that is commercially available, including control for reasonable access and linear facility easements;

- Develop a site that has compatible zoning, compatible adjacent land uses, and is located away from sensitive receptors; and

- Maximize the capacity of the classes of equipment to be used, consistent with good engineering practice. (Ex. 1, pp. 1-1 to 1-2.)

-

The record shows that the Orange Grove Project is needed by SDG&E to support reliability and meet growing load requirements within its service territory. Specifically, SDG&E initiated the RFO in response to the California Public Utilities Commission's (CPUC) concerns that there is a need for additional peaking capacity after the unusually hot summer of 2006. With normal load growth in the SDG&E service area, a repeat heat storm could pose reliability issues within the SDG&E service territory. Delay or cancellation of the Project would leave the system vulnerable to heat events. Orange Grove Energy provided a letter of support for the project from SDG&E which outlines SDG&E's position regarding the project's importance and urgency. (Ex. 1, Appendix 5-A.)

5. Facility Closure

After 25 years of commercial operation, Orange Grove Energy will convey the plant to SDG&E. The plant is expected to continue to provide a viable power supply as long as certain components are refurbished or replaced according to the manufacturer's specifications. Whenever the facility is closed, whether temporarily or permanently, the closure procedures included in this Decision will ensure compliance with applicable LORS. (Ex. 1, p. 1-1.)

FINDINGS

Based on the evidentiary record, we find as follows:

1. The Orange Grove Project involves the construction and operation of a 96-megawatt (MW) simple-cycle electric generating facility in unincorporated northern San Diego County, California.

2. Orange Grove Energy L.P. will own and operate the Orange Grove project for 25 years of commercial operation.

3. The Orange Grove Project will be used as a peaking facility, capable of operating up to a maximum of 6,400 hours per year for the two combustion turbines combined.

4. The Orange Grove Project is expected to operate only about 60 days per year.

5. The Orange Grove Project includes associated transmission and gas supply lines.

6. Fresh water will be delivered by truck to the project from the FPUD filling station in Fallbrook, approximately 9 miles west of the site.

7. Reclaimed water will be delivered by truck to the project from the FPUD filling station, also in Fallbrook, but located within an existing FPUD water reclamation plant facility approximately 15.6 miles from the project site.

8. The Orange Grove Project and its objectives are adequately described by the relevant documents contained in the record.

9. Orange Grove Energy will convey the plant to SDG&E after 25 years of commercial operation.

10. The Orange Grove Project is needed by SDG&E to support reliability and meet growing load requirements within its service territory.

CONCLUSIONS

We therefore conclude that the Orange Grove Project is described at a level of detail sufficient to allow review in compliance with the provisions of both the Warren- Alquist Act and the California Environmental Quality Act.

II. PROJECT ALTERNATIVES

The California Environmental Quality Act (CEQA) Guidelines and the Energy Commission's regulations require an evaluation of the comparative merits of a range of feasible site and facility alternatives which represent the basic objectives of the proposed project but would avoid or substantially lessen potentially significant environmental impacts. (Cal. Code Regs., tit. 14, §§ 15126.6(c) and (e); *see also*, tit. 20, § 1765.)

The range of alternatives, including the "No Project" alternative, is governed by the "rule of reason" and need not include those alternatives whose effects cannot be reasonably ascertained and whose implementation is remote and speculative. (Cal. Code Regs., tit. 14, § 15126.6(f).) Rather, the analysis is necessarily limited to alternatives that the "lead agency determines could feasibly attain most of the basic objectives of the project." (*Id*.)

Applicant provided an extensive 'alternatives analysis' in the AFC and related Data Responses [Ex. 1, 5-1 to 5-33 and Appendix 5-A; Ex. 7, Responses 1-73, 18-21 and Exs. 19-1 and 19-2; Ex. 18(q)], describing the site selection process and project configuration in light of project objectives as compared to a reasonable range of possible alternatives. The Staff Assessment included a similar alternatives analysis. (Ex. 200, p. 6-1 et seq.) None of the Intervenors disputed these alternatives analyses, nor did they offer their own analysis of alternatives (12/19/08 RT 53:16 to 54:3, 181:2 to 182:22).

SUMMARY AND DISCUSSION OF THE EVIDENCE

Staff used the following methodology to analyze project alternatives:

- Describe the basic objectives of the project.
- Identify any potential significant environmental impacts of the project.
- Identify and evaluate alternative locations or sites to determine whether the environmental impacts of the alternatives are the same, better, or worse than the proposed project.
- Identify and evaluate technology alternatives to the project which would mitigate impacts.
- Evaluate the impacts of not constructing the project to determine whether the "no project" alternative is superior to the project as proposed. (Ex. 200, p. 6-3.)

1. Objectives

The Applicant identified the following five objectives in its AFC discussion of alternatives (Ex. 1, pp. 5-1):

- Provide environmentally sound, efficient and reliable power generation using commercially available proven technology to respond to the SDG&E request for offers (RFO) for new generating capacity to support reliability in an environmentally responsible and economically feasible manner;
- Use a site location within SDG&E's service territory that has infrastructure with available capacity and ability to reliably support Project electric transmission, fuel supply, and water needs with minimal impact on existing infrastructure systems or required new construction;
- Use a site that is commercially available, including control for reasonable access and linear facility easements;
- Develop a site that has compatible zoning, compatible adjacent land uses, and is located away from sensitive receptors; and
- Maximize the capacity of the classes of equipment to be used, consistent with good engineering practice. (Ex. 200, p. 6-3.)

Letters from SDG&E and California Independent System Operators (CAISO) demonstrate that they consider the Orange Grove Project essential to maintain system reliability and provide a potential opportunity for the closure of an existing older, inefficient power plant, currently identified as a "Reliability Must Run" (RMR) generating facility, as early as 2010. (Ex. 1, Appendix 5-A.)

2. Alternative Sites

Staff's analysis considered the following criteria in identifying potential alternative sites:

1) Avoid or substantially lessen one or more of the potential significant effects of the project;

2) Satisfy the following criteria:

   a) Suitable acreage and shape.

   b) Availability of infrastructure. The site should be within a reasonable distance of natural gas and water supplies. Longer infrastructure lengths would increase the potential for environmental impacts.

c) Location in SDG&E service territory.

d) Compliance with general plan designation and zoning district.

e) Availability of the site. (Ex. 200, p. 6-4.)

The evidence contains an evaluation of six alternative sites identified by the Applicant. (Ex. 1, p. 5-3.) Three of those sites – Borrego Springs, Miramar, and Margarita – were offered by SDG&E in the RFO referenced above. The other sites (Gregory Canyon Ltd North, Gregory Canyon Ltd South, and Rainbow) are in the vicinity of the Orange Grove site. Three additional sites near SDG&E substations were evaluated by Staff: San Luis Rey, Talega, and Sycamore. Six of the nine alternative site locations referred to above were rejected for a variety of reasons, including insufficiency of space at the site, unavailability of the land for the intended use, community opposition, and impracticability due to high costs. (Ex. 200, pp. 6-4 to 6-5.)

The three remaining alternative sites were Gregory Canyon Ltd. North, Talega, and Sycamore.

The Gregory Canyon Ltd. North alternative site is on the north side of SR-76. It is surrounded by steep ridges and is almost one mile removed from the nearest residence. This site would affect nine acres: a 6-acre grading footprint plus a 3-acre fire protection fuel modification zone. A new 0.5 to 0.7 mile overhead transmission interconnection would need to cross SR-76 twice and follow the existing 69-kV transmission route across the hillside to the Pala substation. (Ex. 200, p. 6-5.)

Given the distance to the nearest residence, noise impacts at the Gregory Canyon Ltd. North alternative site would be reduced. Only two residences would be able to view the power plant, which would also be less visible from the highway than the Orange Grove site. The water trucking would still be required but the distance would be shortened by one mile, and the segment of the gas pipeline that cuts across the hillside would not be necessary. However, abandoned buildings currently on the site would need to be demolished and the material removed. Due to topographic and geologic features at the Gregory Canyon Ltd. North alternative site, blasting would be needed prior to construction. While the power plant itself is less visible, the longer transmission line interconnection would add to the project's visibility. (Ex. 200, pp. 6-5 to 6-6.)

The Talega alternative site is an undeveloped “site” south of the Talega Substation. The substation is situated above the San Mateo Creek Canyon and is surrounded by low hills. The U.S. Marine Corps Base, Camp Pendleton, is to the south and the city of San Clemente is to the northwest. Development over the last several years has brought commercial and residential buildings to within 0.25 miles of the substation. (Ex. 200, p.6-6.)

The Talega alternative site could not encroach on San Onofre State Beach Park on Northrop Grumman property, located to the south and northeast, respectively. Transmission is easily accessible. Water and natural gas infrastructure may need to be developed. If trucking of water were required, trucks would likely pass through residential areas. While the nearest residential receptors are approximately 0.25 miles from the substation, a ridge blocks the site from view. The power plant could be visible from the San Mateo Creek canyon below, Interstate 5 to the west, and a campground 0.5 mile to the northwest. Nearby lands of Camp Pendleton contain native grasslands and coastal sage scrub, which support a variety of species including the federally threatened California gnatcatcher (*Polioptila californica*). Surveys of the area surrounding the site would be required to assess any other potential significant impacts to biological resources. (Ex. 200, p. 6-6.)

The Sycamore alternative site is located near the Sycamore substation, south of Poway and immediately north of the Marine Corps Air Station at Miramar. Undeveloped hills surround the substation except for new subdivisions under construction to the north. Suitable acreage may be available, but would require significant grading. There was no analysis of water or gas availability at this site. (Ex. 200, p. 6-6.)

Transmission is readily accessible at the Sycamore alternative site. Residential receptors, however, are within 0.5 mile of the substation, and land development patterns may preclude availability of the site. The site is situated just north of the Marine Corps Air Station Miramar, which serves as an important habitat linkage for a wide variety of wildlife species. Potential adverse impacts on biological resources would need close evaluation. (Ex. 200. p. 6-6.)

The evidence indicates that these alternative sites generate potential impacts of their own and do not offer significant advantages over the proposed Orange Grove site.

3. No Project Alternative

CEQA requires an evaluation of the "no project" alternative "… to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." [14 Cal. Code Regs., § 15126.6(e)(1).] The "no project" analysis assumes: a) that baseline environmental conditions would not change because the proposed project would not be installed; and b) that the events or actions reasonably expected to occur in the foreseeable future would occur if the project were not approved. While no project-related impacts would be created under the "no project" scenario, all potential impacts related to the Orange Grove Project are mitigated to insignificant levels. (Ex. 200, p. 6-10.)

The evidentiary record indicates that the no project alternative is not superior to the proposed project because it would neither facilitate the possible closure of existing RMR power generation nor would the San Diego area benefit from the local and efficient source of 96 MW of new generation that the Orange Grove Project would provide. A primary benefit of the Orange Grove project is that it would serve peak load demands in the SDG&E service area. The Orange Grove project would also have ability to compensate for the intermittency of solar and wind plants. (Ex. 200, p. 6-10.)

In the absence of the Orange Grove project, however, other power plants would likely be constructed in the project area or in San Diego County to serve the demand that would have been met with the Orange Grove Project. New plants constructed in the area would likely have similar air quality effects as those of the proposed Orange Grove. If no new natural gas plants were constructed, SDG&E may have to rely on older power plants. These plants could consume more fuel and emit more air pollutants per kilowatt-hour generated than the Orange Grove Project. In the near term, the more likely result is that existing plants, many of which produce higher level of pollutants, could operate more than they do now. The "no project" alternative does not appear to be environmentally superior to the Orange Grove Project. (Ex. 200, p. 6-10.)

4. Alternative Non-Generation and Generation Technologies

The evidence contains an analysis of alternatives aimed at reducing the demand for electricity. Such demand side measures include programs that increase energy efficiency, reduce electricity use, or shift electricity use away from peak

hours of demand. At both the federal and state level, standards for appliance and building efficiency to reduce the use of energy are already in effect.

The California Energy Commission and Public Utilities Commission oversee investor-owned utility demand side management programs financed by the utilities and their ratepayers. At the local level, many municipal utilities administer demand side management and energy conservation programs. These include subsidies for the replacement of older appliances through rebates, building weatherization programs, and peak load management programs. In addition, several local governments have adopted building standards which exceed the state standards for building efficiency, or have by ordinance set retrofit energy efficiency requirements for older buildings.

Even with the great variety of federal, state, and local demand side management programs, the state's electricity use is still increasing as a result of population growth and business expansion. Current demand side programs are not sufficient to satisfy future electricity needs, nor is it likely that even more aggressive demand side programs could accomplish this, given the economic and population growth rates of the last ten years.

Therefore, although federal, state, and local demand side programs are receiving even greater emphasis now and in the future, both new generation and new transmission facilities will be needed in the immediate future and beyond to maintain adequate supplies.

Regarding alternative renewable energy sources, evidence was presented on solar, wind, geothermal, biomass, tidal and wave energy. However, the record shows that these alternatives are not suited to the proposed site because solar would require too much acreage, biomass would not generate enough electricity, and the site lacks enough wind, geothermal, and water resources to meet the objectives of the project. Furthermore, these alternatives lack quick start-up and shut-down capabilities for peaking power needs. (Ex. 200, p. 6-8.)

The Orange Grove Project proposes to utilize two GE LM6000 PC combustion turbine generators (CTGs), equipped with SPRay-INTercooled (SPRINT) power boost technology. Inlet air chillers are cooled by an evaporative cooling system. (Ex. 200, p. 6-9.)

The Applicant submitted a detailed analysis of generation technology alternatives. **Alternatives Table 1** below summarizes the Applicant's discussion of generation technology alternatives:

ALTERNATIVES TABLE 1
GENERATION TECHNOLOGY ALTERNATIVES

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ELIMINATED FROM FURTHER CONSIDERATION
Alternative Fuels (oil, coal, biomass, waste, etc.)	Not Compatible	Coal, biomass and waste to fuel technologies are not suited for the efficient and quick start-up and shut-down cycles for peaking power needs. There is no fuel oil source nearby and, therefore, oil-burning technology would increase impacts related to delivering fuel to the Site, and fuel burning also would increase air emissions compared to the selected natural gas fuel and would not be capable of avoiding or substantially lessening Project environmental Impacts.	Eliminated
Solar, wind, hydroelectric, nuclear, and fuel cell technologies	Not Compatible	None of these technologies are suited for the efficient and quick start-up and shut-down cycles for peaking power needs.	Eliminated
Combined Cycle	Low Compatibility	More efficient generating technology, but less suited to quick start-up and shut-down cycles for peaking power needs, with considerably higher water consumption which is not practical for this Site. This technology does not appear to be capable of avoiding or substantially lessening Project environmental Impacts.	Eliminated
Conventional Boiler/Steam Turbine	Not Compatible	Not capable of achieving quick start-up and shut-down cycles for peaking power needs, with considerably higher water consumption which is not practical for this Site. This technology does not appear to be capable of avoiding or substantially lessening Project environmental Impacts.	Eliminated

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ELIMINATED FROM FURTHER CONSIDERATION
Supercritical Boiler/Steam Turbine	Not Compatible	Not capable of achieving quick start-up and shut-down cycles for peaking power needs, with considerably higher water consumption which is not practical for this Site. This technology does not appear to be capable of avoiding or substantially lessening Project environmental impacts.	Eliminated
Advanced Gas Turbine Cycles - Cheng Cycle	Not Compatible	Increased use of water with this technology compared to the proposed technology make it incompatible with the basic Project objectives. This technology is available on 6 MW units, so many units would be required to provide the power that SDG&E has requested, which would result in substantially larger Project site footprint and increased environmental impacts. This technology would not be capable of avoiding or substantially lessening Project environmental impacts.	Eliminated
Advanced Gas Turbine Cycles - Recuperated Mercury 50 Units	Not Compatible	This technology is available on 5.5 MW units, so many units would be required to provide the power that SDG&E has requested, which would result in substantially larger Project site footprint and increased environmental impacts. This technology would not be capable of avoiding or substantially lessening Project environmental impacts.	Eliminated

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ELIMINATED FROM FURTHER CONSIDERATION
Advanced Gas Turbine Cycles - GE LMS 100	Low Compatibility	This unit does not provide the proven technology record compared to the selected technology and, therefore, has low compatibility with the Project's basic objectives. In addition, this technology would require an increased footprint requirement compared to the proposed Project when equipped with an air-cooled intercooler. This technology would not be capable of avoiding or substantially lessening Project environmental impacts	Eliminated
Advanced Gas Turbine Cycles - Staged Combustion	Not Compatible	This technology is commercially available on large units that do not meet the SDG&E requirements for a peaking unit.	Eliminated
Alternative Simple Cycle Combustion Technologies- Rolls Royce RB211-6761	Not Compatible	The lack of North American market acceptance makes this technology incompatible with the Project basic objectives.	Eliminated
Alternative Simple Cycle Combustion Technologies- Rolls Royce Trent 60	Not Compatible	This technology has experienced problems which has prevented its widespread commercial acceptance and makes it incompatible with the Project's basic project objective of providing reliable power generation using proven technology.	Eliminated
Alternative Simple Cycle Combustion Technologies - Pratt and Whitney FT8 TwinPack	Low Compatibility	With this technology, the Project would be made up of four combustion turbines and two generators, reducing reliability and nearly doubling CTG maintenance costs, with reduced efficiency compared to that of the LM6000.	Eliminated

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ELIMINATED FROM FURTHER CONSIDERATION
Non-SPRINT variants of the LM6000	Low Compatibility	This technology would reduce Project power generating capacity by approximately 10 MW with no parasitic load benefit and no substantial capital cost reduction. With this technology, the Project would provide power to approximately 7,500 homes during times of peak demand. Therefore, this technology has low compatibility with the Project's basic objective of providing efficient power generation in an economically feasible manner and the objective of responsiveness to SDG&E's RFO.	Eliminated

(Ex. 1, pp. 5-17 to 5-19.)

Alternatives Table 2, below, summarizes the Applicant's discussion of cooling technology alternatives:

ALTERNATIVES TABLE 2
ALTERNATIVE COOLING TECHNOLOGIES

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ELIMINATED FROM FURTHER CONSIDERATION
Once Through Cooling	Not Compatible	No feasible source of once-through cooling water.	Eliminated
Air Cooled Condenser	Low Compatibility	Substantially lower efficiency and power output, particularly in design summer conditions.	Retained
Hybrid Wet/Dry System	Low Compatibility	This alternative is intermediate to the proposed Project and the air cooled condenser alternative and, therefore, is already represented in the range of alternatives evaluated.	Eliminated

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ELIMINATED FROM FURTHER CONSIDERATION
Thermal Storage	Not Compatible	This alternative could result in a shortage of cooling capacity when it is needed most, would be more expensive to build and operate, and would increase environmental impacts in some resource areas.	Eliminated

(Ex. 1, p. 5-12.)

Staff considered generation and cooling alternatives to reduce environmental impacts, particularly the trucking of water to the site. Water saving substitutions could involve exchanging the GE LM6000 PC SPRINT CTGs with GE LM6000 PD non-SPRINT CTGs, and the evaporative cooling with a dry cooling system. The alternatives include the following:

- **Combustion turbine generator**. To reduce the production of nitrogen oxides, the proposed GE LM6000 PC generators inject water into the combustor (Ex. 1 pp. 5-20), on the order of 29.5 gallons per minute (average annual rate) of fresh water (Exhibit 2, Appendix 2-D). Alternately, LM6000 PD generators utilize a dry low emissions combustor, eliminating the need for water injection. (Ex. 200 pp. 6-9)

- **SPRINT**. The proposed SPRINT power boost technology increases output during warm or hot ambient conditions (Ex. 1 pp 2-9), but consumes fresh water at an average rate of 12.1 gallons per minute (Exhibit 1 pp. 2-15 and Exhibit 2, Appendix 2-D). If the SPRINT technology were not used, water consumption would be reduced. The power output, however, of the LM6000 PD non-SPRINT generators would be 82 MW, compared to 96 MW with LM6000 PC SPRINT generators (Ex. 1 pp 5-13, Ex. 200 pp. 6-9).

- **Dry Cooling system.** Use of a dry cooling system in place of the proposed evaporative cooling system (for cooling inlet air chillers) would reduce the net consumption of 24 gallons per minute of reclaimed water (Ex. 1, p. 2-16). It would also reduce output by approximately 3.2 net MW (Ex. 1, p. 5-29), and increase the project footprint by 1,500 square feet (Ex. 1, p. 5-30). (Ex. 200, p. 6-9)

The dry cooling alternative was identified by the Applicant in which a dry cooling tower would replace the evaporative cooling tower for the chiller condensers. (Ex. 1, § 5.10). Staff concluded that this alternative would not result in significant adverse energy impacts, and would reduce other project impacts such as water use. Indeed, dry cooling would obviate the need to truck recycled water to the Project and would reduce the number of water truck deliveries by half. However,

while this alternative might reduce project impacts such as water use and traffic impacts related to trucking in water supplies, dry cooling would reduce generation output by 3.2 net MW as compared to the evaporative chiller cooling system. Dry cooling would result in the Project providing peaking power to approximately 2,400 fewer homes during the times of peak power usage. It would also result in a 3 percent cycle efficiency drop. (Ex. 1, p. 5-29.) Other impacts related to dry cooling include land use issues related to dry cooling's significantly increased footprint as well as additional visual impacts related to dry cooling's disproportionately large scale structure. Also, dry cooling generates greater noise impacts due to fans used in air cooling technology and increases the parasitic load. (Ex. 1, p. 5-30.) More units with a substantially greater footprint would be required to produce 96 MW. (Ex. 200 pp. 6-1.) In weighing the relative benefits and impacts of these two cooling alternatives, we find that the better alternative is the mechanical inlet air chiller and cooling tower.

Applicant also reviewed alternative technologies for air pollution control and combustion modification, including: The LM6000 PD SPRINT with dry low-NO_x combustion, the XONON catalytic combustor, and $SCONO_x$. None of the alternative pollution control technologies is more effective than that proposed for the project due to their lack of commercial viability in a scaled-up project, reliability and/or their technological infeasibility for a peaking unit. (Ex. 1, p. 5-20 to 5-21.)

The evidence establishes that the alternative generation, cooling and air pollution control technologies analyzed do not offer significant advantages over the proposed technologies for the Orange Grove Project.

5. Alternative Linear Facilities

A 0.3 mile underground electric transmission line would connect the plant to a 69-kV bus at the existing Pala substation. Since transmission access would be entirely within SDG&E property boundaries, no alternatives were analyzed. (Ex. 200, p. 6-9.)

A 2.4 mile natural gas pipeline would link to an existing SDG&E transmission main, located near the intersection of Rice Canyon Road and SR-76. Starting from the project site and heading west, the new pipeline route would parallel the transmission interconnection, traverse the hillside southwest of the substation (primarily along existing unpaved roads), and cross SR-76, 0.4 miles south of the

Pala substation. From there, the pipeline would follow the highway, in previously disturbed areas or in the SR-76 right-of-way.

The Applicant considered an alternative alignment that would follow SR-76 for the entire pipeline route. Under such an alignment, the pipeline would not cross the hillside just southwest of the Pala Substation, and thus would not directly disturb coastal sage scrub habitat. The Applicant eliminated this alternative after encountering obstacles concerning construction traffic and CalTrans requirements. The testimony indicates that any other natural gas pipeline alternatives would likely traverse more habitat than the proposed route. (Ex. 200, p. 6-9.)

The Orange Grove Project will rely upon a freshwater and a reclaimed water pickup station at Fallbrook Public Utility District (FPUD) facilities, where trucks would be filled with water for delivery to the site. The Applicant devoted substantial analysis to alternative water supplies and technologies designed to reduce water consumption. **Alternatives Table 3** summarizes the analysis of alternative water supplies and **Alternatives Table 4** summarizes the analysis of alternative technologies to reduce the quantity of water needed. (Ex. 1, p. 5-6 to 5-10; pp. 5-21 to 5-23; Ex. 200, p. 6-10.)

ALTERNATIVES TABLE 3
WATER SUPPLY ALTERNATIVES

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ ELIMINATED FROM FURTHER CONSIDERATION
Pala Casino	Not Compatible	No reliable source of water is available.	Eliminated
Other wastewater treatment plants (WWTPs) located further from the Site	Not Compatible	Would achieve most Project objectives, although less efficiently than the proposed Project, and would increase impacts to traffic, air quality and consumption of non-renewable fuel resources compared to the proposed Project. Therefore, this alternative is not capable of reducing environmental impacts.	Eliminated

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ ELIMINATED FROM FURTHER CONSIDERATION
Potential future RMWD WWTP and Reclaim Water Distribution System	Not Compatible	No reliable source of water is currently available. This alternative could be compatible with screening criteria in the future if the water treatment plant and reclaim water distribution infrastructure are ultimately completed. This is not compatible with the Project goal of a reliable water supply.	Eliminated (potentially available to the Project in the future, if constructed)
RMWD Potable Water	Not Compatible	Land control issues are preventing the feasibility of a pipeline from the existing RMWD infrastructure, and RMWD has indicated that they will not support trucking of water to the power plant. In addition, RMWD policies do not allow for the issuance of will serve letters or any guarantee to any user for delivery of water for an extended period of time. This is not compatible with the Project goal of a reliable water supply.	Eliminated (potentially available to the Project in the future, when controlling property changes ownership)
Ground Water from San Luis Rey River Alluvium	Not Compatible	The limited supply and ongoing use of ground water in the San Luis Rey River basin are judged to make it not likely that this source of water would be permittable or acceptable. This is not compatible with the Project goal of a reliable water supply.	Eliminated
Surface Water from Former Mine Pits South of SR 76	Not Compatible	The limited supply and ongoing use of ground water in the San Luis Rey River basin are judged to make it not likely that this source of water would be permittable or acceptable. This is not compatible with the Project goal of a reliable water supply.	Eliminated

(Ex. 1, pp. 5-8 to 5-9.)

ALTERNATIVES TABLE 4
ALTERNATIVES TO REDUCE TRUCKING OF WATER

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ELIMINATED FROM FURTHER CONSIDERATION
Water Supply alternatives	Not Compatible	See Table 3	Eliminated
Cooling Technology Alternatives	Not Compatible to Low Compatibility	See Table 2	See Table 2
Absorption Chilling	Not Compatible	No practical source of heat for traditional absorption chilling, and use of heat from turbine	Eliminated

ALTERNATIVE	COMPATIBILITY WITH SCREENING CRITERIA	BASIS FOR COMPATIBILITY	RETAINED/ELIMINATED FROM FURTHER CONSIDERATION
		exhaust is unproved technology that is not commercially available.	
Pala del Norte Road Water Line	Not Compatible	See Table 3	Eliminated (potentially available to the Project in the future)
RMWD Reclaim Water	Not Compatible	See Table 3	Eliminated (potentially available to the Project in the future)
Hauling and Storage Alternatives	Not Compatible	Smaller storage and water truck hauling capacities originally included in the Project design were rejected due to reduced water supply reliability and increased truck traffic impacts.	Eliminated

(Ex. 1, p. 5-25.)

Intervenor Archie McPhee testified that the Rainbow Municipal Water District (RMWD) could supply potable water to the site via a 1.8-mile pipeline but offered no other factual evidence to support his assertion. (12/19/08 RT 111:18-114:13.) Applicant's Project Manager, Joseph Stenger, testified that Orange Grove Energy was unable to obtain an easement that would allow the RMWD water pipeline to reach the project site. (12/19/08 RT 81:4-20; see also Ex. 1, p 5-22 Ex. 1, Table 5.3-2 and Ex. 1, Section 5.8) Mr. Stenger also testified that RMWD would not issue a "will-serve letter" as required by Energy Commission regulations. (See Title 20, Appendix A(g)(14)(c)(v); Ex. 1, Table 5.3-2 and Section 5.8.). Mr. McPhee did not address the unavailability of an easement or a "will-serve letter." He acknowledged that he did not represent RMWD. (12/19/08 RT 113:6-8.) General Manager, Dave Seymour, Director, Jack Griffiths, and Rua M. Petty from Rainbow Municipal Water District appeared at the evidentiary hearing but none of them made any comment on the record. (12/19/08 RT 7:22 - 8:6; 198:21 - 24).

We note that the Energy Commission does indeed require a will-serve letter from a water supplier. (*See* 20 Cal. Code Regs., Appendix A(g)(14)(c)(v).) We also note that RMWD is unable to provide recycled water to the Project. (Ex. 200, p. 4.9-10.) However, even if RMWD were able to supply a will-serve letter and even if the Applicant were able to secure an easement for a pipeline connecting to RMWD's potable water supply; as the Committee noted during the evidentiary hearing, state water policy strongly discourages the use of potable water for power plant cooling. (12/19/08 RT 124:21-125:10.) As explained more fully in

Soils and Water section of this Decision, state water policy allows fresh inland waters to be used for power plant cooling only if other sources or other methods of cooling would be environmentally undesirable or economically unsound (see the **Compliance with LORS** section, *infra*). Even Mr. McPhee agreed that using recycled water for cooling would be preferred to using potable water. (12/19/08 RT 129:20-23.) The undisputed evidence establishes that use of groundwater is unreliable and environmentally undesirable. (Ex. 1, p 5-7.) The only other source of water in the vicinity of the Project is RMWD.

For the reasons stated above, we have found that a pipeline is not feasible at this time and that RMWD is unable to supply the water needs of this project. FPUD is able to meet both the potable and recycled water needs of the Project. Thus, the evidence shows these pickup stations to be the only feasible water supply option. (Ex. 1, p. 5-8.) Delivery of water by truck along the 15.6-mile route from the reclaimed water station and the nine-mile route from the freshwater station (Ex. 1, p. 2-19) appear to be the most practical alternative. (Ex. 200, p. 6-10.)

Based upon the record, it appears that the linear facilities proposed by the Applicant and approved by Staff, represent the most feasible alternatives.

PUBLIC COMMENT

At the hearing, **Ms. Cyndy Day-Wilson,** representing **DFI Funding, Inc.,** referred to a comment letter submitted in advance of the evidentiary hearing wherein she implies that the single page evaluation of renewable energy alternatives lacks thoroughness. Her comment letter argued that the Staff Assessment failed to fully evaluate dry cooling and admonishes that the Staff Assessment "should thoroughly explore alternative project locations that would lessen the significant effects of the project on residents and other receptors." (12/19/08 RT 207:21 to 209:22.)

Concerning **DFI's** contention that the Assessment fails to thoroughly consider alternative sources of energy, the Assessment addresses these technologies in detail as alternatives to natural gas power. (Ex. 200 p. 6-8.) However, Staff found that none of these alternatives is feasible in this case because of air quality issues or because of the Project's function as a peaking power plant. (*Id.*) Biomass cannot meet air quality limitations, has a smaller generation capacity, and it would require fuel trucking from outside the area. (Ex. 200, p. 6-1.) Renewable energy sources cannot guarantee the availability of peaking power when it is needed. (Ex. 200, p. 5.3-4.) The San Luis Rey River canyon has poor

solar and wind resources, and lacks the extensive flat acreage needed for solar facilities. (Ex. 200, p. 6-1.) There are no adequate geothermal resources in the area, and tidal and wave resources are not available at an inland site. (*Id.*) Therefore, Staff appropriately concluded that none of these renewable technologies present feasible alternatives to the Project as proposed. (*Id.*)

DFI argues that the Assessment fails to include a comprehensive examination of alternative gas turbine cooling mechanisms, such as air cooling, which would reduce the amount of water consumed for cooling. However, the record is clear that cooling in this instance is only for reducing the temperature of the inlet air as the Project is a simple cycle peaking facility. (Ex. 200, pp. 4.9-10 to 4.9-12.) When operating at full load, **DFI** is correct that it would require up to two water truck deliveries per hour (see Condition of Certification **Soil and Water-4**). However, based on expected use of the plant, water hauling is expected to typically occur only approximately 60 days per year. (Ex. 200, p. 5.4-4; Ex. 1, p. 2-19.)

Furthermore, Orange Grove and Staff did analyze the comparative efficiencies of wet and dry inlet air cooling technologies. (Ex. 200 p. 6-9; Ex. 1 pp. 5-9 to 5-11.) Orange Grove's evaluation of dry cooling technology found that, compared to the proposed cooling system, dry cooling would negatively affect power generation capability and fuel efficiency, and would have more adverse environmental impacts to air, noise and visual resources. (Ex. 1, pp. 5-9 to 5-11.) Dry cooling has a higher parasitic load and results in lower power output than water cooling. (Ex. 1, pp. 5-9 and 5-11.) Dry cooling is even less effective during hot summer weather, when power from the Project will be needed most. (*Id.*) As described above, the Project makes efficient use of water by using recycled water for its cooling needs. (*Id.*) This water would otherwise be discharged into the Pacific Ocean. (Ex. 1, p. 5-6.)

Taken together, the Applicant's and Staff's alternatives analysis (Ex. 1, § 5 et seq.; Ex. 2, Data Responses 18-21 and attached exhibits; Ex. 200, § 6) comprise over 50 pages of analysis, not including the testimony contained in the evidentiary hearing record cited above. After reviewing the entire record concerning alternatives analysis, we are satisfied that the record contains substantial testimony and diligent analysis of available alternative generating and cooling technologies, as well as alternative project locations.

Finally, Ms. **Day-Wilson** correctly points out a discrepancy in the water usage figures between the **Soil and Water Resources** and **Project Alternatives**

sections. (Ex. 200, p. 6-9.) As explained in Exhibit 204 (supplemental testimony of Suzanne Phinney), the figure of 87.3 acre feet of water trucked per year to the site, as identified in the **Alternatives** section of the Staff Assessment, is incorrect. The maximum amount of water to be trucked for use at the site would be 62 acre-feet per year (AFY) of potable water and 38.7 AFY of recycled water. Expected use requirements would be 21.1 AFY of potable water and 12.1 AFY of recycled water. These amounts are correctly identified in the **Project Description** (Ex. 200 pp. 3-2 to 3-3) and the **Soils and Water Section** of the Staff Assessment (Ex. 200 p. 4.9-7).

FINDINGS

Based upon the evidence of record, including that presented on each subject area described in other portions of this Decision, we find:

1. The record contains an acceptable analysis of a reasonable range of alternatives to the project as proposed.
2. The evidentiary record contains an adequate review of nine alternative sites.
3. All of the comparable site alternatives generate potential impacts of their own, and none offers a significant advantage in meeting the stated project objectives and applicable siting criteria.
4. The evidentiary record contains an adequate review of the “no project” alternative.
5. All potential impacts related to the Orange Grove Project are mitigated to insignificant levels so that the “no project” alternative would not avoid or substantially lessen potentially significant environmental impacts.
6. The “no project” alternative is not superior to the proposed project because it would not facilitate the possible closure of existing antiquated RMR power plants.
7. The “no project” alternative is not superior to the proposed project because the San Diego area would not benefit from the local and efficient source of 96 MW that the Orange Grove Project would generate during peak demand periods.
8. The “no project” alternative would not have the ability to compensate for the intermittency of solar and wind plants.

9. If the Orange Grove Project were not constructed under the “no project” alternative, SDG&E would have to rely on older power plants to run longer which would consume more fuel and emit more air pollutants per kilowatt-hour generated than the Orange Grove Project.

10. Although federal, state, and local demand side programs are gaining momentum, both new generation and new transmission facilities will be needed in the immediate future and beyond to maintain adequate supplies of electricity.

11. The evidentiary record contains an adequate review of alternative generation technologies, including renewable, cooling and pollution control

12. The solar generation alternative is not suited to the proposed site because it would require too much acreage, and lacks quick start-up and shut-down capabilities for peaking power needs.

13. The biomass generation alternative is not suited to the proposed site because it would not generate enough electricity and lacks quick start-up and shut-down capabilities for peaking power needs.

14. The wind generation alternative is not suited to the proposed site because the site lacks enough wind and lacks quick start-up and shut-down capabilities for peaking power needs.

15. The geothermal generation alternative is not suited to the proposed site because the site lacks adequate geothermal resources and lacks quick start-up and shut-down capabilities for peaking power needs.

16. The Orange Grove Project is located too far inland from the coast to utilize tidal and wave generation technologies.

17. None of the alternative fuels or generation technologies analyzed provides a qualitative advantage over the proposed project in meeting the stated project objectives and applicable siting criteria.

18. None of the alternative cooling technologies analyzed are superior to the proposed project cooling technologies because they would reduce the overall output, increase the parasitic load, and/or require more units with a substantially greater footprint

19. None of the alternative pollution control technologies is more effective than that proposed for the project due to their lack of commercial viability in a scaled-up project, lack of reliability and/or technological infeasibility for a peaking unit.

20. The evidentiary record contains an adequate review of alternative linear facilities, including alternatives to water conveyance by truck.

21. The underground electric transmission line is the best connection to the Pala substation.

22. None of the alternative natural gas pipeline routes analyzed is superior to the proposed project because they would impact more habitat than the proposed route.

23. Trucking recycled and potable water to the Orange Grove Project is the only feasible water delivery alternative at this time.

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

CONCLUSIONS

We conclude, therefore, that none of the alternatives analyzed, including the “no project” alternative, would be superior to the Orange Grove Project. The record contains a sufficient analysis of alternatives and complies with the requirements of the California Environmental Quality Act, the Warren-Alquist Act, and their respective regulations. No Conditions of Certification are required for this topic.

No Conditions of Certification are required regarding this topic.

III. COMPLIANCE AND CLOSURE

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

SUMMARY OF THE EVIDENCE

The record contains a full explanation of the purposes and intent of the Compliance Plan (Plan). The Plan is the administrative mechanism used to ensure that the Orange Grove Project is constructed and operated according to the Conditions of Certification. It essentially describes the respective duties and expectations of the Project Owner and the Staff Compliance Project Manager (CPM) in implementing the design, construction, and operation criteria set forth in this Decision.

Compliance with the Conditions of Certification contained in this Decision is verified through mechanisms such as periodic reports and site visits. The Plan also contains requirements governing the planned closure, as well as the unexpected temporary and unexpected permanent closure, of the Project.

The Compliance Plan is composed of two broad elements. The first element establishes the "General Conditions," which:

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

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

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

FINDINGS

The evidence establishes:

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

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

CONCLUSIONS

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

GENERAL CONDITIONS OF CERTIFICATION

DEFINITIONS

The following terms and definitions are used to establish when Conditions of Certification are implemented.

PRE-CONSTRUCTION SITE MOBILIZATION

Pre-construction site mobilization consists of limited activities at the site to allow for the installation of fencing, construction trailers, construction trailer utilities, and construction trailer parking at the site. Limited ground disturbance, grading, and trenching associated with the above mentioned pre-construction activities is considered part of pre-construction site mobilization. Walking, driving or parking a passenger vehicle, pickup truck and light vehicles is allowable during pre-construction site mobilization.

CONSTRUCTION

Onsite work to install permanent equipment or structures for any facility. This includes the following:

Ground disturbance: Ground disturbance refers to activities that result in the removal of top soil or vegetation at the site beyond site mobilization needs, and for access roads and linear facilities.

Grading, boring, and trenching: Grading, boring, and trenching refers to activities that result in subsurface soil work at the site and for access roads and linear facilities, e.g., alteration of the topographical features such as leveling, removal of hills or high spots, moving of soil from one area to another, and removal of soil.

Notwithstanding the definitions of ground disturbance, and grading, boring, and trenching above, construction does **not** include the following:

1. the installation of environmental monitoring equipment;
2. a soil or geological investigation;
3. a topographical survey;
4. any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; and
5. any work to provide access to the site for any of the purposes specified in "Construction" 1, 2, 3, or 4 above.

START OF COMMERCIAL OPERATION

For compliance monitoring purposes, "commercial operation" begins after the completion of start-up and commissioning, when the power plant has reached reliable steady-state production of electricity at the rated capacity. At the start of

commercial operation, plant control is usually transferred from the construction manager to the plant operations manager.

COMPLIANCE PROJECT MANAGER RESPONSIBILITIES

The CPM shall oversee the compliance monitoring and is responsible for:

1. Ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and conditions of the Energy Commission Decision;
2. Resolving complaints;
3. Processing post-certification changes to the Conditions of Certification, project description (petition to amend), and ownership or operational control (petition for change of ownership) (See instructions for filing petitions);
4. Documenting and tracking compliance filings; and
5. Ensuring that compliance files are maintained and accessible.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies, Energy Commission, and staff 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 Energy Commission staff and management. All submittals must include searchable electronic versions (.pdf or Microsoft WORD files).

PRE-CONSTRUCTION AND PRE-OPERATION COMPLIANCE MEETING

The CPM usually schedules pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings is to assemble both the Energy Commission's and 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. This is to confirm that all applicable Conditions of Certification have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight 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 the following documents and information as a public record, in either the Compliance file or Dockets file, for the life of the project (or other period as required):

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

PROJECT OWNER RESPONSIBILITIES

The project owner is responsible for ensuring that the compliance Conditions of Certification and all other Conditions of Certification that appear in the Commission Decision are satisfied. The 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 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 Compliance Conditions of Certification is included as **Compliance Table 1** at the conclusion of this section.

COMPLIANCE CONDITIONS OF CERTIFICATION

Unrestricted Access (COMPLIANCE-1)

The CPM, responsible Energy Commission staff, and delegated 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 (COMPLIANCE-2)

The project owner shall maintain project files on-site, 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, documents submitted as verification for conditions, and other project-related documents.

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

Compliance Verification Submittals (COMPLIANCE-3)

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.

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

1. Monthly and/or annual compliance reports, filed by the project owner or authorized agent, reporting on work done and providing pertinent documentation, as required by the specific Conditions of Certification;
2. Appropriate letters from delegate agencies verifying compliance;
3. Energy Commission staff audits of project records; and/or
4. Energy Commission staff inspections of work, or other evidence that the requirements are satisfied.

Verification lead times 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 project by AFC number, the appropriate Condition(s) of Certification by Condition number(s), and 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 and CEC submittal number.

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 hardcopy submittals shall be addressed as follows:

Compliance Project Manager
(Docket No. 08-AFC-4C)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

Those submittals shall be accompanied by a searchable electronic copy, on a CD or by e-mail, as agreed upon by the CPM.

If the project owner desires Energy Commission staff action by a specific date, that request shall be made in the submittal cover letter and shall include a detailed explanation of the effects on the project if that date is not met.

Pre-Construction Matrix and Tasks Prior to Start of Construction (COMPLIANCE-4)

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 submitted in the same format as the compliance matrix described below.

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 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.

If the project owner anticipates commencing project construction as soon as the project is certified, it may be necessary for the project owner to file compliance submittals prior to project certification. Compliance submittals should be completed in advance where the necessary lead time for a required compliance event extends beyond the date anticipated for start of construction. The project owner must 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 Commission 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 Energy 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 (COMPLIANCE-5)

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 Conditions of Certification in a spreadsheet format. The compliance matrix must identify:

- The technical area;
- The condition number;
- A brief description of the verification action or submittal required by the Condition;
- The date the submittal is required (*e.g*., 60 days prior to construction, after final inspection, etc.);
- The expected or actual submittal date;
- The date a submittal or action was approved by the chief building official (CBO), CPM, or delegate agency, if applicable;
- The compliance status of each Condition, *e.g.,* “not started,” “in progress” or “completed” (include the date); and
- If the condition was amended, the date of the amendment.

Satisfied conditions shall be placed at the end of the matrix.

Monthly Compliance Report (COMPLIANCE-6)

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 the AFC number and 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 an electronic searchable version 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:

- 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;

- 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, as well as the conditions they satisfy and submitted as attachments to the Monthly Compliance Report;

- An initial, and thereafter updated, compliance matrix showing the status of all Conditions of Certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed);

- A list of conditions that have been satisfied during the reporting period, and a description or reference to the actions that satisfied the condition;

- A list of any submittal deadlines that were missed, accompanied by an explanation and an estimate of when the information will be provided;

- A cumulative listing of any approved changes to Conditions of Certification;

- A listing of any filings submitted to, or permits issued by, other governmental agencies during the month;

- 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;

- A listing of the month's additions to the on-site compliance file; and

- A listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolution of the resolved actions, and the status of any unresolved actions.

- All sections, exhibits, or addendums shall be separated by tabbed dividers or as acceptable by the CPM.

ANNUAL COMPLIANCE REPORT (COMPLIANCE-7)

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 include the AFC number, identify the reporting period and shall contain the following:

- An updated compliance matrix showing the status of all Conditions of Certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed);

- A summary of the current project operating status and an explanation of any significant changes to facility operations during the year;

- 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, with the condition it satisfies, and submitted as attachments to the Annual Compliance Report;

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

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

- A listing of filings submitted to, or permits issued by, other governmental agencies during the year;

- A projection of project compliance activities scheduled during the next year;

- A listing of the year's additions to the on-site compliance file;

- An evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date [see Compliance Conditions for Facility Closure addressed later in this section]; and

- A listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved matters, and the status of any unresolved matters.

Confidential Information (COMPLIANCE-8)

Any information that the project owner deems confidential shall be submitted to the Energy Commission's Dockets Unit 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.

Annual Energy Facility Compliance Fee (COMPLIANCE-9)

Pursuant to the provisions of section 25806(b) of the Public Resources Code, the project owner is required to pay an annual compliance fee, which is adjusted annually. The amount of the fee for FY2007-2008 was $17,676. The initial payment is due on the date the Energy Commission adopts the Final Decision. You will be notified of the amount due. All subsequent payments are due by July 1 of each year in which the facility retains its certification. The payment instrument shall be made payable to the California Energy Commission and mailed to: Accounting Office, MS-02, California Energy Commission, 1516 9th St., Sacramento, CA 95814.

Reporting of Complaints, Notices, and Citations (COMPLIANCE-10)

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 complaints 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, including noise and lighting complaints, 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.

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 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 implements the on-site contingency plan. It can also include unplanned closure where the project owner fails to implement the contingency plan, and the project is essentially abandoned.

COMPLIANCE CONDITIONS FOR FACILITY CLOSURE

Planned Closure (COMPLIANCE-11)

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 (or other period of time agreed to by the CPM) prior to commencement of closure activities. 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:

- 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;

- 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;

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

- 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.

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.

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.

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 the Energy Commission approves the facility closure plan.

Unplanned Temporary Closure/On-Site Contingency Plan (COMPLIANCE-12)

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 than 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 (COMPLIANCE-13)

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 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.

Post Certification Changes to the Energy Commission Decision: Amendments, Ownership Changes, Insignificant Project Changes and Verification Changes (COMPLIANCE-14)

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

A petition is required for **amendments** and for **insignificant project changes** as specified below. Both shall be filed as a "Petition to Amend." Staff will determine if the change is significant or insignificant. 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 CPM, who will file it with the Energy Commission's Dockets Unit in accordance with Title 20, California Code of Regulations, section 1209.

The criteria that determine which type of approval and the process that applies are explained below. They reflect the provisions of section 1769 at the time this condition was drafted. If the Commission's rules regarding amendments are amended, the rules in effect at the time an amendment is requested shall apply.

Amendment

The project owner shall petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769(a), when proposing modifications to the project (including linear facilities) design, operation, or performance requirements. If a proposed modification results in deletion or change of a Condition of Certification, or makes changes that would cause the project not to comply with any applicable laws, ordinances, regulations or standards, the petition will be processed as a formal amendment to the final decision, which requires public notice and review of the Energy Commission staff analysis, and

approval by the full Commission. The petition shall be in the form of a legal brief and fulfill the requirements of section 1769(a). Upon request, the CPM will provide you with a sample petition to use as a template.

Change of Ownership

Change of ownership or operational control also requires that the project owner file a petition pursuant to section 1769 (b). This process requires public notice and approval by the full Commission. The petition shall be in the form of a legal brief and fulfill the requirements of Section 1769(b). Upon request, the CPM will provide you with a sample petition to use as a template.

Insignificant Project Change

Modifications that do not result in deletions or changes to Conditions of Certification, and that are compliant with laws, ordinances, regulations and standards may be authorized by the CPM as an insignificant project change pursuant to section 1769(a) (2). This process usually requires minimal time to complete, and it requires a 14-day public review of the Notice of Insignificant Project Change that includes staff's intention to approve the modification unless substantive objections are filed. These requests must also be submitted in the form of a "petition to amend" as described above.

Verification Change

Verification may be modified by the CPM without requesting an amendment to the decision if the change does not conflict with the Conditions of Certification and provides an effective alternate means of verification.

CBO DELEGATION AND AGENCY COOPERATION

In performing construction and operation monitoring of the project, Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). Energy Commission staff may delegate CBO responsibility to either an independent third party contractor or the local building official. Energy 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.

Energy Commission staff may also seek the cooperation of state, regional and local agencies that have an interest in environmental protection 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.

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 1237, 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 future law or regulations.

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.

Informal Dispute Resolution Process

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 an informal dispute resolution process. Disputes may pertain to actions or decisions made by any party, including the Energy Commission's delegate agents.

This process may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1237, 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 process 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 brought before the full Energy Commission for consideration via the complaint and investigation procedure.

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. Within seven working days of the CPM's request, provide a written report to the CPM of the results of the investigation, including corrective measures proposed or undertaken. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to also provide an initial verbal report, within 48 hours.

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 proposed or 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:

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

- secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary;

- 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;

- 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 understandings 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

Any person may file a complaint with the Energy Commission's Dockets Unit alleging noncompliance with a Commission decision adopted pursuant to Public Resources Code section 25500. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1237.

KEY EVENTS LIST

PROJECT: _____

DOCKET #: _____

COMPLIANCE PROJECT MANAGER: _____

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	
Obtain Building Occupation Permit	
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	

Compliance Table 1
Summary of Compliance Conditions of Certification

CONDITION NUMBER	SUBJECT	DESCRIPTION
COMPLIANCE-1	Unrestricted Access	The project owner shall grant Energy Commission staff and delegate agencies or consultants unrestricted access to the power plant site.
COMPLIANCE-2	Compliance Record	The project owner shall maintain project files on-site. Energy Commission staff and delegate agencies shall be given unrestricted access to the files.
COMPLIANCE-3	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.
COMPLIANCE-4	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.
COMPLIANCE-5	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.
COMPLIANCE-6	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 Energy Commission business meeting date on which the project was approved and shall include an initial list of dates for each of the events identified on the Key Events List.

CONDITION NUMBER	SUBJECT	DESCRIPTION
COMPLIANCE-7	Annual Compliance Reports	After construction ends and throughout the life of the project, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports.
COMPLIANCE-8	Confidential Information	Any information the project owner deems confidential shall be submitted to the Energy Commission's Dockets Unit with a request for confidentiality.
COMPLIANCE-9	Annual fees	Payment of Annual Energy Facility Compliance Fee
COMPLIANCE-10	Reporting of Complaints, Notices and Citations	Within 10 days of receipt, the project owner shall report to the CPM, all notices, complaints, and citations.
COMPLIANCE-11	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.
COMPLIANCE-12	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.
COMPLIANCE-13	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.
COMPLIANCE-14	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: AFC Number:
COMPLAINT LOG NUMBER _____ Complainant's name and address: Phone number:
Date and time complaint received: Indicate if by telephone or in writing (attach copy if written): Date of first occurrence:
Description of complaint (including dates, frequency, and duration):
Findings of investigation by plant personnel: Indicate if complaint relates to violation of a CEC requirement: Date complainant contacted to discuss findings:
Description of corrective measures taken or other complaint resolution: Indicate if complainant agrees with proposed resolution: If not, explain: Other relevant information:
If corrective action necessary, date completed: Date first letter sent to complainant: _____(copy attached) Date final letter sent to complainant: _____(copy attached)
This information is certified to be correct. Plant Manager's Signature: _____ Date:

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

IV. ENGINEERING ASSESSMENT

The broad engineering assessment conducted for the Orange Grove Project consists of separate analyses that examine facility design, engineering, efficiency, and reliability aspects. These analyses include the on-site power generating equipment and project-related linear facilities.

A. FACILITY DESIGN

This review covers several technical disciplines including the civil, electrical, mechanical, and structural engineering elements related to project design and construction. The evidentiary presentations were uncontested. (12/19/08 RT 49-50, 182; Exs. 1; 2; 18 (o); 24; 200, § 5.1.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Application for Certification (AFC) describes the preliminary facility design. In considering the adequacy of the plans, the Commission reviews whether the power plant and linear facilities are described with sufficient detail to assure the project can be designed and constructed in accordance with applicable engineering laws, ordinances, regulations, and standards (LORS). The review also includes the identification of special design features that are necessary to deal with unique site conditions which could impact public health and safety, the environment, or the operational reliability of the project. (Ex. 200, pp. 5.1-1 to 5.1-2.)

Staff proposed several Conditions of Certification, which we have adopted, that establish a design review and construction inspection process to verify compliance with applicable design standards and special design requirements. (Ex. 200, p. 5.1-4.) The project will be designed and constructed in conformance with the latest edition of the California Building Standards Code (currently the 2007 CBSC) and other applicable codes and standards in effect at the time design approval and construction actually begin. Condition of Certification **GEN-1** incorporates this requirement.

Staff considered potential geological hazards and reviewed the preliminary project design with respect to grading, flood protection, erosion control, site drainage, and site access in addition to the criteria for designing and constructing related linear facilities such as the natural gas pipeline and the transmission interconnection facilities. (Ex. 200, p. 5.1-3; see also, the **Geology and**

Paleontology section of this Decision.) The evidence establishes that the project will incorporate accepted industry standards. This includes design practices and construction methods for preparing and developing the site. (Ex. 200, p. 5.1-3.) Conditions **CIVIL-1** through **CIVIL-4** ensure that these activities will be conducted in compliance with applicable LORS.

Major structures, systems, and equipment include those structures and associated components necessary for power production and facilities used for storage of hazardous or toxic materials, as well as those capable of becoming potential health and safety hazards if not constructed properly. (*Id.*) **Table 1**, contained in Condition **GEN-2,** lists the major structures and equipment included in the initial engineering design for the project. Conditions **GEN-3** through **GEN-8** require that qualified individuals oversee and inspect construction of the facility. Similarly, Conditions **MECH-1** through **MECH-3** address compliance of the project's mechanical systems with appropriate standards, and a quality assurance/quality control program assures that the Orange Grove Project will be designed, procured, fabricated, and installed as described. Condition **ELEC-1** provides that design and construction of major electrical features will comply with applicable LORS. (Ex. 200, pp. 5.1-3 to 5.1-4.) Compliance with design requirements will be verified through specific inspections and audits.

The power plant site is located in an active geologic area; ground shaking is the main geologic hazard. (Ex. 200, p. 5.2-5.) The 2007 CBC requires specific "dynamic" lateral force procedures for certain structures to determine their seismic design criteria; others may be designed using a "static" analysis procedure. To ensure that project structures are analyzed appropriately, Condition **STRUC-1** requires the project owner to submit its proposed lateral force procedures to the Chief Building Official (CBO)[2] for review and approval prior to the start of construction. (Ex. 200, p. 5.1-3.)

The evidentiary record also addresses project closure, which may range from "mothballing" the facility to removing all equipment and restoring the site. (Ex. 200, pp. 5.1-4 to 5.1-5.) To ensure that decommissioning of the facility will

[2] The Energy Commission is the CBO for energy facilities we certify. We may delegate CBO authority to local building officials and/or independent consultants to carry out design review and construction inspections. When CBO duties are delegated, we require a Memorandum of Understanding with the delegatee entity to outline respective roles, responsibilities, and qualifications of involved individuals such as those described in Conditions of Certification **GEN-1** through **GEN-8**. (Ex. 200, p. 5.1-4.) The Conditions further require that every appropriate element of project construction be first approved by the CBO, and that qualified personnel perform or oversee inspections.

conform to applicable LORS to protect the environment and public health and safety, the project owner is required to submit a decommissioning plan which will identify decommissioning activities, applicable LORS in effect when decommissioning occurs, and decommissioning alternatives. (Ex. 200, p. 5.1-5.) Related requirements are described in the general closure provisions of the Compliance Monitoring and Closure Plan. *See* **GENERAL CONDITIONS** in this Decision.

Overall, the evidentiary record conclusively establishes that the project will be designed and constructed in compliance with all applicable LORS, and that these activities will not negatively impact public health and safety.

FINDINGS

Based on the uncontroverted evidence, the Commission makes the following findings:

1. The Orange Grove Project is currently in the preliminary design stage.
2. The evidentiary 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 (LORS) set forth in the appropriate portion of **Appendix A** of this Decision.
3. The Conditions of Certification set forth below are necessary to ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality as well as public health and safety.
4. The **GENERAL CONDITIONS,** included in a separate section of this Decision, establish requirements to be followed in the event of facility closure.

CONCLUSIONS

We therefore conclude that implementation of the Conditions of Certification listed below ensure that the Orange Grove Project can be designed and constructed in conformance with the applicable laws pertinent to the engineering aspects summarized in this section of the Decision.

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct, and inspect the project in accordance with the 2007 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California 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 laws, ordinances, regulations, and standards (LORS) in effect at the time initial design plans are submitted to the chief building official (CBO) for review and approval. The CBSC in effect is the edition that has been adopted by the California Building Standards Commission and published at least 180 days previously. The project owner shall ensure that all the provisions of the above applicable codes are enforced during the construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility (2007 CBC, Appendix Chapter 1, § 101.2, Scope). All transmission facilities (lines, switchyards, switching stations, and substations) are covered in the Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision.

In the event that the initial engineering designs are submitted to the CBO when the successor to the 2007 CBSC is in effect, the 2007 CBSC provisions shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

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

Verification: Within 30 days following 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 (2007 CBC, Appendix Chapter 1, § 110, Certificate of Occupancy).

Once the certificate of occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving,

demolition, repair, or maintenance to be performed on any portion(s) of the completed facility that requires CBO approval for compliance with the above codes. The CPM shall then determine if the CBO needs to approve the work.

GEN-2 Before submitting the initial engineering designs for CBO review, the project owner shall furnish the CPM and the CBO with a schedule of facility design submittals, master drawing, and master specifications lists. 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 upon request.

Verification: At least 60 days (or within a project owner and CBO approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the master drawing, and master specifications lists 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
CT Generator Foundation and Connections	2
SCR Catalyst System Structure Foundation and Connections	2
SCR Exhaust Stack Foundation and Connections	2
Tempering Air Fans (Blowers) Foundation and Connections	2
CEMS Station Foundation and Connections	2
CT Auxiliary Skid Foundation and Connections	2
CT Fire Protection System Foundation and Connections	2
SPRINT/Spray Mist Cooler Skid Foundation and Connections	2
NOx Water Injection Skid Foundation and Connections	2
Packaged CT Inlet Air Chiller System Foundation and Connections	1
Chilled Water Pumps Foundation and Connections	1
3-Cell Cooling Tower, Cooling Tower Foundation and Connections	1
Cooling Water Pumps Foundation and Connections	2
Ammonia Delivery Skid Foundation and Connections	4
Offsite Water Booster Pump Station Foundation and Connections	1
Natural Gas Fuel Filter Foundation and Connections	2
Air Compressor Skid Foundation and Connections	1
Step-Up Transformer Foundation and Connections	2
Station Service Transformer Foundation and Connections	2
Auxiliary Transformer Foundation and Connections	2
Service Building Foundation and Connections	1
Wastewater Drainage Sump System Foundation and Connections	1
Demineralized Water Storage Tank Foundation and Connections	1
Demineralized Water Forwarding Pumps Foundation and Connections	1
Reverse Osmosis System Foundations and Connections	1
Raw Water Storage Tank Foundation and Connections	1
Fuel Gas Compressor Foundation and Connections	2
Wastewater Storage Tank Foundation and Connections	1
Reclaim Water Storage Tank Foundation and Connections	1
Containment Tank Foundation and Connections	1
Oil/Water Separator Foundation and Connections	1
Black Start Diesel Generator Foundation and Connections	1

GEN-3 The project owner shall make payments to the CBO for design review, plan checks, and construction inspections 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 2007 CBC (2007 CBC, Appendix Chapter 1, § 108, Fees; Chapter 1, Section 108.4, Permits, Fees, Applications and Inspections), 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 otherwise agreed upon 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 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 the resident engineer in charge of the project (2007 California Administrative Code, § 4-209, Designation of Responsibilities). All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in the Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision.

The resident engineer 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 that each part is clearly defined as a distinct unit. Separate assignments of general responsibility may be made for each designated part.

The resident engineer shall:

1. Monitor progress of construction work requiring CBO design review and inspection to ensure compliance with LORS;

2. Ensure that construction of all facilities subject to CBO design review and inspection conforms in every material respect to applicable LORS, these Conditions of Certification, approved plans, and specifications;

3. Prepare documents to initiate changes in approved drawings and specifications when either directed by the project owner or as required by the conditions of the project;

4. Be responsible for providing project inspectors and testing agencies with complete and up-to-date sets 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 when they do not conform to approved plans and specifications.

The resident engineer shall have the authority to halt construction and to require changes or remedial work if the work does not meet requirements.

If the resident engineer 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 within a project owner and CBO approved alternative time frame) 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 resident engineer and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the resident engineer and other delegated engineer(s) within five days of the approval.

If the resident engineer or the delegated engineer(s) is subsequently reassigned or replaced, the project owner has five days 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 civil engineer; a soils, geotechnical, or civil engineer experienced and knowledgeable in the practice of soils engineering; and an engineering geologist. 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: 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; a mechanical engineer; and an electrical engineer. (California Business and Professions Code section 6704 et seq., and sections 6730, 6731 and 6736 require state registration to practice as a civil engineer or structural engineer in California.) All transmission facilities (lines, switchyards, switching stations, and substations) are covered in the Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision.

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 (for example, 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 (2007 CBC, Appendix Chapter 1, § 104, Duties and Powers 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, geotechnical, or soils reports 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 the design of), 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; and 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 resident engineer during the construction phase of the project and recommend changes in the design of the civil works facilities and changes to 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, geotechnical or soils reports containing field exploration reports, laboratory tests, and engineering analysis detailing the nature and extent of the soils that could be susceptible to liquefaction, rapid settlement, or collapse when saturated under load (2007 CBC, Appendix J, § J104.3, Soils Report; Chapter 18, § 1802.2, Foundation and Soils Investigations);

3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with requirements set forth in the 2007 CBC, Appendix J, section J105, Inspections, and the 2007 California Administrative Code, section 4-211, Observation and Inspection of Construction (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both); and

4. Recommend field changes to the civil engineer and resident engineer.

This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform to the predicted conditions used as the basis for design of earthwork or foundations (2007 CBC, Appendix Chapter 1, § 114, Stop Orders).

C. The engineering geologist shall:

1. Review all the engineering geology reports and prepare a final soils grading report; and

2. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 2007 California Administrative Code, section 4-211, Observation and Inspection of Construction (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both).

D. The design engineer shall:

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

2. Provide consultation to the resident engineer 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.

E. 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 to all of the mechanical engineering design requirements set forth in the Energy Commission's Decision.

F. 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 within a project owner and CBO approved alternative time frame) 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, soils (geotechnical) engineer, and engineering geologist assigned to the project.

At least 30 days (or within a project owner and CBO approved alternative time frame) 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 2007 CBC, Chapter 17, Section 1704, Special

Inspections; Chapter 17A, Section 1704A, Special Inspections; and Appendix Chapter 1, Section 109, Inspections. All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision.

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).

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 resident engineer. All discrepancies shall be brought to the immediate attention of the resident engineer for correction then, if uncorrected, to the CBO and the CPM for corrective action (2007 CBC, Chapter 17, § 1704.1.2, Report Requirements); and

4. Submit a final signed report to the resident engineer, 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, specifications, and other provisions of the applicable edition of the CBC.

Verification: At least 15 days (or within a project owner and CBO approved alternative time frame) 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 required corrective actions (2007 CBC, Appendix Chapter 1, § 109.6, Approval Required; Chapter 17, § 1704.1.2, Report Requirements). 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, 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 the 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. The project owner shall notify the CPM after obtaining the CBO's final approval. The project owner shall retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or at an alternative site approved by the CPM during the operating life of the project (2007 CBC, Appendix Chapter 1, § 106.3.1, Approval of Construction Documents). Electronic copies of the approved plans, specifications, calculations, and marked-up as-builts shall be provided to the CBO for retention by the CPM.

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 the final approved engineering plans, specifications, and calculations described above, the project owner shall submit to the CPM a letter stating both that the above documents have been stored and the storage location of those documents.

Within 90 days of the completion of construction the project owner, at its own expense, shall provide to the CBO three sets of electronic copies of the above documents. These are to be provided in the form of "read only" files (Adobe .pdf 6.0), with restricted (password-protected) printing privileges, on archive quality compact discs.

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, geotechnical, or foundation investigation reports required by the 2007 CBC, Appendix J, section J104.3, Soils Report, and Chapter 18, section 1802.2, Foundation and Soils Investigation.

Verification: At least 15 days (or within a project owner and CBO approved alternative time frame) 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 (2007 CBC, Appendix Chapter 1, § 114, Stop Work 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 2007 CBC, Appendix Chapter 1, section 109, Inspections, and Chapter 17, section 1704, Special Inspections. 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 (2007 CBC, Chapter 17, § 1704.1.2, Report Requirements). 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 as well as erosion and sedimentation control and drainage work, the project owner shall obtain the CBO's approval of the final grading plans (including final changes) for the erosion and sedimentation control work. The civil engineer shall state that the work within his/her area of responsibility was done in accordance with the final approved plans (2007 CBC, Chapter 17, § 1703.2, Written Approval).

Verification: Within 30 days (or within a project owner and CBO approved alternative time frame) of the completion of the erosion and sediment control mitigation and drainage work, the project owner shall submit to the CBO, for review and approval, the final grading plans (including final changes) and the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures was completed in accordance with the final approved combined grading plans and that the facilities are adequate for their intended purposes, along with a copy of the transmittal letter to the CPM. The project owner shall submit a copy of the CBO's approval 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; and
3. Large field-fabricated tanks.

Construction of any structure or component shall not begin 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 (for example, 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 (2007 CBC, Appendix Chapter 1, § 109.6, 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 prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation (2007 California Administrative Code, § 4-210, Plans, Specifications, Computations and Other Data);

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 (2007 CBC, Appendix Chapter 1, § 106.3.4, Design Professional in Responsible Charge); and

5. Submit to the CBO the responsible design engineer's signed statement that the final design plans conform to applicable LORS (2007 CBC, Appendix Chapter 1, § 106.3.4, Design Professional in Responsible Charge).

Verification: At least 60 days (or within a project owner and CBO approved alternative time frame) 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 the above final design plans, specifications, and calculations, with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM, in the next monthly compliance report, a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and comply with the requirements set forth in 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 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 2007 CBC, Chapter 17, section 1704, Special Inspections, and section 1709.1, Structural Observations.

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 (2007 CBC, Chapter 17, § 1704.1.2, Report Requirements). 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, of the reason for disapproval and the revised corrective action necessary to obtain the CBO's approval.

STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 2007 CBC, 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 (2007 CBC, Appendix Chapter 1, § 106.1, Submittal Documents; § 106.4, Amended Construction Documents; 2007 California Administrative Code, § 4-215, Changes in Approved Drawings and Specifications).

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 the 2007 CBC, Chapter 3, Table 307.1(2), shall, at a minimum, be designed to comply with the requirements of that chapter.

Verification: At least 30 days (or within a project owner and CBO approved alternate time frame) 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 that construction (2007 CBC, Appendix Chapter 1, § 106.1, Submittal Documents; § 109.5, Inspection Requests; § 109.6, Approval Required; 2007 California Plumbing Code, § 301.1.1, Approvals).

The responsible mechanical engineer shall stamp and sign all plans, drawings, and calculations for the major piping and plumbing systems, subject to CBO design review and approval, and submit a signed statement to the CBO when the proposed piping and plumbing systems have been designed, fabricated, and installed in accordance with all of the applicable laws, ordinances, regulations, and industry standards (2007 CBC, Appendix Chapter 1, § 106.3.4, Design Professional in Responsible Charge), which may include, but are not 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
- San Diego County codes.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency (2007 CBC, Appendix Chapter 1, § 103.3, Deputies).

Verification: At least 30 days (or within a project owner and CBO approved alternative time frame) 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 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 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 that installation (2007 CBC, Appendix Chapter 1, § 109.5, 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 within a project owner and CBO approved alternative time frame) 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 that 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 (2007 CBC, Appendix Chapter 1, § 109.3.7, Energy Efficiency Inspections; § 106.3.4, Design Professionals in Responsible Charge).

Verification: At least 30 days (or within a project owner and CBO approved alternative time frame) 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 all electrical equipment and systems 480 Volts or higher (see a representative list, 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 (2007 CBC, Appendix Chapter 1, §

106.1, 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 (2007 CBC, Appendix Chapter 1, § 109.6, Approval Required; § 109.5, Inspection Requests). All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision.

A. Final plant design plans shall 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 must 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 within a project owner and CBO approved alternative time frame) 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

In accordance with the California Environmental Quality Act (CEQA), the Commission must consider whether the project's consumption of energy in the form of non-renewable fuel will result in adverse environmental impacts on energy resources. (Cal. Code Regs., tit. 14, § 15126.4(a)(1), Appendix F.) This analysis reviews the efficiency of project design and examines whether the project will incorporate measures that prevent wasteful, inefficient, or unnecessary energy consumption.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Committee received evidence to determine: 1) any adverse effect on local and regional energy supplies and resources; 2) whether any adverse effects of the Project's fuel use are significant; 3) whether feasible mitigation measures exist to reduce or eliminate the adverse impacts to a level of insignificance; 4) whether the Project will create the need for additional energy supply capacity; 5) whether the Project involves the wasteful, inefficient, and unnecessary consumption of fuel or Pursuant to CEQA Guidelines; and 6) any noncompliance with existing standards. (Ex. 200, p. 5.3-1.)

1. Project Design and Objectives

Applicant proposes to construct and operate a 96-MW (nominal net output) natural gas fired, simple cycle electrical generating facility in rural San Diego County, California. The Orange Grove Project would provide peaking power to the San Diego region to support local reliability as a response to a Request for Offers by San Diego Gas & Electric Company (SDG&E). Applicant intends to operate each of the plant's two GE LM6000PC SPRINT combustion turbine generators no more than 3,200 engine hours per year (6,400 engine hours total), or approximately 36.5 percent of the year. (Ex. 1, §§ 2.3; Ex. 200, p. 5.3-1.) Each combustion turbine generator would utilize a mechanical inlet air chiller with a packaged three-cell cooling tower to maintain maximum output and efficiency at escalated temperatures. Natural gas would be conveyed to the plant via a new 10-inch diameter pipeline, 2.4-miles long, to connect with an SDG&E gas transmission main. (Ex. 1, §§ 2.1, 2.5.2.)

2. Applicable Legal Standards

No federal, state, or local/county laws, ordinances, regulations, and standards apply to the efficiency of this project. (Ex. 200, p. 5.3-1.) Nevertheless, CEQA Guidelines do require that the environmental analysis "…shall describe feasible measures which could

minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy." [Cal. Code Regs., tit. 14, § 15126.4(a)(1).] Appendix F of the Guidelines further suggests consideration of such factors as the project's energy requirements and energy use efficiency; its effects on local and regional energy supplies and energy resources; its requirements for additional energy supply capacity; its compliance with existing energy standards; and any alternatives that could reduce wasteful, inefficient, and unnecessary consumption of energy. (Cal. Code Regs., tit. 14, § 15000 et seq., Appendix F.)

3. Effects on Local Gas Supplies

At full load operation, Orange Grove is expected to consume natural gas at a rate of 860 million Btu per hour lower heating value (LHV). (Ex. 1, Table 2.3-2; Appendix 2C, Figure 2C-1.) This substantial rate of energy consumption could potentially impact energy supplies. Under expected project conditions, electricity would be generated at a thermal efficiency of approximately 38 percent LHV at full load operation. (*Id*.)

The proposed supply of natural gas for the project would be via a new 10-inch diameter natural gas transmission pipeline that would connect the plant site to an existing SDG&E gas main. The pipeline would be constructed by Orange Grove Energy but SDG&E will own, operate and maintain it. The SDG&E natural gas supply represents an adequate source for a project of this size; it is highly unlikely that the project could pose a significant adverse impact on natural gas supplies in California. (Ex. 1, §§ 1.1, 1.5.2, 2.1, 2.5.2.)

4. Significance of Impacts

The Orange Grove Project could be deemed to create significant adverse impacts on energy resources if alternatives existed that would significantly reduce the project's use of fuel. We examined the project's energy consumption. Project fuel efficiency, and therefore its rate of energy consumption, is determined by the configuration of the power producing system and by the selection of equipment used to generate power. (Ex. 200, p. 5.3-3.)

To meet the project objective, Applicant expects that Orange Grove would operate mostly to meet peak demand and provide local reliability service, allowing SDG&E to meet resource adequacy requirements. (Ex. 1, § 1.2, 2.1, 2.3.) A simple-cycle configuration is consistent with and supports this expectation due to its operating flexibility.

The Orange Grove Project would be configured as two simple-cycle power plants in parallel, in which electricity is generated by one natural gas-fired combustion turbine generator (CTG) per plant, two combustion turbine generators total. This configuration, with its short start-up time and fast ramping capability, is well suited to providing peaking power. "Ramping" is increasing and decreasing electrical output to meet fluctuating load requirements. Further, when reduced output is required, one of the two turbine generators can be shut down, allowing the remaining machine to produce half of the full power at optimum efficiency, rather than operating a single, larger machine at an inefficient part load output.

The Project would employ two General Electric LM6000PC SPRINT gas turbine generators. (Ex.1, § 1.1, 2.3.1.) The evidence of record established that this is one of the most modern and efficient gas turbines now available. The SPRINT version of this machine is nominally rated at 50 MW and 40.3 percent efficiency LHV at ISO conditions. International Standards Organization (ISO) standard conditions are 15°C (59°F), 60 percent relative humidity, and one atmosphere of pressure (equivalent to sea level). However, the projected efficiency for Orange Grove is 38 percent LHV because of efficiency losses from parasitic loads and increased flow losses due to the selective catalytic reduction units used on the exhaust of each unit. (Ex. 200, p. 5.3-4.)

Alternative machines that can meet the project's objectives are the SGT-800 and FT8 TwinPac which, like the LM6000, are aeroderivative machines, adapted from Siemens Power Generation and Pratt & Whitney aircraft engines, respectively. The Siemens SGT-800 gas turbine generator in a simple cycle configuration is nominally rated at 47 MW and 37.5 percent LHV at ISO conditions. The Pratt & Whitney FT8 TwinPac gas turbine generator in a simple cycle configuration is nominally rated at 51 MW and 38.4 percent LHV at ISO conditions. (Ex. 200, p. 5.3-5.) While the LM6000 enjoys a slight advantage in fuel efficiency over the alternative machines, any differences among the three in actual operating efficiency would be relatively insignificant. Other factors such as generating capacity, cost, and ability to meet air pollution limitations are some of the factors considered in selecting the turbine model.

A further choice of alternatives involves the selection of gas turbine inlet air-cooling methods. A gas turbine's power output decreases as ambient air temperatures rise. The LM6000 SPRINT produces peak power at 50°F; this peak output can be maintained in much hotter weather by cooling the inlet air. The two commonly used techniques are the evaporative cooler, or fogger, and the chiller (mechanical or absorption); both techniques increase power output by cooling the gas turbine inlet air. In general terms, a mechanical chiller can offer greater power output than the evaporative cooler on hot, humid days, but consumes electric power to operate its refrigeration process, thus

slightly reducing overall net power output and, thus, overall efficiency. An absorption chiller uses less electric power, but necessitates the use of a substantial inventory of ammonia. An evaporative cooler or a fogger boosts power output best on dry days; it uses less electric power than a mechanical chiller, possibly yielding slightly higher operating efficiency. The difference in efficiency among these techniques is relatively insignificant.

The Applicant proposes to employ a mechanical chiller with a three-cell evaporative cooling tower to cool the chiller condensers. (Ex. 1, §§ 2.3.1, 5.10.) The record shows that the Applicant's approach would yield no significant adverse energy impacts. However, Staff believes that the dry cooling option identified by the Applicant (Ex. 1, § 5.10), in which a dry cooling tower would replace the evaporative cooling tower for the chiller condensers, would also result in no significant adverse energy impacts, but would reduce other project impacts such as water use.

In conclusion, the project configuration (simple-cycle) and generating equipment chosen appear to represent the most efficient feasible combination to satisfy the project objectives. There are no alternatives that could significantly reduce energy consumption.

5. Alternative Generation Technologies

In the AFC (Ex. 1, § 5.6), Applicant considered a series of alternative generating technologies including fossil fuels (oil and coal), biomass, geothermal, hydroelectric, solar, and wind technologies. Biomass and fossil fuels other than natural gas cannot meet air quality limitations. Renewables such as wind and solar require far more physical area than the proposed Project and are not always available when peaking power is needed. Given the project objectives to provide peaking power in the San Diego area, the testimony of both Staff and Applicant agreed that only natural gas-burning technologies are feasible.

6. Cooling Alternatives

As stated above, further choice of alternatives involves the selection of gas turbine inlet air-cooling methods. The two commonly used techniques are the evaporative cooler, or fogger, and the chiller (mechanical or absorption); both techniques increase power output by cooling the gas turbine inlet air. In general terms, a mechanical chiller can offer greater power output than the evaporative cooler on hot, humid days, but consumes electric power to operate its refrigeration process, thus slightly reducing overall net power output and, thus, overall efficiency. An absorption chiller uses less

electric power, but requires a substantial inventory of ammonia. An evaporative cooler or a fogger boosts power output best on dry days; it uses less electric power than a mechanical chiller, possibly yielding slightly higher operating efficiency. The difference in efficiency among these techniques is relatively insignificant.

The Applicant proposes to employ a mechanical chiller with a three-cell evaporative cooling tower to cool the chiller condensers. (Ex. 1, §§ 2.3.1, 5.10.) Given the relative lack of clear superiority of one system over the other, the Applicant's approach would yield no significant adverse energy impacts. A dry cooling option was identified by the Applicant (Ex. 1, § 5.10), in which a dry cooling tower would replace the evaporative cooling tower for the chiller condensers. While this option would reduce project impacts such as water use and traffic impacts related to trucking in water supplies, dry cooling would reduce generation output by 3.2 net MW as compared to the evaporative chiller cooling system. Dry cooling would result in the Project providing peaking power to approximately 2,400 fewer homes during the times of peak power usage. It would also result in a 3 percent cycle efficiency drop. (Ex. 1, p. 5-29.) Other impacts related to dry cooling include land use issues related to dry cooling's significantly increased footprint as well as additional visual impacts and greater noise due to fans used in air cooling technology. (Ex. 1, p. 5-30.)

7. Cumulative Impact Potential

No nearby projects have been identified that could potentially combine with the Orange Grove Project to create cumulative impacts on natural gas resources. SDG&E is a natural gas provider with adequate delivery capacity to serve a project of this size without adversely impacting its other natural gas customers. (Ex. 200, p. 5.3-6.)

No federal, state or local/county laws, ordinances, regulations, and standards apply to the efficiency of this project.

PUBLIC COMMENT

At the hearing, **Ms. Cyndy Day-Wilson**, representing **DFI,** referred to a comment letter submitted in advance of the evidentiary hearing. (12/19/08 RT 207:18-209:22.) **DFI** contends that the Staff Assessment fails to adequately analyze whether the rate of natural gas consumed by the Project could potentially impact SDG&E energy supplies or require development of additional capacity.

The evidence shows that the Project was proposed by Orange Grove Energy in response to a Request for Offers ("RFO") from SDG&E. This RFO included provisions

for a tolling agreement under which SDG&E has the right to deliver natural gas to the Project and to receive 100 percent of the energy produced by the Project. (*See* Ex.1 pp. 1-1 and 1-4.) SDG&E has indicated that the existing regional T1600 gas transmission line that will supply the Project has adequate excess capacity to meet the Project's needs. Staff considered the capacity of the T1600 gas transmission line and concluded that this pipeline has considerable capacity and will offer access to adequate supplies of natural gas. (*See* Ex. 200 p. 5.4-4.)

DFI also contends that the Staff Assessment fails to thoroughly consider alternative sources of energy and fails to include a comprehensive examination of alternative gas turbine cooling mechanisms, such as air cooling, which would reduce the amount of water consumed. We have addressed these comments in the **Project Alternatives** section of this Decision.

In preparing this Decision, we have considered these comments, as well as the comments submitted by members of the public (non-parties) in writing, and orally at public hearings on this matter. All such comments are part of the record in this proceeding.

FINDINGS

1. The Orange Grove Project objective is to provide additional peak electricity generation to the San Diego region in response to a request for offers by SDG&E.

2. The SDG&E natural gas supply represents an adequate source for a project of this size.

3. The Orange Grove Project would not present a significant adverse impact on natural gas supplies in the San Diego region.

4. The Project will not trigger the need for additional gas supplies to the area.

5. The Orange Grove Project will generate a nominal 96 MW of peaking electric power, at an overall project fuel efficiency of approximately 38 percent LHV at maximum full load, which compares favorably to alternative gas-fired generation technology.

6. The record contains analysis of a series of alternative generating technologies including fossil fuels (oil and coal), biomass, geothermal, hydroelectric, solar, and wind technologies, none of which is superior at meeting Project objectives in an efficient manner.

7. The efficiency of the Orange Grove Project components demonstrated in the record reveals no wasteful or unnecessary uses of energy.

CONCLUSIONS

1. No federal, state, or local/county laws, ordinances, regulations, and standards apply to the efficiency of this project.

2. While the project would consume substantial amounts of energy, it would do so in the most efficient manner practicable.

3. None of the examined range of project alternatives would meet project objectives with the same efficiency as the proposed project.

4. The Orange Grove Project will not create significant adverse effects on energy supplies or resources.

5. The Orange Grove Project will not require additional sources of energy supply, and would not consume energy in a wasteful or inefficient manner.

6. No cumulative impacts on energy resources are likely.

7. The Orange Grove Project will comply with the provisions of CEQA Guidelines regarding energy efficiency and will present no significant adverse impacts upon energy resources.

No Conditions of Certification are required regarding this topic.

C. POWER PLANT RELIABILITY

We must determine whether the project will be designed, sited, and operated to ensure safe and reliable operation. [Pub. Res. Code, § 25520(b); Cal. Code Regs., tit. 20 § 1752(c)(2).] However, there are no LORS that establish either power plant reliability criteria or procedures for attaining reliable operation. In its absence, we look to typical industry norms for reliability of power generation as a benchmark against which to evaluate this proposal. Where a power plant compares favorably to industry norms, it is not likely to degrade the overall reliability of the electric system it serves

The CAISO has begun to establish specific criteria for each load-serving entity under its jurisdiction to help the entities decide how much generating capacity and ancillary services to build or purchase. Load serving entities then, issue power purchase agreements to satisfy these needs. Orange Grove acquired its power purchase agreement from SDG&E as a result of SDG&E's plans to meet reliability requirements imposed by the CAISO.

The CAISO criteria are designed to maintain system-wide reliability. However, it is possible that, if numerous power plants operated at reliability levels far lower than historical levels, the assumptions used by CAISO to ensure system reliability would prove invalid. As a result, the Commission must ensure that individual power plant owners continue to build and operate their projects to the level of reliability reflected in the power generation industry.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Applicant has predicted an equivalent availability factor approaching 98 percent for the Orange Grove Project. Commission staff evaluated this claim against typical industry norms as a benchmark for plant reliability. (Ex. 200, p. 5.4-2; 12/19/08 RT 51:25-52:16.)

The equivalent availability factor for a power plant is the percentage of the time that it is available to generate power. Both planned and unplanned outages subtract from a plant's availability, as well as from starting failures. For practical purposes a reliable power plant is one that is available when called upon to operate. A reliable project must ensure 1) adequate levels of equipment availability, 2) plant maintainability with scheduled maintenance outages, 3) fuel and water availability, and 4) resistance to natural hazards. We examine these factors for the project and compare them to industry norms. If they compare

favorably, we can conclude that the power plant would be at least as reliable as other power plants on the electric system and would therefore not degrade system reliability. (Ex. 200, p. 5.4-3.)

1. Equipment Availability

Equipment availability would be ensured by use of appropriate quality assurance/quality control (QA/QC) programs during design, procurement, construction, and operation of the plant and by providing for adequate maintenance and repair of the equipment and systems. In addition, the Project owner would perform receipt inspections, test components, and administer independent testing contracts. To ensure these measures are taken, we have incorporated appropriate Conditions of Certification under the **FACILITY DESIGN** section of this Decision. (Ex. 200, p. 5.4-3.)

2. Plant Maintainability

A peaking generating facility such as the Orange Grove project, usually offers adequate opportunity for maintenance work during its extensive downtime. However, during periods of extended dispatch, the facility may be required to operate for long periods. A typical approach for achieving reliability in such circumstances is to provide redundancy in those pieces of equipment most likely to require service or repair. (Ex. 200, p. 5.4-3.)

The Project consists of two combustion turbine-generators operating in parallel as independent equipment trains, thus providing inherent reliability. A single equipment failure cannot disable more than one train, thus allowing the plant to continue to generate at reduced output. In addition, all plant ancillary systems are designed with adequate redundancy to ensure continued operation in the face of equipment failure. (Ex. 1, §§ 2.10.1, 2.12; Table 2.3-1.) The Project design contains equipment redundancy sufficient for reliable operation.

Applicant will base its maintenance program on recommendations from its various equipment manufacturers. The program would encompass preventive and predictive maintenance techniques. Maintenance outages would be planned for periods of low electricity demand. Thus, the Project would be adequately maintained to ensure acceptable reliability. (Ex. 200, p. 5.4-4.)

3. Fuel and Water Availability

For any power plant, the long-term availability of fuel and of water for cooling or process use is necessary to ensure reliability. The Orange Grove Project would burn natural gas supplied by SDG&E. Natural gas fuel would be supplied to the project via a new 2.4-mile long, 10-inch diameter pipeline from SDG&E's existing T-1600 transmission line. (Ex. 1, §§1.1, 1.5.2, 2.1, 2.5.2.) The line offers access to adequate supplies of gas to meet the project's needs. (Ex. 200, p. 5.4-4.)

Orange Grove would obtain both recycled and fresh water from the Fallbrook Public Utility District and would have this water trucked in to the site. No water pipelines are planned for the Project. Applicant estimates that the plant would require two trucks, one each for recycled and fresh water, delivering once per hour to satisfy water needs during full load plant operation, approximately 60 days per year. (Ex. 200, p. 5.4-4.)

Recycled water would be stored at the site in a 414,000-gallon water storage tank and would serve as cooling tower makeup to cool the gas turbine inlet air chillers. Fresh water would be stored in a 535,000 gallon water storage tank and would serve as makeup for various systems including sanitation, fire, and demineralized water. Demineralized water would be stored in a separate 100,000 gallon storage tank and would be used for gas turbine SPRINT injection water and combustor injection water for NO_x emission control. (Ex. 1, §§ 1.1, 2.6.2.) The water storage planned for the plant equates to 45.4 hours of full load operation, or a little less than four 12-hour days. (Ex. 200, p. 5.4-5.)

Applicant reports that, in the case of an interruption in water delivery, some reclaimed water could be treated and used in place of fresh water. This would allow for an additional 39.4 hours of full load operation, or a total of approximately seven 12-hour days of continuous full load operation. (Ex. 1, §§ 2.6.2, 2.10.1.) It is undisputed that these sources, and the on-site storage capacity, will result in sufficient likelihood of a reliable supply of water. This is further discussed in the section of this Decision entitled **SOIL AND WATER RESOURCES.** (Ex. 200, p. 5.4-5.)

The site lies in Seismic Risk Zone 4 and is located in a zone of seismic activity. (Ex. 1, § 6.3.1.5.2.) The project would be designed and constructed to the Seismic Zone 4 standards of the latest appropriate LORS. (*Id*., §§ 2.10.3, 6.3.1.) By implementing the latest seismic design LORS, this project would likely perform at least as well as, and perhaps better than, existing plants in the electric

power system. We have adopted Conditions of Certification to ensure this. These are found in the **FACILITY DESIGN** section of this Decision. (Ex. 200, p. 5.4-5.)

The site does not lie within either a 100-year or 500-year floodplain, except for a small portion of the gas pipeline. (Ex.1, §§ 6.3.1.6.3, 6.5.2.1.2.) The record establishes that there should be no significant concerns with power plant functional reliability due to flooding. (Ex. 200, p. 5.4-5.)

4. Comparison to Industry Norms

The North American Electric Reliability Corporation (NERC) continually polls utility companies throughout the North America on project reliability data and periodically publishes the statistics. NERC reports generating unit statistics for the years 2002 through 2006 for Gas Turbine units (50 MW and larger) demonstrate an Equivalent Availability Factor of 91.82 percent. (Ex. 200, p. 5.4-6.) The evidence shows that the Equivalent Availability Factor for the Orange Grove project will approach 98- percent. (*Id*.) This is based in part on the fact that the gas turbines proposed for the Project have been on the market for several years and can be expected to exhibit a typically high availability factor. (Ex. 1, §§ 2.3.1, 2.10.1.) In fact, these new machines can well be expected to outperform the fleet of various (mostly older) gas turbines that make up the NERC statistics.

In addition, since the plant would consist of two parallel gas turbine generating trains, maintenance can be scheduled during those times of year when the full plant output is not required to meet market demand. Further, Applicant's procedures for assuring design, procurement, and construction of a reliable power plant appear to follow industry norms, and are likely to yield an adequately reliable plant. (Ex. 200, p. 5.4-6.)

PUBLIC COMMENT

No public comment was received regarding Power Plant Reliability.

FINDINGS

Based on the evidence, we make the following findings:

1. No federal, state, or local/county LORS apply to the reliability of this project.

2. The Energy Commission must make findings concerning the manner in which the project is to be designed, sited, and operated to ensure safe and reliable operation

3. The Commission will find a project's reliability is acceptable if it does not degrade the reliability of the utility system to which it is connected. This likely occurs if the project's reliability is at least equal to that of other power plants on that system.

4. The equivalent availability factor for a power plant is the percentage of the time that it is available to generate power; both planned and unplanned outages subtract from its availability.

5. The North American Electric Reliability Corporation (NERC), which keeps industry statistics for availability factors for generating units nationwide, reports that for the years 2002 through 2006 Gas Turbine units (50 MW and larger) exhibited an Equivalent Availability Factor of 91.82 percent.

6. Undisputed evidence predicts an equivalent availability factor of 97.7percent is achievable by the Orange Grove project.

7. Implementation of Quality Assurance/Quality Control programs during design, procurement, construction, and operation of the plant, as well as adequate maintenance and repair of the equipment and systems, will ensure the project is adequately reliable.

8. To ensure implementation of the QA/QC programs and conformance with seismic design criteria as described above, appropriate Conditions of Certification are included in the Facility Design portion of this Decision.

9. Adequate fuel and water capacity are available for project operations.

10. The project will meet or exceed industry norms for reliability, including reliability during seismic events, and will not degrade the overall electrical system.

11. The plant would be built and operated in a manner consistent with industry norms for reliable operation.

CONCLUSIONS

The Orange Grove Project would be built and operated in a manner consistent with industry norms for reliable operation.

No Conditions of Certification are required for this topic.

D. TRANSMISSION SYSTEM ENGINEERING

The Energy Commission's jurisdiction includes "…any electric power line carrying electric power from a thermal power plant …to a point of junction with an interconnected transmission system." (Pub. Res. Code, § 25107.) The Commission assesses the engineering and design of new transmission facilities associated with a proposed project to ensure compliance with applicable law. Additionally, CEQA requires an environmental review of the "whole of the action," which may include impacts on facilities not licensed by the Commission. Thus, our inquiry also considers the environmental effect of interconnecting the new project to the existing transmission system.

The California Independent System Operator (CAISO) is responsible for ensuring electric system reliability for participating entities, identifying the standards necessary to achieve system reliability, and determining whether a proposed project conforms to those standards. The Energy Commission works in conjunction with CAISO in assessing a project's impacts on system reliability. (Ex. 200, pp. 5.5-1 to 5.5-2.)

Staff's analysis includes an evaluation of the proposed power plant switchyard, outlet line, termination, and downstream facilities, and recommends Conditions of Certification to ensure the project will comply with applicable laws during the design review, construction, operation, and potential closure of the project. (Ex. 200, pp. 5.5-1 to 5.5-17.) No evidence disputes these matters.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Orange Grove Project will consist of two natural gas-fired LM 6000 turbine generators (CTG), operating in simple-cycle mode with a total 96 MW nominal output. Each CTG unit will be connected through a 3,000-ampere segregated bus duct and a 3,000-ampere, 13.8-kV breaker to the low voltage terminal of a dedicated 45/60/75 MVA, 13.8/69-kV generation step-up (GSU) transformer to the project's new 69-kV switchyard. The project will interconnect from the switchyard to SDG&E's Pala Substation, adjacent to the site, by a new 0.3-mile long, 69-kV underground cable tie line. (Ex. 1, pp. 3-2 to 3-3; Ex. 200, p. 5.5-4.)

The project owner will build, own, and operate the new switchyard and the 69-kV underground cable tie line. SDG&E will build, own, and operate the interconnecting facilities within the fence line of the Pala Substation including the

new 69-kV switch bay and the new 150 or 250-foot portion of the underground cable.[3] (Ex. 200, p. 5.5-5; Ex. 1, pp. 3-2 to 3-3.)

According to Staff, the configuration of the project's switchyard, the underground cable tie line interconnection to the Pala Substation, and its termination comply with industry standards and good utility practices. (Ex. 200, pp. 5.5-5, 5.5-11.)

The interconnecting utility (in this case, SDG&E), and the CAISO are jointly responsible for ensuring grid reliability when a new generating facility proposes to interconnect to the grid. Consistent with the Large Generator Interconnection Procedure (LGIP), CAISO in coordination with SDG&E, prepared a System Impact Study (SIS) dated October 22, 2007, and a Facilities Study (FS), dated May 2, 2008, which evaluated the Orange Grove Project's potential impacts on the transmission system and recommended mitigation measures to ensure system conformance with applicable criteria. (Ex. 1, Appens. 3-A, 3-B; Ex. 7, Resps. 65-67; Ex. 200, pp. 5.5-5 to 5.5-6.)

The SIS and FS compare the transmission grid both with and without the Orange Grove Project under conditions specified in planning standards and reliability criteria, including thermal overloads, voltage deviations, system stability (including voltage collapse and cascading outages), and short circuit duties. (Ex. 1, Appens. 3-A to 3-B; Ex. 200, p. 5.5-6 et seq.)

The SIS contains a Power Flow Study, Short Circuit Study, and Dynamic Stability analysis. These studies demonstrate that the project's generation would not cause any normal (N-0) overload or voltage criteria violations for any of the current 2008 or anticipated 2012 system conditions with all transmission facilities in service. However, under certain contingency conditions, the existing SDG&E transmission facilities would be unable to accommodate interconnection of the project unless downstream network upgrades are employed to maintain system reliability. (Ex. 200, p. 5.5-7.)

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[3] The evidence indicates that another proposed power plant called "Queue Project #173" may also interconnect at the Pala Substation, potentially affecting the design of the Orange Grove Project interconnection line. The length of the Orange Grove underground cable within the Pala Substation boundary would be 150 feet if the Orange Grove Project interconnects *after* "Queue Project #173" interconnects at the Pala Substation. However, if the Orange Grove Project interconnects before "Queue Project #173," the length of the underground cable inside the Pala Substation boundary would be 250 feet and an extension of the existing 2,000-ampere Pala Substation bus would be necessary. SDG&E will be responsible for constructing the Pala Substation expansion within the existing fence line of the Pala Substation. (Ex. 200, pp. 5.5-4 to 5.5-5, 5.5-9.)

The Power Flow Study identified the following overloads caused by the project under certain contingencies and the corresponding mitigation measures necessary to upgrade the system:

- *Pala-Monserate Tap 69-kV line*: New overloads ranging from 178-197 percent were identified on the line during the 2008 and 2012 system conditions studied, for the single (N-1) contingency of the Lilac-Pala 69-kV line. New overloads ranging from 118-181 percent were also identified on the line during the 2008 and 2012 system conditions studied, for the Category C (N-2) contingency of the Lilac 69-kV S bus.
- **Mitigation**: Reconductoring the line with 636-KCmil ACSS (Aluminum conductor steel supported) conductor, replacing the Pala Substation getaways with 3,000-KCmil copper conductor and changing relay settings at Pala Substation for the line. (Ex. 200, p. 5.5-7.)
- *Monserate-Monserate Tap 69-kV line*: New overloads ranging from 133-160 percent were identified on the line during the 2008 and 2012 system conditions studied, due to the single (N-1) contingency of the Lilac-Pala 69-kV line. A new overload of 147 percent was also identified on the line during the 2008 light winter system conditions for the Category C contingency of the Lilac 69-kV S bus.
- **Mitigation**: Replacing Monserate substation getaways with 3,000-KCmil copper conductor and reconductoring one span of the line with 636-KCmil ACSS. (Ex. 200, p. 5.5-7.)
- *Monserate-Avocado Tap 69-kV line*: A new overload of 110 percent was identified on the line during the 2008 light winter system conditions for the single (N-1) contingency of the Lilac-Pala 69-kV line.
- **Mitigation**: Changing relay settings at Monserate 69-kV Substation for the line. (Ex. 200, p. 5.5-7.)
- *Pala-Lilac 69-kV line*: New overloads ranging from 171-189 percent were identified on the line during the 2008 and 2012 system conditions studied, for the single (N-1) contingency of the Avocado-Monserate 69-kV line. New overloads ranging from 171 to 189 percent were also identified on the line during the 2008 and 2012 system conditions studied, for the double (N-2) contingencies of the Penasquitos-Escondido #1& #2 230-kV lines.
- **Mitigation:** Replacing the Pala Substation getaways with 3,000-KCmil copper conductor and the 69-kV breaker for the line at the Lilac 69-kV substation. Changing relay settings for the line at the Pala and Lilac 69-kV substations. SDG&E was scheduled to upgrade the existing 69-kV breaker at the Lilac 69-kV Substation for the line in June 2008. (Ex. 200, p. 5.5-7.)

- *Warners- Rincon 69-kV line*: A new overload of 110 percent was identified on the line during the 2012 system summer peak conditions for the single (N-1) contingency of the Creelman-Sycamore 69-kV line.
- **Mitigation**: Installing a Special Protection Scheme (SPS) to trip Warners-Santa Ysabel 69-kV line during the contingency overload of the Warners-Rincon 69-kV line and subsequently curtail Orange Grove Project generation, if necessary. The SPS will be temporary until the line is reconductored or further evaluated by SDG&E. (Ex. 200, p. 5.5-8.)
- *Rincon-Lilac 69-kV line*: New overloads of 106 percent were identified on the line during the 2012 system summer peak conditions for the single (N-1) contingency of the Felicita-Valley Center 69-kV line.
- **Mitigation**: Installing a SPS to trip the Warners-Ricon 69-kV line during the contingency overload of the Rincon-Lilac 69-kV line and subsequently curtail Orange Grove Project generation, if necessary. The SPS will be temporary until the line is reconductored or further evaluated by SDG&E. (Ex. 200, p. 5.5-8.)

The FS determined that downstream SDG&E network upgrades would be required if the Orange Grove Project interconnects before or after "Queue Project #173." However, if "Queue Project #173" withdraws from the queue and the Orange Grove Project interconnects, then the SDG&E network upgrades for the overload violations at the Monserate-Avocado Tap and Rincon-Lilac 69-kV lines will not be required. (Ex. 200, p. 5.5-8.) SDG&E will be responsible for reconductoring transmission lines within the existing SDG&E right-of way between the Monserate and Pala Substations with some adjacent temporary laydown and stringing sites. SDG&E will also implement the network upgrades required by the mitigation plan within the fence lines of SDG&E Substations. (*Id*., p. 5.5-10; Ex. 7, Resps. 65 to 67; Ex. 10, Attachment 11.)

In the Short Circuit Study, three line-to-ground and single line-to-ground faults were simulated with and without the Orange Grove Project to determine if there are any overstressed circuit breakers caused by addition of the project. Study results indicate there are no circuit breaker fault duty violations attributable to the project. The Study concludes that the Orange Grove Project will not be responsible for mitigation of any pre-project overstressed breakers since SDG&E has already approved plans to mitigate the pre-project overstressed breakers. (Ex. 1, Appen. 3-A; Ex. 200, p. 5.5-8.)

The Stability Analysis determined that the transmission system would remain stable with the addition of the project for all contingency simulations studied. However, if "Queue Project #173" is interconnected, there will be frequency and voltage criteria violations at the Pala Substation bus in both pre and post-project cases, and frequency criteria violations at the "Queue Project #173" generator bus in the post-project case. For pre-project frequency criteria violations, "Queue Project #173" is responsible for mitigation. If "Queue Project #173" is not interconnected, frequency deviation violations will result at the Orange Grove Project's 69-kV, 13.8-kV, and Pala Substation 69-kV buses. (Ex. 200, p. 5.5-8; Ex. 1, Appen. 3-B, p. 9.)

Based on this finding, the FS recommends that whether or not "Queue Project #173" is interconnected, the Orange Grove Project must implement a Special Protection Scheme (SPS) utilizing its own equipment protection relays for tripping the project's generators to eliminate the frequency and voltage deviation violations in the SDG&E system and for faults at the Pala Substation 69-kV bus. (Ex. 200, pp. 5.5-8 to 5.5-9; Ex. 1, Appen. 3-B, p. 9.) Condition of Certification TSE-5F requires the project owner to obtain approval from SDG&E and CAISO for the SPS.

Prior to construction, the Orange Grove Project must execute a Large Generator Interconnection Agreement (LGIA) with CAISO. Subsequently, CAISO will perform an Operational Study to examine the project's impacts to the grid based on the project's expected Commercial Operation Date (COD). (Ex. 200, p. 5.5-2.) Condition of Certification TSE-5F requires the project owner to provide an executed LGIA and an Operational Study based on COD system conditions and mitigation measures acceptable to CAISO and /or SDG&E.

According to Staff, performance of the Operational Study (based on the project's original May 2009 COD) and execution of the LGIA would ensure system reliability in the CAISO grid and compliance with applicable transmission planning standards. (Ex. 200, p. 5.5-9.) We note that impacts and mitigation measures identified in the SIS and FS were based on the original May 2009 COD. Since the date of this Decision coincides with the original 2009 COD, it is impossible for the project to be online by May 2009. Thus, the Conditions of Certification provide flexibility for the project owner to work with SDG&E and CAISO to prepare an Operational Study based on the actual COD.

The evidence indicates that the Orange Grove Project will cause some cumulative effects in the area transmission system because SDG&E's rural, 69-

kV sub-transmission network is operated with long transmission lines. The project's cumulative marginal impacts, however, will be mitigated under the Conditions of Certification. (Ex. 200, p. 5.5-11.) The evidentiary record also indicates that the project provides positive impacts by meeting increasing demand and providing additional reactive power, voltage support, and reliability in the SDG&E local network. (*Id*., p. 5.5-10.)

The Conditions of Certification require the project to conform to applicable planning standards and engineering LORS. (Ex. 200, 5.5-11.)

PUBLIC COMMENT

At the hearing, **Ms. Cyndy Day-Wilson**, representing **DFI Funding, Inc**., referred to a comment letter submitted in advance of the evidentiary hearing. (12/19/08 RT 207:18-209:22.) Her comment letter argues that Staff has improperly deferred analysis and mitigation of transmission system impacts by relying on studies by responsible agencies to determine the effect of the Project on the transmission system. She argues that this method fails to actually analyze or mitigate Project-specific transmission grid impacts.

The California Independent System Operator (CAISO) is the entity in California in charge of the transmission grid and is the only entity that can provide conclusive findings on requirements for transmission system impacts and required upgrades. (Ex. 200, p. 5.5-2.) CAISO conducted a System Impact Study (SIS) and a Facilities Study (FS), which analyze Project impacts to the transmission system. (*See* Ex. 1, Appendices 3-A and 3-B.) These studies found potential adverse impacts to the transmission system from the Project .(Ex. 200, p. 5.5-1.) The studies also identified mitigation measures which Staff found would eliminate the Project's adverse impacts to the transmission system. (Ex. 200, pp. 5.5-6 to p. 5.5-8.) These studies were submitted with the AFC and were referenced in the Assessment. (*Id*.) In addition, SDG&E identified the specific upgrades that would be required including reconductoring and specific pole replacements. (*See* Ex. 10, Attachment 11, at 1-4.) Staff also created an independent evaluation of impacts. (*See* Ex. 7, Response to Staff Data Request Number 66; *see also* Ex. 200, pp. 3-3, 4.2-10, 4.2-17, 4.2-22, 4.3-4, 4.3-15, 4.3-21, and 4.3-22.) The mitigation plan identified in the SIS and FS would eliminate the adverse impacts through Special Protection Systems and downstream network upgrades. (Ex. 200, pp. 5.5-1 to 5.5-8.)

Transmission system upgrades will be required beyond the Pala Substation, including reconductoring, changing relay settings, and other work. (Ex. 200, pp. 5.5-9 to p. 5.5-10.) Transmission system upgrades will be performed by SDG&E and will be finalized in conjunction with the interconnecting agreement. (*Id*.) The reconductoring will take place entirely within the existing SDG&E transmission line right-of-way between the Monserate and Pala Substations, a distance of approximately seven miles. (*Id.*) Reconductoring work consists of preparing existing transmission line poles to receive new conductors, which will involve replacing 33 of the 117 existing poles, installing nine new poles, and removing two existing poles. (Ex. 200, p. 4.2-10.) When final design is complete, a final assessment of impacts to biological resources will be made and mitigation measures developed as part of the overall transmission system upgrade design work completed by SDG&E. (*Id*.) Mitigation for impacts to sensitive biological resources resulting from the reconductoring work would be mitigated in accordance with SDG&E's Natural Communities Conservation Plan. (*Id*.)

Transmission system upgrades that will be required for the project and that will be conducted by SDG&E will impact approximately 0.1 acres of coastal sage scrub and approximately 0.1 acres of non-native grassland. These transmission system upgrade impacts will be mitigated according to SDG&E's Natural Communities Conservation Plan. (Ex. 200, p. 4.2-17.)

We are satisfied that the record contains substantial evidence of performance standards and safeguards to ensure mitigation of the identified transmission system impacts. There is no improper deferral of mitigation where, as here, there is a preexisting framework that demonstrates a commitment to mitigate from SDG&E and CAISO, who require specific criteria to determine that the plan to be submitted is adequate (see *Endangered Habitats League v. County of Orange* (4th Dist. 2005) 131 Cal. App. 4th 777).

FINDINGS

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

1. The Orange Grove Project will interconnect to SDG&E's existing Pala Substation via a new 0.3-mile long, 69-kV underground cable tie line located within the project site.

2. The Orange Grove Project will design, build, and operate the underground line to the Pala Substation fence line and SDG&E will build and operate the interconnection facilities at the Pala Substation.

3. The proposed interconnection facilities between the Orange Grove Project and the Pala Substation are adequate and planned in accordance with good utility practices and engineering LORS.

4. The record includes a System Impact Study (SIS) and a Facilities Study (FS), which analyze potential reliability and congestion impacts that could result when the Orange Grove Project interconnects to the SDG&E grid.

5. Results of the SIS and FS demonstrate that the project will not cause any normal (N-0) overload or voltage criteria violations for any of the anticipated system conditions with all transmission facilities in service.

6. Under certain contingency conditions described in the SIS and FS, project interconnection will result in overloads to the SDG&E grid requiring the implementation of downstream delivery network upgrades to maintain system reliability.

7. Network upgrades include reconductoring existing transmission lines and changing relay stations at certain SDG&E Substations.

8. SDG&E will be responsible for reconductoring transmission lines within the existing SDG&E right-of way between the Monserate and Pala Substations with some adjacent temporary laydown and stringing sites as well as upgrades within the fence lines of the affected SDG&E Substations.

9. The Orange Grove Project will implement several approved Special Protection Schemes to eliminate project-related frequency and voltage deviation violations in the SDG&E system and faults at the Pala Substation 69-kV bus as described in the mitigation plan.

10. There are no circuit breaker fault duty violations attributable to the Orange Grove Project.

11. The CAISO has reviewed the System Impact Study and the Facilities Study and concurs with their results.

12. Prior to construction, the project owner will provide an executed Large Generator Interconnection Agreement (LGIA) with the CAISO.

13. Prior to construction, the project owner will provide an Operational Study performed by CAISO that examines the project's impacts on the grid

based on the actual Commercial Operation Date (COD) and describes the mitigation measures acceptable to CAISO and SDG&E.

14. Implementation of the Conditions of Certification listed below will ensure that the Orange Grove Project complies with all applicable planning standards and engineering LORS for construction and operation of the project's transmission facilities.

CONCLUSIONS

The Commission therefore concludes that implementation of the measures specified in the Conditions of Certification listed below will ensure compliance with all applicable laws, ordinances, regulations, and standards (LORS) related to Transmission System Engineering and listed in **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

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

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

Table 1
Major Equipment List

Breakers
Step-up Transformer
Switchyard
Busses
Surge Arrestors
Disconnects and Wave-traps
Take off facilities
Electrical Control Building
Switchyard Control Building
Transmission Pole/Tower
Insulators and Conductors
Grounding System

TSE-2 Prior to the start of construction the project owner shall assign an electrical engineer and at least one of each of the following to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; or D) a mechanical engineer. (B&P Code, § 6704 et seq., require state registration to practice as a civil engineer or structural engineer in California.)

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer. The civil, geotechnical or civil and design engineer assigned in conformance with FACILITY DESIGN Condition GEN-5, may be responsible for design and review of the Transmission System Engineering (TSE) facilities.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all engineers assigned to the project. If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. This engineer shall be authorized to halt earthwork and to require changes

if site conditions are unsafe or do not conform to predicted conditions used as a basis for design of earthwork or foundations.

The electrical engineer shall:

1. Be responsible for the electrical design of the power plant switchyard, outlet and termination facilities; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

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

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

TSE-3 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend corrective action. (1998 CBC, ch. 1, § 108.4, Approval Required; Ch. 17, § 1701.3, Duties and Responsibilities of the Special Inspector; Appen. Ch. 33, § 3317.7, Notification of Noncompliance). The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval and shall reference this condition of certification.

Verification: The project owner shall submit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days of receipt. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action required to obtain the CBO's approval.

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

A. receipt or delay of major electrical equipment;

B. testing or energization of major electrical equipment; and

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

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

TSE-5 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The project owner shall submit the required number of copies of the design drawings and calculations to the CBO as determined by the CBO.

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

B. Breakers and busses in the power plant switchyard and other switchyards, where applicable, shall be sized to accommodate full output from the project and to comply with a short-circuit analysis.

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

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

E. Termination facilities shall comply with applicable SDG&E interconnection standards.

F. The project owner shall provide to the CPM:

A line route drawing after selecting one of the alternate route options for the generator interconnection 69-kV tie line.

The Special Protection System (SPS) sequencing and timing if applicable.

A letter stating that the mitigation measures or projects selected by the transmission owners for each criteria violation are acceptable.

The Operational study report based on 2009 or current Commercial Operation Date (COD) system conditions (including operational mitigation measures) from the CAISO and/or SDG&E.

A copy o\f the executed LGIA signed by the CAISO and the project owner.

Verification: At least 60 days prior to the start of construction of transmission facilities (or a lesser number of days mutually agree to by the project owner and CBO), the project owner shall submit to the CBO for approval:

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

B. For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions" (which would include for instance, a dead-end or angle pole) and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", NEC, applicable interconnection standards, and related industry standards.

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

D. A line route drawing after selecting one of the alternate route options for the generator interconnection 69-kV tie line.

E. The Special Protection Scheme (SPS) sequencing and timing if applicable shall be provided concurrently to the CPM.

F. A letter stating that the mitigation measures or projects selected by the transmission owners for each criteria violation are acceptable.

G. The Operational study report based on 2009 or current COD system conditions (including operational mitigation measures) from CAISO and/or SDG&E.

H. A copy of the executed LGIA signed by the CAISO and the project owner.

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

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

TSE-7 The project owner shall provide the following Notice to CAISO prior to synchronizing the facility with the California Transmission System:

1. At least one week prior to synchronizing the facility with the grid for testing, provide CAISO a letter stating the proposed date of synchronization; and

2. At least one business day prior to synchronizing the facility with the grid for testing, provide telephone notification to CAISO Outage Coordination Department.

Verification: The project owner shall provide copies of the CAISO letter to the CPM when it is sent to the CAISO one week prior to initial synchronization with the grid. The project owner shall contact the CAISO 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 CAISO shall be provided electronically to the CPM one day before synchronizing the facility with the California Transmission System for the first time.

TSE-8 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, “High Voltage Electric Safety Orders”, applicable interconnection standards, NEC and related industry standards. In case of non-conformance, the project owner

shall inform the CPM and CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

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

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

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

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

DEFINITION OF TERMS

Term	Definition
AAC	All aluminum conductor
ACSR	Aluminum conductor steel-reinforced
ACSS	Aluminum conductor steel-supported
Ampacity	Current-carrying capacity, expressed in amperes, of a conductor at specified ambient conditions, at which damage to the conductor is nonexistent or deemed acceptable based on economic, safety, and reliability considerations.
Ampere	The unit of current flowing in a conductor
Bundled	Two wires, 18 inches apart.
Bus	Conductors that serve as a common connection for two or more circuits.
Congestion Management	A scheduling protocol that ensures dispatched generation and transmission loading (imports) will not violate criteria.
Double Contingency	Also known as emergency or N-2 condition; occurs when a forced outage of two system elements occurs -- usually (but not exclusively) caused by one single event. Examples of an N-2 contingency include loss of two transmission circuits on single tower line or loss of two elements connected by a common circuit breaker due to the failure of that common breaker.
Emergency Overload	See Single Contingency condition. This is also called an N-1.
KCmil or KCM	Thousand circular mil. A unit of the conductor's cross sectional area; when divided by 1,273, the area in square inches is obtained.
Kilovolt (kV)	A unit of potential difference, or voltage, between two conductors of a circuit, or between a conductor and the ground.
Loop	An electrical cul de sac. A transmission configuration that interrupts an existing circuit, diverts it to another connection, and returns it back to the interrupted circuit, thus forming a loop or cul de sac.
Megavar	One megavolt ampere reactive.
Megavars	Mega-volt-ampere-reactive. One million volt-ampere-reactive. Reactive power is generally associated with the reactive nature of motor loads that must be fed by generation units in the system.
Megavolt Ampere (MVA)	A unit of apparent power; equals the product of the line voltage in kilovolts, current in amperes, the square root of 3, divided by 1,000.
Megawatt (MW)	A unit of power equivalent to 1,341 horsepower.
N-0 Condition	See Normal Operation/Normal Overload, below.
Normal Operation/ Normal Overload (N-0)	When all customers receive the power they are entitled to without interruption and at steady voltage, and no element of the transmission system is loaded beyond its continuous rating.
N-1 Condition	See Single Contingency, below.
N-2 Condition	See Double Contingency, above.
Outlet	Transmission facilities (circuit, transformer, circuit breaker, etc.) linking generation facilities with the main grid.
Power Flow Analysis	A power flow analysis is a forward-looking computer simulation of essentially all generation and transmission system facilities that identifies overloaded circuits, transformers, and other equipment and system voltage levels.
Reactive Power	Reactive power is generally associated with the reactive nature of motor loads that must be fed by generation units in the system. An adequate supply of reactive power is required to maintain voltage levels in the system.
Remedial Action Scheme	A remedial action scheme is an automatic control provision that, as one example, will trip a selected generating unit when a circuit overloads.
SF6	Sulfur hexafluoride is an insulating medium

Term	Definition
Single Contingency	Also known as emergency or N-1 condition; occurs when one major transmission element (circuit, transformer, circuit breaker, etc.) or one generator is out of service.
Solid Dielectric Cable	Copper or aluminum conductors that are insulated by solid polyethylene type insulation and covered by a metallic shield and outer polyethylene jacket.
Special Protection Scheme/System	Detects a transmission outage (either a single or credible multiple contingency) or an overloaded transmission facility and then trips or runs back generation output to avoid potential overloaded facilities or other criteria violations.
Switchyard	A power plant switchyard is an integral part of a power plant that is used as an outlet for one or more electric generators.
Thermal Rating	See ampacity.
TSE	Transmission System Engineering
Tap	A transmission configuration that creates an interconnection through a short single circuit to a small or medium-sized load or generator. The new single circuit line is inserted into an existing circuit by utilizing breakers at existing terminals of the circuit, rather than installing breakers at the interconnection in a new switchyard.
Undercrossing	A transmission configuration where a transmission line crosses below the conductors of another transmission line, generally at 90 degrees.
Under build	A transmission or distribution configuration where a transmission or distribution circuit is attached to a transmission tower or pole below (under) the principal transmission line conductors.

E. TRANSMISSION LINE SAFETY AND NUISANCE

The Orange Grove Project's 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 portion of the decision assesses the potential impacts of the transmission line on aviation safety, radio-frequency interference, audible noise, fire hazards, and hazardous and nuisance shocks. It also examines any risks arising from electric and magnetic field (EMF) exposure, as well as whether mitigation measures are required to reduce any potential impacts to insignificant levels. The evidence submitted by Applicant and Staff was uncontested. (12/19/08 RT 47, 182; Exs. 1; 18(o); 200, § 4.11.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project is located on an 8.5 acre parcel of land which is within a 202-acre property owned by SDG&E. The associated transmission line is a 0.3 mile, 69-kV, single circuit line running from the project's switchyard to SDG&E's Pala Substation. The line will be located underground along the paved, private Del Norte Road, entirely within SDG&E's property. (Ex. 200, pp. 4.11-3 to 4.11-4.)

Since the transmission line will be lain underground on SDG&E property, the evidence shows it will not create a hazard to aircraft, interfere with radio-frequency communications, produce audible noise, pose a potential fire danger, or cause nuisance shocks from direct contact with metal objects electrically charged by fields from the energized line. (Ex. 200, pp. 4.11-4 to 4.11-5.) The project could, however, cause hazardous shocks. These result from direct or indirect contact between an individual and an energized line.

The energized transmission line will create magnetic fields.[4] CPUC policy requires reduction of such fields,[5] if feasible, without affecting safety, efficiency,

[4] The line actually creates both electric and magnetic fields (EMF). The electric fields, unlike the magnetic fields produced, cannot penetrate the soils and other materials covering an undergrounded line. (Ex. 200 pp. 4.11-4 to 4.11-6.) Therefore, in this instance, only magnetic fields are addressed.

[5] The possibility of deleterious health effects from EMF exposure has increased public concern in recent years. Both electric and magnetic fields occur together whenever electricity flows and exposure to them together is generally referred to as EMF exposure. The CPUC, other regulatory agencies, and Commission staff have evaluated the available evidence and concluded that such fields do not pose a significant health hazard to exposed humans and that health based limits are inappropriate at this time.

reliability, and maintainability of the transmission grid. To effectuate such policy, it requires each new or upgraded transmission line in California to be designed according to the EMF-reducing guidelines of the electric utility in the service area involved. Commission Staff similarly requires a showing that each proposed transmission line, whether overhead or underground, will be designed according to the safety and EMF reducing design guidelines specified for the appropriate utility service area. The Orange Grove Project's transmission line will be designed, constructed, and maintained in accordance with SDG&E practices. (Ex. 200, pp. 4.11-1, 4.11-4.)

The evidence establishes that the CPUC, in GO-128, has required measures appropriate to both minimizing the risk of hazardous shocks as well as the field intensity resulting from high-voltage lines. (Ex. 200, pp. 4.11-6 to 4.11-7.) In fact, the evidence further establishes that undergrounding, as proposed for the Orange Grove Project, potentially produces the lowest human exposure levels possible for transmission lines without affecting safety, efficiency, reliability and maintainability. Condition of Certification **TLSN-1** ensures that the GO-128 field reduction measures will be implemented. (Ex. 200, p. 4.11-7.)

The evidence firmly demonstrates that the transmission lines related to the project will not cause any significant adverse impacts to public health and safety.

FINDINGS

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

1. The Orange Grove Project will interconnect to the existing SDG&E Pala Substation via a new 0.3-mile, 69-kV, single circuit outlet line.

2. The new interconnection line will be undergrounded and constructed entirely on SDG&E property in accordance with standard SDG&E practices.

3. Since the transmission line will be lain underground entirely on SDG&E property, the project will not result in adverse impacts to public health and safety, or create a hazard to aircraft, interfere with radio-frequency

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Nevertheless, Staff considers it important, as does the CPUC, to note that while such a hazard has not been established from the available evidence, neither does the same evidence serve as proof of a definite lack of hazard. Therefore, in order to minimize the potential for EMF risks, feasible field reduction measures are typically imposed. (Ex. 200, pp. 4.11-5 to 4.11-6.)

communication, produce audible noise, pose a potential risk of fires, cause nuisance shocks, or produce risks from exposure to electric fields.

4. The proposed underground transmission line will produce magnetic fields of the lowest intensity possible without affecting safety, efficiency, reliability, and maintainability.

5. The available scientific evidence does not establish that EMF fields pose a significant health hazard to exposed humans.

6. The proposed transmission line will comply with CPUC GO-128 which, in turn, minimizes any potential adverse public health and safety impacts due to exposure to EMF or from hazardous shocks.

CONCLUSIONS

We therefore conclude that implementation of the Condition of Certification below will ensure that the Orange Grove Project complies with all applicable laws, ordinances, regulations, and standards relating to transmission line safety and nuisance as indentified in the pertinent portion of the **Appendix A** of this Decision, and that the project creates no significant adverse impact to public health and safety.

CONDITION OF CERTIFICATION

TLSN-1 The project owner shall construct the project's associated transmission line according to the requirements of the California Public Utility Commission's GO-128 and SDG&E's EMF-reduction guidelines.

Verification: At least 30 days before starting construction of the transmission line or related structures and facilities, the project owner shall submit to the Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer affirming that the line will be constructed according to the requirements stated in the condition above.

V. PUBLIC HEALTH AND SAFETY ASSESSMENT

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

A. AIR QUALITY

This section examines the potential adverse impacts of criteria air pollutant emissions resulting from project construction and operation. In consultation with the local air pollution control district, the Energy Commission determines whether the project will likely conform with applicable LORS, whether it will likely result in significant air quality impacts, including violations of ambient air quality standards, and whether the project's proposed mitigation measures will likely reduce potential impacts to insignificant levels.

National Ambient Air Quality Standards (NAAQS) have been established for seven air contaminants identified as "criteria air pollutants." These include sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), lead (Pb), particulate matter less than 10 microns in diameter (PM10) and particulate matter less than 2.5 microns in diameter (PM2.5). The review of potential impacts also includes the precursor pollutants for ozone, which are nitrogen oxides (NO_x) and volatile organic compounds (VOC), and the precursors for PM10 and PM2.5, which are primarily NO_x, sulfur oxides (SO_x), and ammonia (NH_3). Sulfur oxides (SO_x) react in the atmosphere to form particulate matter and are major contributors to acid rain. (Ex. 200, p. 4.1-2.)

The Federal Clean Air Act (42, USC, § 7401 et seq.) requires new major stationary sources of air pollution to comply with federal requirements in order to obtain Authority to Construct (ATC) permits. The U.S. Environmental Protection Agency (U.S. EPA), which administers the Clean Air Act, has designated all areas of the United States as attainment/unclassifiable (air quality better than the NAAQS or unable to determine) or nonattainment (worse than the NAAQS) for criteria air pollutants. The Clean Air Act also requires a periodic review of the science upon which the standards are based and appropriate updates as necessary.

There are two major components of air pollution law: New Source Review (NSR) for evaluating pollutants that violate federal standards and Prevention of Significant Deterioration (PSD) to evaluate pollutants that do not violate federal standards. Enforcement of NSR and PSD rules is delegated to local air districts, which are established by federal and state law. The San Diego Air Pollution Control District (SDAPCD or District) has jurisdiction in San Diego County and its rules apply to the Orange Grove Project. (Ex. 200, pp. 4.1-3; 4.1-5.)

The project is also subject to the federal New Source Performance Standards (NSPS), which are generally delegated to the local air district; however, local emissions limitation rules are typically more restrictive than NSPS requirements. (Ex. 200, p. 4.1-3.)

Both the U.S. EPA and the California Air Resources Board (CARB) have established allowable maximum ambient concentrations for the criteria pollutants identified above. The California Ambient Air Quality Standards (CAAQS) are more stringent than federal standards. Federal and state ambient air quality standards are shown below in **AIR QUALITY Table 1** of this Decision. As indicated in this table, the averaging times for the various air quality standards (the duration over which they are measured) range from one-hour to annual average. The standards are read as a mass fraction, in parts per million (ppm), or as a concentration, in milligrams or micrograms of pollutant per cubic meter of air (mg/m^3 or $\mu g/m^3$). (Ex. 200, p. 4.1-5.)

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AIR QUALITY Table 1
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone (O_3)	8 Hour	0.075 ppm (147 µg/m^3)	0.070 ppm (137 µg/m^3)
	1 Hour	—	0.09 ppm (180 µg/m^3)
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)
	1 Hour	35 ppm (40 mg/m^3)	20 ppm (23 mg/m^3)
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.053 ppm (100 µg/m^3)	0.03 ppm (57 µg/m^3)
	1 Hour	—	0.18 ppm (339 µg/m^3)
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	0.030 ppm (80 µg/m^3)	—
	24 Hour	0.14 ppm (365 µg/m^3)	0.04 ppm (105 µg/m^3)
	3 Hour	0.5 ppm (1300 µg/m^3)	—
	1 Hour	—	0.25 ppm (655 µg/m^3)
Respirable Particulate Matter (PM10)	Annual Arithmetic Mean	—	20 µg/m^3
	24 Hour	150 µg/m^3	50 µg/m^3
Fine Particulate Matter (PM2.5)	Annual Arithmetic Mean	15 µg/m^3	12 µg/m^3
	24 Hour	35 µg/m^3	—
Sulfates (SO_4)	24 Hour	—	25 µg/m^3
Lead	30 Day Average	—	1.5 µg/m^3
	Calendar Quarter	1.5 µg/m^3	—
Hydrogen Sulfide (H_2S)	1 Hour	—	0.03 ppm (42 µg/m^3)
Vinyl Chloride (chloroethene)	24 Hour	—	0.01 ppm (26 µg/m^3)
Visibility Reducing Particulates	8 Hour	—	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%.

(Ex 200, p. 4.1-6.).

SUMMARY OF THE EVIDENCE

The project site is located in northern San Diego County, 3.5 miles northeast of I-15 on SR-76, approximately two miles west of Pala and located off of Pala Del Norte Road. The project site is located on land owned by San Diego Gas & Electric (SDG&E) that also contains an existing SDG&E storage area and the existing Pala Substation south southwest of the Orange Grove Project site boundary. (Ex. 200, p. 4.1-6.)

The Orange Grove project site is located within the San Diego Air Basin (SDAB) and, as stated above, is under the jurisdiction of the San Diego Air Pollution Control District. This area is designated as nonattainment for both the federal and state ozone standards and the state PM10 and PM2.5 standards. **Air Quality Table 2** below summarizes federal and state attainment status of criteria pollutants for the SDAB. (Ex. 200, p. 4.1-6.)

AIR QUALITY Table 2
Federal and State Attainment Status for the San Diego Air Basin

Pollutant	Attainment Status	
	Federal	State
Ozone	Nonattainment (8-hr)	Serious Nonattainment (1-hr)
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
PM10	Attainment	Nonattainment
PM2.5	Attainment	Nonattainment

(Ex. 200, p. 4.1-7.)

1. SDAPCD's Final Determination of Compliance

SDAPCD released its Final Determination of Compliance (FDOC) on December 4, 2008. The FDOC contains the permit conditions specified by the District to ensure compliance with applicable federal, state, and local air quality requirements. The conditions include emissions limitations, operating limitations, offset requirements, and testing, monitoring, record keeping and reporting requirements that ensure compliance with air quality LORS. (Ex. 60, 12/19/08 RT 62:6-12.) The District's permit conditions are incorporated into this Decision. (Cal. Code Regs, tit. 20, §§ 1744.5, 1752.3.) In the power plant certification process, the Air District's FDOC serves as an in-lieu Authority to Construct (ATC) permit, which is required for new air pollution sources within the Air District's

jurisdiction. The ATC cannot be implemented unless the Energy Commission certifies the project. (Ex. 60, pp. 31-32.)

2. Ambient Air Quality

The following discussion provides an overview of air quality conditions in the SDAB and describes the issues addressed by the Applicant and Staff in consultation with the District.

a. Ozone

In the presence of ultraviolet radiation, both nitrogen oxides (NO_x) and volatile organic compounds (VOC) go through a number of complex chemical reactions to form ozone. (Ex. 200, p. 4.1-9.)

AIR QUALITY Table 3 below summarizes the best representative ambient ozone data collected from the Chula Vista monitoring station. The table includes the maximum 1-hour and 8-hour ozone levels and the number of days above the state or national standards. Ozone formation is higher in spring and summer and lower in the winter. The SDAB was classified as an attainment area for the previous federal 1-hour ozone standard (no longer applicable) and is classified as a basic nonattainment area for the federal 8-hour ozone standard. The SDAB is also classified as a serious nonattainment area for the state 1-hour ozone standard. (Ex. 200, p. 4.1-9.)

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AIR QUALITY Table 3
Ozone Air Quality Summary, 1990-2007 (ppm)

Year	Days Above CAAQS 1-Hr	Month of Max. 1-Hr Avg.	Max. 1-Hr Avg.	Days Above CAAQS 8-Hr	Month of Max. 8-Hr Avg.	Max. 8-Hr Avg.
1990	26	JUN	0.170	37	JUN	0.109
1991	27	OCT	0.210	48	OCT	0.145
1992	25	APR	0.150	48	APR	0.120
1993	16	SEP	0.154	37	SEP	0.113
1994	10	AUG	0.122	22	AUG	0.106
1995	12	JUL	0.154	24	JUL	0.108
1996	12	JUN	0.119	25	JUN	0.099
1997	5	OCT	0.114	15	JUL	0.090
1998	9	JUL	0.122	17	AUG	0.092
1999	1	AUG	0.104	4	APR	0.080
2000	6	SEP	0.124	13	SEP	0.106
2001	4	SEP	0.141	8	SEP	0.099
2002	2	SEP	0.100	3	SEP	0.082
2003	3	SEP	0.105	9	SEP	0.084
2004	2	APR	0.099	9	APR	0.087
2005	1	SEP	0.095	2	APR	0.080
2006	3	JUL	0.108	11	JUL	0.097
2007	0	AUG	0.094	5	SEP	0.078
California Ambient Air Quality Standard (CAAQS): 1-Hr, 0.09 ppm, 8-Hr, 0.070 ppm National Ambient Air Quality Standard (NAAQS): 8-Hr, 0.075 ppm						

(Ex. 200, p. 4.1-9.)

The 1-hour and 8-hour ozone concentrations and the number of exceedances were highest in 1991. There has been a trend of gradual improvements in ozone concentrations since 1990. (Ex. 200, p. 4.1-10.)

b. Respirable Particulate Matter (PM10)

PM10 can be emitted directly or it can be formed many miles downwind from emission sources when various precursor pollutants interact in the atmosphere.

Gaseous emissions of pollutants like NO_x, SO_x, and VOC from turbines, and ammonia from NO_x control equipment can form particulate matter in the form of nitrates (NO_3), sulfates (SO_4), and organic particles. (Ex. 200, p. 4.1-11.)

The SDAB is classified as an attainment area for the federal PM10 standard and as a nonattainment area for the state PM10 standards. **Air Quality Table 4** below summarizes the most representative ambient PM10 data collected from the Escondido E Valley Parkway monitoring station. As can be seen the monitoring station closest to the project area annually experiences a number of violations of the state 24-hour PM10 standard. (Ex. 200, p. 4.1-11.)

As shown in **Air Quality Table 4**, the highest PM10 concentrations are generally measured in the fall and winter when there are frequent low-level inversions. During the wintertime high PM10 episodes, the contribution of ground level releases to ambient PM10 concentrations is disproportionately high. (Ex. 200, p. 4.1-12.)

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AIR QUALITY Table 4
PM10 Air Quality Summary, 1993-2007 ($\mu g/m^3$)

Year	Days * Above Daily CAAQS	Month of Max. Daily Avg.	Max. Daily Avg.	Annual Arithmetic Mean
1993	30	OCT	96	31.8
1994	30	NOV	70	35.3
1995	--	DEC	70	--
1996	12	DEC	53	26.7
1997	19	OCT	63	28.8
1998	--	OCT	51	--
1999	0	DEC	52	29.7
2000	12	DEC	65	29.5
2001	13	JAN	74	30.6
2002	0	SEP	51	27
2003	31	DEC	58[a]	33
2004	6	JAN	57	27.3
2005	0	OCT	42	23.9
2006	6	DEC	51	24.2
2007	12	NOV	57[a]	24

California Ambient Air Quality Standard: 24-Hr, 50 $\mu g/m^3$; Annual Arithmetic, 20 $\mu g/m^3$
National Ambient Air Quality Standard: 24-Hr, 150 $\mu g/m^3$

* Days above the state standard (calculated and rounded): PM10 is monitored approximately once every six days. This value is a mathematical estimate of how many days the PM10 concentrations would have been greater than the level of the standard had each day been monitored.

[a] Excludes 2003 and 2007 firestorm events

(Ex. 200, p. 4.1-11.)

There is an overall gradual downward trend for PM10 concentrations and number of violations of the California 24-hour standard since 1993 however; there has been little progress since 1996. (Ex. 200, p. 4.1-12.)

c. Fine Particulate Matter (PM2.5)

The SDAB is classified as nonattainment for the state respirable particulate matter (PM2.5) standard. The highest PM2.5 concentrations are generally measured in the winter. The relative contribution of wood-smoke particles to the PM2.5 concentrations may be even higher than its relative contribution to PM10 concentrations, considering that most of the wood-smoke particles are smaller than 2.5 microns. (Ex. 200, p. 4.1-12.)

As **AIR QUALITY Table 5** below indicates, the 24-hour (1-year average 98th percentile) and annual average PM2.5 concentration levels have been declining from 1999 to 2007. (Ex. 200, p. 4.1-14.)

AIR QUALITY Table 5
PM2.5 Air Quality Summary, 1999-2007 ($\mu g/m^3$)

Year	National Maximum Daily	98th Percentile Maximum Daily	State Annual Average	National Annual Average
Escondido-E Valley Parkway				
1999	64.3	--	--	18
2000	65.9	--	--	15.8
2001	60	40.8	--	17.5
2002	53.6	--	--	16
2003	38[a]	33.9	14.2	14.2
2004	67.3	37.4	14.1	14.1
2005	43.1	--	12	12
2006	40.6	28.3	11.5	11.5
2007	36[a]	37.7	12	12

California Ambient Air Quality Standard: Annual Arithmetic Mean, 12 $\mu g/m^3$
National Ambient Air Quality Standard: 24-Hr Avg. Conc., 35 $\mu g/m^3$ (based on 98% of the daily concentrations, average over three years); Annual Arithmetic Mean, 15 $\mu g/m^3$

[a] Excludes 2003 and 2007 firestorm events

(Ex. 200, p. 4.1-14.)

The maximum daily PM2.5 concentrations shown in **AIR QUALITY Table 5** all occurred in the late fall or winter (fourth and first quarters). (Ex. 200, p. 4.1-14.)

d. Carbon Monoxide (CO)

The highest concentrations of CO occur when low wind speeds and a stable atmosphere trap the pollution emitted at or near ground level in what is known as the stable boundary layer. These conditions occur frequently in the wintertime, late in the afternoon, persist during the night and may extend one or two hours after sunrise. Since mobile sources (motor vehicles) are the main cause of CO, ambient concentrations of CO are highly dependent on motor vehicle activity. In fact, the peak CO concentrations occur during the rush hour traffic in the mornings and afternoons. CO concentrations in San Diego County and the rest of the state have declined significantly due to two state-wide programs: 1) the 1992 wintertime oxygenated gasoline program, and 2) Phases I and II of the reformulated gasoline program. New vehicles with oxygen sensors and fuel

injection systems have also contributed to the decline in CO levels in the state. Today, the entire State of California is in attainment with the CO ambient air quality standards. (Ex. 200, p. 4.1-14.)

As **Air Quality Table 6** shows, the maximum one-hour and eight-hour CO concentrations in the project area are less than the California Ambient Air Quality Standards. CO is considered a local pollutant, as it is found in high concentrations only near the source of emission. Automobiles and other mobile sources are the principal sources of the CO emissions. High levels of CO emissions can also be generated from fireplaces and wood-burning stoves. According to the data recorded at the Escondido E Valley Parkway air monitoring station, there have been no violations of the California Ambient Air Quality Standards since 1990 for the one-hour and eight-hour CO standards. (See **Air Quality Table 6.**)

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AIR QUALITY Table 6
CO Air Quality Summary, 1990-2007 (ppm)

Year	Month of Max. 8-Hr Average	Maximum 1-Hr Average	Maximum 8-Hr Average
Escondido – E Valley Parkway			
1990	JAN	18	8.75
1991	DEC	12	7.88
1992	JAN	14	7.25
1993	NOV	11.4	7.38
1994	DEC	11	7.51
1995	NOV	9.9	5.95
1996	JAN	11.2	7.13
1997	NOV	9.3	4.91
1998	JAN	10.2	4.45
1999	DEC	9.9	5.26
2000	NOV	9.3	4.93
2001	JAN	8.5	5.11
2002	JAN	8.5	3.85
2003	FEB	8.9	3.9
2004	DEC	6.3	3.61
2005	JAN	5.9	3.1
2006	DEC	5.7	3.61
2007	DEC	5.2	3.19
California Ambient Air Quality Standard: 1-Hr, 20 ppm; 8-Hr, 9.0 ppm National Ambient Air Quality Standard: 1-Hr, 35 ppm; 8-Hr, 9 ppm			

(Ex. 200, p. 4.1-15.)

e. Nitrogen Dioxide (NO_2)

As shown in **AIR QUALITY Table 7,** the maximum one-hour and annual concentrations of NO_2 at the Escondido E Valley Parkway monitoring station are lower than the California and National Ambient Air Quality Standards. Approximately 75-90 percent of the NO_x emitted from combustion sources is NO, while the balance is NO_2. NO is oxidized in the atmosphere to NO_2, but some level of photochemical activity is needed for this conversion. This is why the highest concentrations of NO_2 generally occur during the fall and not in the winter, when atmospheric conditions favor the trapping of ground level releases, but lack significant photochemical activity (less sunlight). In the summer, the conversion rates of NO to NO_2 are high, but the relatively high temperatures and windy conditions (atmospheric unstable conditions) generally disperse pollutants, preventing the accumulation of NO_2 to levels approaching the California one-hour ambient air quality standard. (Ex. 200, p. 4.1-16.)

AIR QUALITY Table 7
NO_2 Air Quality Summary, 1996-2007 (ppm)

Year	Month of Max. 1-Hr Average	Maximum 1-Hr Average	Maximum Annual Average
Escondido- E Valley Parkway			
1990	OCT	0.16	0.029
1991	FEB	0.14	0.028
1992	JAN	0.13	0.026
1993	SEP	0.122	0.022
1994	JAN	0.157	0.024
1995	NOV	0.125	0.026
1996	NOV	0.13	0.020
1997	OCT	0.121	0.021
1998	OCT	0.092	0.018
1999	MAR	0.1	0.023
2000	NOV	0.083	0.021
2001	NOV	0.088	0.020
2002	FEB	0.084	0.021
2003	OCT	0.135	0.020
2004	OCT	0.08	0.018
2005	OCT	0.076	0.016
2006	NOV	0.071	0.017
2007	NOV	0.072	0.016
California 1-Hr Ambient Air Quality Standard: 0.18 ppm California Annual Arithmetic Mean Ambient Air Quality Standard: 0.030 ppm			

(Ex. 200, p. 4.1-16.)

f. Sulfur Dioxide (SO_2)

Sulfur dioxide is typically emitted as a result of the combustion of a fuel containing sulfur. Natural gas contains very little sulfur and consequently has very low SO_2 emissions when combusted. The SDAB is designated attainment for all the SO_2 state and federal ambient air quality standards. (Ex. 200, p. 4.1-17.)

3. Visibility

Visibility in the region of the project site depends upon the area's natural relative humidity and the intensity of both particulate and gaseous pollution in the atmosphere. The most straightforward characterization of visibility is probably the visual range (the greatest distance that a large dark object can be seen). However, in order to characterize visibility over a range of distances, it is more common to analyze the changes in visibility in terms of the change in light-extinction that occurs over each additional kilometer of distance (1/km). In the

case of a greater light-extinction, the visual range would decrease. (Ex. 200, p. 4.1-17.)

The SDAB is currently designated as unclassified for visibility reducing particles. (Ex. 200, p. 4.1-17.)

4. Summary

Based upon the undisputed evidence discussed above, we accept the Staff Recommended Background Concentrations listed in **AIR QUALITY Table 8**, below as representing an acceptable level of background concentrations for use in the Air Quality Impacts Analysis.

AIR QUALITY Table 8
Staff Recommended Background Concentrations (µg/m^3)

Pollutant	Averaging Time	Recommended Background	Limiting Standard	Percent of Standard
NO_2	1 hour	143.1	339	42%
	Annual	32.3	57	57%
PM10	24 hour	57	50	114%
	Annual	24.2	20	121%
PM2.5	24 hour	37.7	35	108%
	Annual	12	12	100%
CO	1 hour	6,785	23,000	30%
	8 hour	4,011	10,000	40%
SO_2	1 hour	94.3	655	14%
	3 hour [a]	84.9	1,300	7%
	24 hour	23.6	105	23%
	Annual	10.7	80	13%

(Ex. 200, p. 4.1-18.)

For accuracy, the recommended background concentrations should come from nearby monitoring stations with similar characteristics, however no monitoring stations in similar rural areas are located near the project site. Monitoring stations located within larger urban areas (Escondido E Valley Parkway and San Diego) provide conservative estimates for background concentrations. For all pollutants, except for SO_2, the highest monitored values from the Escondido E Valley Parkway monitoring station were used to determine the background concentrations. For SO_2, the monitored concentrations from the 1110 Beardsley Street monitoring station in San Diego were used to determine the background concentrations. (Ex. 200, p. 4.1-18.)

The background concentrations for PM10 and PM2.5 are at or above the most restrictive existing ambient air quality standards, while the background concentrations for the other pollutants are all well below the most restrictive existing ambient air quality standards. (Ex. 200, p. 4.1-18.)

The pollutant modeling analysis was limited to the pollutants listed above in **Air Quality Table 10**; therefore, recommended background concentrations were not determined for the other criteria pollutants (ozone, lead, visibility, etc.). (Ex. 200, p. 4.1-18.)

5. Impacts Analysis

The Applicant has proposed to develop, build, own, and operate a 96 MW simple cycle power station. This project is being developed in response to a San Diego Gas & Energy (SDG&E) Request for Offers for new generating capacity to support reliability. The station would be on an 8.5-acre site in a rural area of northern San Diego County, California. The site is located on disturbed lands formerly used as a citrus grove, but the grove has not been maintained in at least 5 years. The existing SDG&E Pala substation is located on a continuous SDG&E parcel south of the site. (Ex. 200, p. 4.1-19.)

Orange Grove Energy would be responsible for construction of the power plant, the electric transmission line interconnection between the power plant and the substation boundary, and the gas pipeline from a tie-in at an existing SDG&E gas transmission main to the plant. Orange Grove Energy would operate the plant, which would employ up to 9 full-time onsite Staff. Natural gas fuel would be supplied by SDG&E, and electric power generated would be supplied to SDG&E under a tolling agreement. (Ex. 200, p. 4.1-19.)

The project is designed as a peaking facility to supply electric power locally, primarily during times of high demand, which generally occur during daylight hours, and most frequently during the summer months. While being permitted for a total of 6,400 turbine hours of operation with 500 total starts annually, the facility is actually expected to operate less than 2,000 turbine hours to meet the peaking electricity demand. Additionally the plant would be limited to 6 total starts for both turbines each day. (Ex. 200, p. 4.1-19.)

a. Construction Impacts

Construction of the Orange Grove project would consist of the following: 1) clearing of agricultural vegetation; grading; hauling and laydown of equipment,

materials, and supplies; facility construction; and testing; 2) the electric transmission line interconnection to the Pala substation; and 3) gas pipe line construction. The construction period is expected to last approximately 6 months beginning in April 2009. (Ex. 200, p. 4.1-19.)

Combustion emissions during the construction of the project result from exhaust sources, including but not limited to diesel construction equipment used for site preparation, water trucks used to control dust emissions, cranes, diesel-powered welding machines, electric generators, air compressors, water pumps, diesel trucks used for deliveries, and automobiles used by workers to commute to and from the construction site. (Ex. 200, p. 4.1-19.)

Emissions of fugitive particulate matter (PM10 and PM2.5) result from grading and excavating disturbed areas, earthmoving operations and unpaved roadway during Site and pipeline construction. In addition to the pipeline construction, minor improvements would be made by Orange Grove Energy to the fresh and reclaim water supply pickup stations. Since the minimal improvements at the water pickup stations are minor and remote from the project site, they are not expected to result in significant air emissions. (Ex. 200, p. 4.1-19.)

The Applicant's and Staff's estimates for the total emissions during construction, including onsite and offsite emissions are summarized in **AIR QUALITY Table 9**. (Ex. 200, p. 4.1-20.)

AIR QUALITY Table 9
Summary of Total Construction Emissions, tons

Activity	NO_x	CO	VOC	SO_x	PM10	PM2.5
Onsite						
Site Preparation/Grading	1.14	0.55	0.14	0.001	0.06	0.05
Main Site Construction	2.02	1.16	0.55	0.003	0.15	0.14
Fugitive Dust	---	---	---	---	0.25	0.06
Offsite						
Gas Line Construction	0.58	0.36	0.13	0.001	0.05	0.04
Worker and Delivery Trucks	0.49	2.89	0.31	0.000	0.04	0.03
Paved Road Fugitive Dust	---	---	---	---	0.27	0.05
Total Emissions	4.23	4.96	1.13	0.005	0.80	0.37

(Ex. 200, p. 4.1-20.)

The onsite emissions shown above were used for modeling the annual construction emission air quality impacts. (Ex. 200, p. 4.1-20.)

b. Construction Mitigation

We agree with Staff's recommendation that construction emission impacts be mitigated to the greatest feasible extent including all required measures from the District's rules and regulations, as well as other measures considered necessary by Staff to fully mitigate the construction emissions. The District is currently in the process of creating a fugitive dust control rule (Rule 55) patterned on the recently promulgated Ventura County Air Pollution Control District fugitive rule, which may be approved and in force prior to the project starting or completing construction activities. However, the District has indicated that the Energy Commission Conditions, as reviewed from other similar projects, would require control measures that would be as strict as or stricter than the anticipated requirements of District Rule 55. (Ex. 200, p. 4.1-30.)

We adopt the construction mitigation measures set forth in Conditions of Certification **AQ-SC1** through **AQ-SC5** to assure maximum feasible fugitive dust control performance, PM10 and NO_x emission mitigation, construction equipment exhaust emissions control, and compliance enforcement mechanisms.

Condition **AQ-SC1** requires the Applicant to have an on-site Construction Mitigation Manager who will be responsible for the implementation and compliance of the construction mitigation program. The documentation of the ongoing implementation and compliance with the construction mitigation program would be provided in the monthly construction compliance report that is required in Condition of Certification **AQ-SC2**. (Ex. 200, p. 4.1-31.)

Condition of Certification **AQ-SC3** includes the following fugitive dust control measures:

- All unpaved roads and disturbed areas in the project and laydown construction sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of **AQ-SC4**. The frequency of watering may be reduced or eliminated during periods of precipitation.

- No vehicle shall exceed 10 miles per hour on unpaved areas within the project and laydown construction sites.

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

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

- Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.
- All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.
- 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.
- Construction areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent runoff to roadways.
- All paved roads within the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.
- During any construction periods where Pala Del Norte Road is routinely used for vehicles existing the construction site, Pala Del Norte Road between the site exit and SR 76 shall be swept visually clean, using wet sweepers or air filtered dry vacuum sweepers, at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when dirt from the construction site is visible on the road. Until the south project driveway is surfaced with crushed rock and the driveway concrete access apron has been constructed pursuant to design drawings C150 and C802 in Appendix 2-A of the Application for Certification, during any construction periods where the south project driveway is routinely used for vehicles exiting the construction site, the westbound lane of SR 76 between the south project driveway and Pala Del Norte Road shall be swept visually clean, using wet sweepers or air filtered dry vacuum sweepers, at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when dirt from the construction site is visible on the road. CEC will waive this requirement for sweeping of SR 76 if Caltrans will not allow the Applicant to operate sweeping equipment on the highway (e.g., due to safety concerns). Shaker plates to reduce track out will be added to the exit from the site to State Route 76 and, if needed, on the exit to Pala Del Norte Road.
- All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or shall be treated with appropriate dust suppressant compounds.
- All vehicles that are used to transport solid bulk material on public roadways and that have the 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 two feet of freeboard.

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

(Ex. 200, pp. 4.1-54 to 4.1-55.)

Condition of Certification **AQ-SC4** limits the potential off-site impacts from visible dust emissions and provides a mechanism to respond to situations when the control measures required by **AQ-SC3** are not working effectively to control fugitive dust emissions. (Ex. 200, pp. 4.1-55 to 4.1-56.)

Condition of Certification **AQ-SC5** mitigates the NO_x and PM emissions from the large diesel-fueled construction equipment. This Condition requires the use of U.S. EPA/ARB Tier 2 engine compliant equipment for equipment over 100 horsepower where available and a good faith effort to find and use available U.S. EPA/ARB Tier 3 engine compliant equipment over 100 horsepower. The Condition also includes equipment idle time restrictions and engine maintenance provisions. The Tier 2 standards include engine emission standards for NO_x plus non-methane hydrocarbons, CO, and PM emissions, while the Tier 3 standards further reduce the NO_x plus non-methane hydrocarbons emissions. The Tier 2 and Tier 3 standards became effective for engine/equipment model years 2001 to 2003 and models years 2006 to 2007, respectively, for engines between 100 and 750 horsepower. (Ex. 200, pp. 4.1-31 to 4.1-32.)

Based on the relatively short-term nature of the worst-case construction impacts, with the implementation of the mitigation measures contained in the Conditions of Certification we find that the construction air quality impacts will be less than significant.

c. Initial Commissioning Impacts

The initial commissioning of a power plant refers to the time between the completion of construction and the reliable production of electricity for sale on the market.

Commissioning activities would occur from 7 am to 7 pm only. Commissioning activities for the project CTGs are expected to last approximately 60 hours for each turbine. However, to account for potentially longer testing requirements, 200 hours of commissioning for each turbine would be provisioned in the permit. Commissioning would consist of the following test periods.

1. First fire of the unit, where each unit is operated on fuel at speeds ranging from minimum idle to full speed. One 12-hour day per unit.
2. Synchronization, where the unit is tied to the grid and operated at low load. Two 12-hour days per unit.
3. Low-load to full-load with water injection but without SCR in operation. One six-hour day per unit.
4. Low load to full-load with water injection and SCR in operation. One six-hour day per unit.
5. Power augmentation equipment (SPRINT and inlet chilling systems) are commissioned and tuned. One 12-hour day per unit. (Ex. 200, pp. 4.1-20 to 4.1-21.)

Both turbines may not be fired simultaneously in turbine commissioning mode. This would minimize the maximum short term emissions potential during initial commissioning. **Air Quality Table 10** presents the Applicant's estimated short-term emissions for each of the commissioning activities. (Ex. 200, p. 4.1-21.)

While the maximum expected short-term emission rates are shown above, the absolute peak short-term emission rate for NO_x and CO modeled was higher than the values listed above at 50 lbs/hour and 43.9 lbs/hour, respectively. The commissioning 1-hour emission limits are based on these absolute peak values. (Ex. 200, p. 4.1-21.)

The Applicant presented several initial commissioning activities that would occur prior to meeting normal emission limits. The worst case conditions for the short-term NO_x and CO impacts are one turbine operating at maximum commissioning emissions and the other turbine operating in any mode (normal, startup,

AIR QUALITY Table 10
Summary of Maximum Short-Term Commissioning Emissions, lbs/hr

Commissioning Activity	Hours per Turbine		Emission Rate (lbs/hr)				
	Planned	Permitted	NO_x	CO	VOC	SO_x	PM10/PM2.5
First Fire	12	40	30.10	5.44	0.36	0.29	1.20
Synchronization	24	80	30.10	5.44	0.36	0.29	1.20
Low Load to Full Load, no SCR	6	20	20.61	12.56	0.58	0.48	1.66
Low Load to Full Load, SCR	6	20	2.06	4.40	0.58	0.48	1.66
Full Load with Sprint	12	40	4.35	15.37	1.21	1.00	3.00

(Ex. 200, p. 4.1-21.)

startup/shutdown), which were determined and modeled. The initial commissioning activities are limited to only one unit at a time operating without fully functioning emission controls. Using the AERMOD model for the commissioning impact analysis, a total of 35 cases of turbine operating conditions were evaluated to determine the worst-case emissions as shown in **Air Quality Table 11** below**.** (Ex. 200, p. 4.1-33.)

AIR QUALITY Table 11
Orange Grove Project Maximum Short-Term Initial Commissioning Impacts, (µg/m^3)

Pollutant	Averaging Period	Project Impact (µg/m^3)	Background (µg/m^3) [a]	Total Impact (µg/m^3)	Limiting Standard (µg/m^3)	Type of Standard	Percent of Standard
NO_2 [b]	1 hour	73.0	143.1	216	339	CAAQS	64%
CO	1 hour	141.2	6,785	6,926	23,000	CAAQS	30%
	8 hour	25.5	4,152	4,178	10,000	CAAQS	42%

(Ex. 200, p. 4.1-34.)

We find that these modeling results indicate that no significant short-term impacts would occur during initial commissioning.

The project's gaseous emissions of NO_x, SO_2, VOC, and ammonia can contribute to the formation of secondary pollutants: ozone and PM10/PM2.5. Because of the known relationship of NO_x and VOC emissions to ozone formation, it can be said that the emissions of NO_x and VOC from the Orange Grove Project do have the potential (if left unmitigated) to contribute to higher ozone levels in the region. These impacts would be cumulatively significant because they would contribute to ongoing violations of the state and federal ozone ambient air quality standards. (Ex. 200, p. 4.1-34.)

Likewise, due to the known relationship of NO_x and SO_x emissions to PM2.5 formation, it can be said that the emissions of NO_x and SO_x from the Orange Grove Project also have the potential (if left unmitigated) to contribute to higher PM2.5 levels in the region. (Ex. 200, p. 4.1-35.)

The Applicant is proposing to mitigate the project's NO_x, VOC, SO_2, and PM10 emissions through the use of BACT and emission reduction strategies and limit the ammonia slip emissions to 5 ppm. The Applicant proposes to provide total NO_x, VOC, SO_2, and PM10 reductions at a minimum 1:1 ratio, and the ammonia slip concentration level matches the lowest level proposed in California for a peaking power project. With the proposed emission offsets and ammonia slip limit, the evidence demonstrates that the project would not cause significant secondary pollutant impacts. (Ex. 200, p. 4.1-35.)

d. Operational Phase Impacts

1. Equipment Description

The stationary sources of emissions for the proposed Orange Grove Project are two General Electric LM6000 PC SPRINT combustion turbine generators (CTGs) with SPRINT Power Boost System, each rated at approximately 50 MW of electricity from each CTG, or 100 MW total. The CTGs would each be equipped with water injection to the combustors for reducing production of NO_x, a selective catalytic reduction (SCR system with 19 percent aqueous ammonia injection to further reduce NO_x emissions), and an oxidation catalyst to reduce CO emissions. The project will utilize inlet air filters, a cooling tower consisting of three Baltimore Aircoil Company Model 31132C cells equipped with drift eliminators and a Black start engine [Cummins Model GTA38-G2 or equivalent natural gas fired engine producing 965 brake horsepower (bhp)]. Other equipment for the proposed Orange Grove Project include a fire pump engine (either a Cummins Model CFP11E-F10 or equivalent diesel fired engine

producing 373 bhp); two exhaust stacks from the two CTGs (diameter of 12.5-feet and height of 80-feet); two Emissions Control Module systems for control of NO_x and CO including tempering air fans and dilution air blowers; a continuous emission monitoring (CEM) system installed on each stack to record concentrations of NO_x, CO, CO_2, and oxygen in the flue gas; a 535,000 gallon raw water storage tank; a 100,000 gallon demineralized water storage tank; and a 10,000 gallon aqueous ammonia tank. (Ex. 200, p. 4.1-22.)

Orange Grove Energy will purchase new single-trailer semi trucks for hauling the operations water supply to the site. The trucks would be fueled with ultra low-sulfur diesel fuel and would have a capacity of approximately 6,500 gallons. Water hauling will be limited to one truck per hour for fresh water and one truck per hour for recycled water when the plant is operating. Based on expected use of the plant, water hauling is expected to typically occur about 60 days per year. The plant will run the most during summer months and onsite storage would provide substantial storage capacity for peak operating days. (Ex. 200, pp. 4.1-22 to 4.1-23.)

2. Facility Operation

The Orange Grove plant is proposed to provide up to 6,400 hours (3,200 per turbine) of annual operation to SDG&E. The facility is capable of operating continually (24 hours per day, seven days per week) if needed to support the electric system but it is not anticipated to be dispatched at this level. The actual hours that the plant would run annually for each mode of operation should be less than 2,000 turbine hours to meet the peaking electricity demand. (Ex. 200, p. 4.1-23.)

In reliance upon a review of the *Quarterly Fuel and Energy Report* data, SDAPCD data, and *2007 Integrated Energy Policy Report* scenario forecast data for simple cycle peaking plants in SDG&E service territory, the parties have stipulated that the Orange Grove Project is likely that this facility would operate on average at a 13.7 percent annual capacity factor, or 1,200 hours of operation. The historical capacity factors, for peaker power plants built after the year 2000, show generation or hour-based capacity factors that have not exceeded 8.4 percent for any single facility. The historical capacity factor data reviewed is provided in **Air Quality Table 12** below. (Ex. 200, pp. 4.1-37 to 4.1-38.)

Air Quality Table 12
Historical Capacity Factors for Comparable SDG&E Service Area Peaker Facilities

	QFER Generation Based Capacity Factor					
Facility Name	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Calpeak Border	7.77%	2.71%	2.28%	1.86%	1.43%	8.39%
Calpeak Enterprise	7.53%	2.18%	2.35%	1.55%	1.24%	5.76%
Larkspur	1.18%	4.01%	4.74%	3.85%	2.89%	6.00%
	SDAPCD Hours of Operation Capacity Factor					
Facility Name	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Calpeak Border	---	---	---	2.29%	1.72%	---
Calpeak Enterprise	---	---	---	1.91%	1.49%	---
Calpeak El Cajon	---	---	---	2.64%	2.26%	---
Miramar Energy Facility	---	---	---	1.69%	1.84%	---
Larkspur	---	---	---	4.41%	3.51%	---

The most comparable facility to the Orange Grove Project is Larkspur as it is also comprised of two LM6000 gas turbines. (Ex. 200, p. 4.1-38.)

3. Emission Controls

The Orange Grove Project proposes to employ water injection, SCR with ammonia injection, and CO catalyst and operate exclusively on pipeline-quality natural gas to limit turbine emission levels. The parties have submitted the following BACT emission limits, each for the two CTGs:

- **NO_x**: 2.5 ppmvd at 15% O_2 (one-hour average, excluding startup/shutdown) and 4.30 lb/hr
- **CO**: 6.0 ppmvd at 15% O_2 (three-hour rolling average, excluding startup/shutdown) and 6.12 lb/hr
- **VOC**: 2.0 ppmvd at 15% O_2 (one-hour rolling average, excluding startup/shutdown) and 1.25 lb/hr
- **PM10**: 3.0 lb/hr

- **SO_2**: 1.0 lb/hr with fuel sulfur content of 0.75 grains/100 standard cubic feet (scf)

- **NH_3**: 5 ppmvd at 15% O_2 and 3.01lb/hr (Ex. 200, p. 4.1-36.)

For the chiller cooling tower a mist eliminator with 0.001 percent control efficiency is proposed.

For the emergency fire pump engine a diesel engine meeting U.S.EPA/ARB Tier 2 Nonroad Diesel Engine Emission Standards is proposed. For the black-start engine a rich-burn natural gas engine is proposed. The proposed emission guarantees for the two emergency engines are as contained in **Air Quality Table 13** as follows:

Air Quality Table 13
Proposed Emergency Engine Emission Rates

Pollutant	Fire Pump Engine		Black-Start Engine	
	g/bhp	Lb/test[b]	g/bhp	Lb/test[b]
NO_x	3.84	1.58	1.50	1.39
CO	0.746	0.31	2.00	1.85
VOC	0.0007	0.0003	0.33	031
PM10/PM2.5	0.091	0.04	0.010[c]	0.04

(Ex. 200, p. 4.1-36.)

4. Emission Offsets

District Rule 20 requires offsets when NO_x or VOC emissions exceed 50 tons per year. The emissions from this project would be permitted at levels well below the District offset threshold.

Energy Commission staff has long held that emission reductions need to be provided for all nonattainment pollutants and their precursors at a minimum 1:1 ratio of annual operating emissions. For this project, the District's regulations would not require any offset mitigation. The Applicant has agreed to funding emission reductions through the Carl Moyer Fund or a similar mechanism. The parties' proposal includes a determination of the new project emissions based on the new facility's potential to emit given a maximum expected operations of 1,200 operating hours per year that includes 200 startup and shutdown events. The parties' offset proposal is as follows:

- Total calculated emission increase of 8.75 tons (total of NO_x, VOC, PM, and SO_x emissions);

- Total calculated emission increase of 12.72 tons (total of NO_x, VOC, PM, and SO_x emissions), which includes the water truck emissions;
- Fund the Carl Moyer program at a rate of $16,000 per ton with a 20 percent additional administration fee.

Using this basis, the total emission reduction funding proposed by the parties is $244,224. (Ex. 200, p. 4.1-37)

We agree with the District's determination that the project's proposed emission controls/emission levels for criteria pollutants and ammonia slip meets BACT requirements and that the proposed emission levels are reduced to the lowest technically feasible levels. Acceptance of this offset package is determined solely based on the merits of this case, consideration of the region's local ambient air quality and expected attainment timelines, the project's expected operation and resulting emission limits, and the specific form of emission reductions proposed and does not in any way provide a precedent or obligation for the acceptance of offset proposals for any other current or future licensing case. We adopt Condition of Certification **AQ-SC6** to formalize the parties' NO_x, PM10, VOC, and SO_x offset proposal. (Ex. 200, p. 4.1-37.)

We also agree that the mitigation fee basis should be tied to ARB's latest Carl Moyer Program Guideline[6] cost effectiveness cap value. The draft ARB 2008 cost effectiveness cap value is $16,000 per ton. Condition of Certification **AQ-SC7** will allow flexibility should the final cost effectiveness cap value change from the draft value. Additionally, Condition of Certification **AQ-SC7** will also allow other public agency administered emission mitigation fee programs or traditional emission reduction credits (ERCs) from the District bank to be used to meet the emission mitigation requirement of the Condition. (Ex. 200, pp. 4.1-37 to 4.1-38.)

We note that the CEQA mitigation basis includes a rather significant safety factor, namely the difference between the project's actual emissions and its proposed maximum emissions. The actual emissions from a LM6000 gas turbine

[6] The ARB Carl Moyer Web page has the following description of the program: "The Carl Moyer Memorial Air Quality Standards Attainment Program provides incentive grants for cleaner-than-required engines, equipment and other sources of pollution providing early or extra emission reductions. Eligible projects include cleaner on-road, off-road, marine, locomotive and stationary agricultural pump engines, as well as forklifts, airport ground support equipment, and auxiliary power units. The program achieves near-term reductions in emissions of oxides of nitrogen (NO_x), particulate matter (PM), and reactive organic gas (ROG) which are necessary for

would be some fraction of the permitted maximum emissions. Some pollutants are emitted near their permitted emission rate, such as NO_x, while others tend to be much lower than their permitted emission rate, such as VOC and CO. **Air Quality Table 14** below provides a comparison of the Orange Grove Project permitted emission rates and an expected actual range of emissions and average normal hourly operating emissions for two LM6000 gas turbines based on a compilation of source test results (from four separate sites with LM6000PC Sprint gas turbines), and the expected safety factor for each pollutant. (Ex. 200, p. 4.1-39.)

AIR QUALITY Table 14
Comparison of Actual and Permitted Emissions for Orange Grove Project and Existing Turbines

	Pollutant lb/hr Normal Operations [a] or % as appropriate			
Emission Source	**NOx**	**VOC**	**CO**	**PM10/2.5**
Orange Grove Project LM6000 Permitted Emissions (both	8.6	2.5	12.2	5.4
Existing LM6000 Two Turbine Actual Emissions Range	NR	0.11-1.8	0.93-4.5	0.72-4.9
Existing LM6000 Two Turbine Actual Emissions Average	NR	0.72	2.5	2.3
Existing LM6000 Source Tests –% of Permit Level	65%	30%	25%	38%
Expected Orange Grove Project Permitted Emissions Safety	15%	70%	75%	50%
Expected Long-Term Orange Grove Project Normal	7.3	0.75	3.1	2.7

(Ex. 200, p. 4.1-39.)

As illustrated in **Air Quality Table 14** above, the evidence shows that the actual emissions from the new LM6000 turbines are expected to be quite a bit lower than the permitted emissions, particularly for CO, VOC, and PM10 emissions, which provides a margin of safety for Staff's proposed mitigation level. (Ex. 200, p. 4.1-39.)

We adopt Condition of Certification **AQ-SC8** to formalize the Applicant's stipulation to buy new water delivery trucks and to ensure that they will be properly maintained to minimize water trucking emissions. (Ex. 200, p. 4.1-52.)

We adopt Condition of Certification **AQ-SC9** which provides the chiller cooling tower mist eliminator performance standard and **AQ-SC10** which requires the

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California to meet its clean air commitments under the State Implementation Plan Program funds."

Applicant to conduct cooling tower water testing. Condition of Certification **AQ-SC11** ensures that the license is amended as necessary to incorporate changes to the air quality permits and ensure ongoing compliance through the requirement of quarterly reports. (Ex. 200, p. 4.1-52.)

5. Cumulative Impacts

Cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or "...compound or increase other environmental impacts." (CEQA Guidelines § 15355.) "A cumulative impact consists of an impact that is created as a result of a combination of the project evaluated in the EIR together with other projects causing related impacts." (CEQA Guidelines § 15130[a][1].) Such impacts may be relatively minor and incremental, yet still be significant because of the existing environmental background, particularly when one considers other closely related past, present, and reasonably foreseeable future projects. (Ex. 200, p. 4.1-40.)

This analysis is primarily concerned with "criteria" air pollutants. Such pollutants have impacts that are usually (though not always) cumulative by nature. Rarely will a project cause a violation of a federal or state criteria pollutant standard. However, a new source of pollution may contribute to violations of criteria pollutant standards because of the existing background sources or foreseeable future projects. Air districts attempt to attain the criteria pollutant standards by adopting attainment plans, which comprise a multi-faceted programmatic approach to such attainment. Depending on the air district, these plans typically include requirements for air offsets and the use of best available control technology for new sources of emissions and restrictions of emissions from existing sources of air pollution. (Ex. 200, p. 4.1-40.)

The SDAPCD is the lead agency for managing air quality and coordinating planning efforts for San Diego County and the San Diego Air Basin, so that the federal 8-hour ozone standard is attained in a timely fashion and attainment with CO standards are maintained. The District is responsible for developing those portions of the State Implementation Plan (SIP) and the Air Quality Management Plan (AQMP), that deal with certain stationary and area source controls and, in cooperation with the transportation planning agencies, the development of transportation control measures. Additionally, the SDAPCD is responsible for providing plans for attaining the California ozone standard and for reducing particulate (PM10 and PM2.5) emissions in compliance with Senate Bill 656 (Sher, Chapter 738, Statutes of 2003). In this role, the SDAPCD is the agency

with principal responsibility for analyzing and addressing cumulative air quality impacts, including the impacts of ambient ozone, particulate matter, and CO. The District has summarized the cumulative impacts of ozone, particulate matter, and CO on the air basin from the broad variety of its sources. (Ex. 200, p. 4.1-41.)

The Carbon Monoxide Maintenance Plan applies to 10 separate areas in California that attained the federal CO standards in the 1990s, including the San Diego area. This plan does not include any further measures or requirements that would specifically relate to the project's direct and indirect emission sources. This plan relies on current motor vehicle programs to ensure that attainment with the federal CO standards are maintained. (Ex. 200, p. 4.1-42.)

The project's construction and operation were not found to cause any new exceedances of the carbon monoxide ambient air quality standards (CO AAQS). The project's generated traffic would be insignificant in comparison with the existing San Diego County traffic, and the project's primary emission sources normally emit CO concentrations out of the stack that are below the federal ambient air quality standards. Therefore, the project would not impact the Carbon Monoxide Maintenance Plan. (Ex. 200, p. 4.1-42.)

Conditions of Certification **AQ-SC3** and **AQ-SC4** require stringent emission control measures for all of the applicable fugitive dust sources that are likely to meet or exceed the District's future fugitive dust control rule. However, **AQ-SC3** requires the project's specific fugitive dust control measures to conform to any future District Rule 55 that may be more stringent than those currently required in Staff's proposed Conditions. (Ex. 200, p. 4.1-43.)

The applicable air quality plans do not outline any new control measures applicable to the proposed project's operating emission sources. Therefore, compliance with existing District rules and regulations will ensure compliance with those air quality plans. (Ex. 200, pp. 4.1-43.)

6. Localized Cumulative Impacts

The Staff and Applicant's review of cumulative sources determined that the Rosemary's Mountain Quarry and Gregory Canyon Landfill projects were proceeding and could potentially operate at the same time as the Orange Grove Project. The modeling assumed worst-case short-term emissions for the Orange Grove Project (cold startup) and the normal operating emissions for the other two projects for the short-term impact modeling and permitted annual average

emissions for the Orange Grove Project and estimated annual emissions for the two other projects for annual impact modeling. The results of the Applicant's cumulative modeling analysis, Orange Grove Project cumulative peak results basis, are provided below in **Air Quality Table 15**. (Ex. 200, p. 4.1-45.)

Air Quality Table 15
Orange Grove Project Based Peak Cumulative Impacts Modeling Results (μg/m^3)

Pollutant	Averaging Period	Project Impact (μg/m^3)	Background (μg/m^3) [a]	Total Impact (μg/m^3)	Limiting Standard (μg/m^3)	Type of Standard	Percent of Standard
NO_2[b]	1 hour	50.0	143.1	193.1	339	CAAQS	57%
	annual	0.19	32.3	32.5	57	CAAQS	57%
PM10[c]	24 hour	1.3	57	58.3	50	CAAQS	117%
	annual	0.12	24.2	24.3	20	CAAQS	122%
PM2.5[c]	24 hour	1.3	37.7	39.0	35	NAAQS	111%
	annual	0.12	12	12.1	12	CAAQS	101%

(Ex. 200, p. 4.1-46.)

AIR QUALITY Table 15 shows that Orange Grove Project, along with the other two modeled facilities, would contribute to existing violations of the PM10 and PM2.5 ambient air quality standards. The overlap between the three projects is very low and does not cause new standards violations. The overlap in NO_x and PM impacts between the projects is provided below in **Air Quality Table 16**. (Ex. 200, p. 4.1-46.)

The Orange Grove Project would mitigate their PM10 and particulate precursor pollutant (NO_x, SO_x, and VOC) emissions through funded emission reductions. These emission reductions would be generated in amounts greater than the expected operating emissions. Therefore, the particulate matter (PM10 and PM2.5) cumulative operating impacts after mitigation are considered to be less than significant. (Ex. 200, p. 4.1-47.)

We find that the proposed emission controls and emission levels, along with the proposed emission offset package, mitigate all project air quality impacts to a level that is less than significant. Further, since the project's direct air quality impacts have been reduced to a less than significant level, we find there is no environmental justice issue for air quality (see **Socioeconomics Figure 1**).

Air Quality Table 16
Cumulate Project Concentration Overlap (µg/m^3)

Pollutant	Project	OGP Peak	RMQ Peak	GCL Peak
NO_x 1-hour	OGP	50.0	0.3	0.0
	GCL	0.0	0.4	106.7
	RMQ	0.0	86.7	0.0
	Total	50.0	78.1 [a]	160.1 [a]
NO_x Annual	OGP	0.143	0.004	0.001
	GCL	0.023	0.026	0.167
	RMQ	0.026	0.361	0.018
	Total	0.192	0.391	0.186
PM 24-hour	OGP	1.22	0.00	0.00
	GCL	0.01	0.19	4.62
	RMQ	0.02	4.85	0.14
	Total	1.25	5.04	4.76
PM Annual	OGP	0.079	0.002	0.001
	GCL	0.020	0.080	0.335
	RMQ	0.017	0.232	0.015
	Total	0.116	0.315	0.351

(Ex. 200, p. 4.1-46.)

7. Greenhouse Gas Emissions

a. Global climate change and electricity production

There is general scientific consensus that climate change is occurring and that human activity contributes to that change. Man-made emissions of greenhouse gases, if not sufficiently curtailed, are likely to contribute further to continued increases in global temperatures. Indeed, the California Legislature finds that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California" (Cal. Health & Saf. Code, § 38500, Div. 25.5, pt. 1). (Ex. 200 p. 4.1-92.)

In 1998, the Energy Commission identified a range of strategies to prepare for an uncertain climate future, including a need to account for the environmental impacts associated with energy production, planning, and procurement. In 2003,

the Energy Commission recommended that the state require reporting of greenhouse gases (GHG) or global climate change[7] emissions as a condition of state licensing of new electric generating facilities. (Ex. 200 p. 4.1-92.)

In 2006, California enacted the California Global Warming Solutions Act of 2006 (AB 32). It requires the California Air Resources Board (ARB) to adopt standards that will reduce statewide GHG emissions to statewide GHG emissions levels in 1990, with such reductions to be achieved by 2020. To achieve this, ARB has a mandate to define the 1990 emissions level and achieve the maximum technologically feasible and cost-effective GHG emission reductions. (Ex. 200 p. 4.1-92.)

The ARB adopted early action GHG reduction measures in October 2007, adopted mandatory reporting requirements and the 2020 statewide target in December 2007, and plans to establish statewide emissions caps by economic sectors in 2008. By January 1, 2009, ARB will adopt a scoping plan that will identify how emission reductions will be achieved from significant sources of GHG via regulations, market mechanisms, and other actions. ARB staff will then draft regulatory language to implement its plan and will hold additional public workshops on each measure, including market mechanisms (ARB 2006). The regulations must be effective by January 1, 2011 and mandatory compliance commences on January 1, 2012. (Ex. 200 pp. 4.1-92 to 4.1-93.)

It is possible that GHG reductions mandated by ARB will be non-uniform or disproportional across emitting sectors, in that most reductions will be based on cost-effectiveness (i.e., the greatest effect for the least cost). For example, the ARB proposes a 40 percent reduction in GHG from the electricity sector, even though that sector currently only produces 25 percent of the state GHG emissions. In response, in September 2008 the Energy Commission and the Public Utilities Commission provided recommendations to ARB on how to achieve such reductions through both programmatic and regulatory approaches, and identified regulation points should ARB decide that a multi-sector cap and trade system is warranted. (Ex. 200, p. 4.1-93.)

The Energy Commission's *2007 Integrated Energy Policy Report* (IEPR) also addresses climate change within the electricity, natural gas, and transportation

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[7] Global climate change is the result of greenhouse gases, or emissions with global warming potentials, affecting the energy balance, and thereby, climate of the planet. The term greenhouse gases (GHG) and global climate change (GCC) gases are used interchangeably.

sectors. For the electricity sector, it recommends such approaches as pursuing all cost-effective energy efficiency measures and meeting the Governor's stated goal of a 33 percent renewable portfolio standard. (Ex. 200, p. 4.1-93.)

SB 1368 (codified in Pub. Util. Code § 8340 et seq.), enacted in 2006, and regulations adopted by the Energy Commission and the Public Utilities Commission pursuant to the bill, prohibits California utilities from entering into long-term commitments with any baseload facilities that exceed the Emission Performance Standard of 0.500 metric tonnes CO_2 per megawatt-hour (1,100 pounds CO_2/MWh). Baseload is defined as units which operate at a capacity factor higher than 60 percent of the year. As a project with a permit operating restriction of less than 60 percent of the year, the Orange Grove Project is not required to comply with the SB 1368 Emission Performance Standard. (Ex. 200, p. 4.1-93.)

b. Project Greenhouse Gas Emissions

The generation of electricity using fossil fuels can produce air emissions known as greenhouse gases (GHG) in addition to the "criteria air pollutants" that have been traditionally regulated under the federal and state Clean Air Acts. Greenhouse gas emissions contribute to the warming of the earth's atmosphere, leading to climate change. For fossil fuel-fired power plants, these include primarily carbon dioxide (CO_2), with much smaller amounts of nitrous oxide (N_2O, not NO, or NO_2, which are commonly known as NO_x or oxides of nitrogen), and methane (CH_4 - unburned natural gas). Also included are sulfur hexafluoride (SF_6) from high voltage equipment, and hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) from refrigeration/chiller equipment. GHG emissions from the electricity sector are dominated by CO_2 emissions from the carbon-based fuels; other sources of GHG emissions are small and also are more likely to be easily controlled or reused/recycled, but are nevertheless documented here as some of the compounds have very large relative global warming potentials. (Ex. 200, p. 4.1-94.)

c. Construction

Construction of industrial facilities such as power plants requires coordination of numerous equipment and personnel. The concentrated on-site activities result in short-term, unavoidable increases in vehicle and equipment emissions that include greenhouse gases. **Air Quality Table 17** shows what the proposed project, as permitted, could potentially emit in greenhouse gases during

construction. All emissions are converted to CO_2-equivalent and totaled. (Ex. 200, p. 4.1-94.)

Air Quality Table 17
Orange Grove Project Estimated Potential Construction Greenhouse Gas Emissions

Construction Element	CO_2-equivalent (metric tonnes)
Site Grading and Preparation	165
Main Site Construction – Civil, Mechanical, Electrical	504
Gas Line Construction	134
Construction Total	803

(Ex. 200, p. 4.1-94.)

The evidence indicates small GHG emission increases from construction activities would be insignificant for several reasons. First, the period of construction will be short-term and the emissions intermittent during that period. Additionally, Condition of Certification **AQ-SC5** which limits idling times and requires equipment that meet the latest emissions standards would further minimize greenhouse gas emissions.

d. Operations

The proposed Orange Grove Project is a peaking power facility that would be limited to an equivalent of 3,200 hours of full load operation. The two General Electric LM6000 gas turbines are fired with natural gas. There will also be a small amount of GHG emissions from the diesel-fueled fire pump and natural gas-fueled black start generator-engines and HFCs emissions from chiller cooling fluid leaks; however, no new sulfur hexafluoride containing equipment has been proposed for the project. The employee and water delivery traffic GHG emissions are also included in the operating emission GHG totals, although they are negligible in comparison to the gas turbine GHG emissions. (Ex. 200, pp. 4.1-94 to 4.1-95.)

Air Quality Table 18 below shows what the proposed project, if permitted, could potentially emit in greenhouse gases on an annual basis. All emissions are converted to CO_2-equivalent and totaled. Electricity generation GHG emissions are dominated by CO_2 emissions from the carbon-based fuels; other sources of GHG are small and also are more likely to be easily controlled or reused/recycled, but are nevertheless documented here as some of the

compounds have very large relative global warming potentials. (Ex. 200, p. 4.1-95.)

AIR QUALITY Table 18
OGP, Estimated Potential Operating Greenhouse Gas Emissions – Permit Basis

	Project Emissions (metric tonnes per year)	Global Warming Potential	CO_2-equivalent (metric tonnes per year)
Carbon Dioxide (CO_2)	161,744	1	161,744
Methane (CH_4)	2.8	21	58
Nitrous Oxide (N_2O)	0.3	310	95
Hexafluoride (SF_6)	0	23,900	0
Hydrofluorocarbons (HFCs)	0.003	1,300	4
Perfluorocarbons (PFCs)	0	7,850	0
Total Project GHG emissions – mt CO_2–equivalent per year			161,901
Total Project MWh per year (net)			307,264
Project CO_2 Emissions Performance - mt CO_2/MWh			0.526
Project GHG Emissions Performance - mt CO_2-equivalent/MWh			0.527

(Ex. 200, p. 4.1-95.)

The proposed project would be permitted, on an annual basis, to emit over 160,000 metric tonnes of CO_2-equivalent per year if operated at its maximum permitted level, but this is extremely unlikely as shown by comparing actual capacity factors from other comparable San Diego County peaker facilities. (See **Air Quality Table 12.**) (Ex. 200, p. 4.1-95.)

The expected maximum annual GHG criteria emissions are well below the permitted maximum value shown in **Air Quality Table 18**, which would occur if the project were to operate at maximum permitted levels. The maximum annual GHG emissions based on a 13.7 percent capacity factor, used for criteria pollutant mitigation, would be approximately 60,000 metric tons of CO_2-equivalent per year; and the maximum expected long term emissions would be less than 22,000 metric tonnes of CO_2-equivalent per year (assuming a five percent project life capacity factor). (Ex. 200, pp. 4.1-95 to 4.1-96.)

Since the project's permit limits operation to less than a 60 percent annual capacity factor, it does not need to meet the EPS of 0.500 mt CO_2/MWh. (Ex. 200, p. 4.1-96.)

Although we can identify how many gross GHG emissions are attributable to a project, it is difficult to determine whether this will result in a net increase of these emissions, and, if so, by how much. It would, thus, be speculative to conclude that any given project results in a cumulatively significant adverse impact resulting from greenhouse gas emissions. (Ex. 200, p. 4.1-98.)

Ultimately, ARB's AB 32 regulations will address both the degree of electricity generation emissions reductions, and the method by which those reductions will be achieved, through the programmatic approach currently under its development. That regulatory approach will presumably address emissions not only from the newer, more efficient, and lower emitting facilities licensed by the Commission, but also the older, higher-emitting facilities not subject to any GHG reduction standard that this agency could impose. This programmatic approach is likely to be more effective in reducing GHG emissions overall from the electricity sector rather than attempting to do so on an ad hoc or plant-by-plant basis. (Ex. 200, p. 4.1-99.)

As ARB codifies accurate GHG inventories and methods, it may become apparent that relative contributions to the inventories may not correlate to relative ease and cost-effectiveness of the GHG emission reductions necessary to achieve the 1990 GHG level. Though it has not yet been determined, the electricity sector may have to provide less or more GHG reductions than it would have otherwise been responsible for on a pro-rata basis. (Ex. 200, p. 4.1-99.)

To facilitate ARB's future regulatory regime, we adopt Condition of Certification **GHG-1**, which requires the project owner to report the quantities of relevant GHGs emitted as a result of electric power production until AB 32 is implemented and its reporting requirements are in force. We find that **GHG-1**, with the reporting of GHG emissions, will enable the project to be consistent with the policies described above and the regulations that ARB adopts, and provide the information to demonstrate compliance with the EPS. The GHG emissions to be reported in **GHG-1**, are carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, HFCs and PFCs emissions that are directly associated with the production and transmission of electric power. (Ex. 200, p. 4.1-99.)

This project alone will not be sufficient to change global climate, but will emit greenhouse gases and therefore has been analyzed as a potential cumulative impact in the context of existing GHG regulatory requirements and GHG energy policies. (Ex. 200, p. 4.1-99.)

The project will be subject to compliance with AB 32 requirements once they are determined by ARB. How the project will comply with these ARB requirements is speculative at this time but compliance will be mandatory. The **GHG** emissions reporting requirement under **GHG-1** does not imply that the project, as defined, will comply with the potential reporting and reduction regulations being formulated under AB 32. The project may have to provide additional reports and GHG reductions, depending on the reporting requirements of the new regulations expected from ARB. (Ex. 200, p. 4.1-100.)

Since the Orange Grove Project would be permitted for less than a 60 percent annual capacity factor, and would be considered a peaking facility, it is not subject to the requirements of SB 1368 and the Emission Performance Standard. (Ex. 200, p. 4.1-100.)

8. Compliance with LORS

The SDAPCD issued a Preliminary Determination of Compliance (PDOC) for the Orange Grove Project on October 8, 2008 and a Final Determination of Compliance (FDOC) on December 4, 2008. (Ex 60.) Compliance with all District rules and regulations was demonstrated to the District's satisfaction in the FDOC. The District's FDOC conditions are presented in the Conditions of Certification **AQ-1** to **AQ-84**. (Ex. 200, p. 4.1-47.)

a. Federal

The District is responsible for issuing the federal New Source Review (NSR) permit but has not yet been delegated enforcement of the applicable New Source Performance Standard (Subpart KKKK). This project would not require a PSD permit from U.S. EPA prior to initiating construction. (Ex. 200, p. 4.1-47.)

b. State

The Applicant would demonstrate that the project would comply with Section 41700 of the California State Health and Safety Code, which restricts emissions that would cause nuisance or injury, with the issuance of the District's Final Determination of Compliance and the Energy Commission's affirmative finding for the project. (Ex. 200, p. 4.1-47.)

The fire pump engine is also subject to the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines. This measure limits the types of fuels allowed, established maximum emission rates, establishes recordkeeping requirements. The proposed Tier 2 engine meets the emission limit requirements of this rule. This measure would also limit the engine's testing and maintenance operation to 50 hours per year. (Ex. 200, pp. 4.1-47 to 4.1-48.)

c. Local

The District rules and regulations specify the emissions control and offset requirements for new sources such as the OGP. Best Available Control Technology would be implemented, and emission reduction credits (ERCs) are not required by District rules and regulations based on the permitted emission levels for this project. Compliance with the District's new source requirements would ensure that the project would be consistent with the strategies and future emissions anticipated under the District's air quality attainment and maintenance plans. (Ex. 200, p. 4.1-48.)

The Applicant provided an air quality permit application to the SDAPCD in 2007 when the siting case was in the Small Power Plant Exemption process. They provided additional information to the District when they filed the AFC in June 2008. The District issued a PDOC on October 8, 2008 and an FDOC on December 4, 2008. (Ex. 60.) The District responded to Staff comments on the PDOC in the FDOC. The FDOC states that the proposed project is expected to comply with all applicable District rules and regulations. The FDOC evaluates whether and under what conditions the proposed project would comply with the District's applicable rules and regulations, as described below. (Ex. 200, p. 4.1-48.)

<u>REGULATION II – PERMITS</u>

***Rule 20.1 and 20.2* – New Source Review**

Rules 20.1 and 20.3 generically apply to all sources subject to permitting under the nonattainment NSR and PSD programs. All portions of Rule 20.1 apply. This includes definitions and instructions for calculating emissions. Applicable components of Rule 20.2 are described below. Rule 20.3, which includes the requirements for offsets are only applicable to major stationary sources. The District has determined that this is not a major stationary source as defined in Rule 20.1; so Rule 20.3, including offset requirements, does not apply to the OGP. (Ex. 200, p. 4.1-48.)

***Rule 20.2(d)(1)* – Best Available Control Technology/Lowest Achievable Emission Rate**

This subsection of the rule requires that BACT be installed on a pollutant specific basis if emissions exceed 10 lbs/day for each criteria pollutant (except for CO, for which the PSD BACT threshold is 100 tons per year). This subsection also requires that Lowest Achievable Emission Rate (LAER) be installed on a pollutant specific basis if the emissions exceed 50 tons per year for NO_x (oxides of nitrogen) or VOC emissions. Because the District attains the National Ambient Air Quality Standards for CO, SO_2, and PM10, LAER does not apply to these particular pollutants (Dist. Rule 20.3[d][1][v].). The OGP NO_x and VOC emissions are below the trigger for LAER. BACT is required for NO_x, VOC, PM10, and SO_x. In the FDOC, the District has determined that the proposed SCR and oxidation catalyst emission controls are BACT for gas turbines. The other emissions sources (emergency engines and cooling tower) do not trigger BACT. (Ex. 200, p. 4.1-48.)

***Rule 20.2(d)(2)* – Air Quality Impact Analysis**

This portion of the rule requires that an Air Quality Impact Analysis (AQIA) be performed for air contaminants that exceed the trigger levels published in Table 20.3-1 of the District's rules and regulations. For an AQIA of PM10, the rules require that direct emissions and emissions of PM10 precursors be included in the analysis. The OGP has prepared an AQIA for NO_x, CO, and PM10 that was evaluated by District staff as part of the FDOC analysis. (Ex. 200, p. 4.1-49.)

***Rule 20.2(d)(4)* – Public Notice and Comment**

This portion of the rule requires the District to publish a notice of the proposed action in at least one newspaper of general circulation in San Diego County. The District must allow at least 30 days for public comment and consider all comments submitted. The District must also make all information regarding the evaluation available for public inspection. The official public notice and comment period for the OGP started after newspaper notice publication on October 9, 2008, and ended on November 7, 2008. (Ex. 200, p. 4.1-49.)

***Rule 20.5* – Power Plants**

This rule requires that the District prepare a decision of Preliminary and Final Determinations of Compliance (PDOC and FDOC), which shall confer the same

rights and privileges as an Authority to Construct only after successful completion of the Energy Commission's licensing process. (Ex. 200, p. 4.1-49.)

REGULATION IV – PROHIBITIONS

***Rule 50* – Visible Emissions**

This rule prohibits air contaminant emissions into the atmosphere darker than Ringelmann Number 1 (20 percent opacity) for more than an aggregate of three minutes in any consecutive 60-minute time period. In the FDOC, the District has determined that the facility is expected to comply with this rule. (Ex. 200, p. 4.1-49.)

***Rule 51* – Nuisance**

This rule prohibits the discharge of air contaminants that cause or have a tendency to cause injury, detriment, and nuisance or annoyance to people and/or the public or damage to any business or property. In the FDOC, the District has determined that the facility is expected to comply with this rule. (Ex. 200, p. 4.1-49.)

***Rule 52* – Particulate Matter**

This rule is a general limitation for all sources of particulate matter to not exceed 0.10 grains per dry standard cubic foot (0.23 grams per dry standard cubic meter) of exhaust gas. Stationary internal combustion engines are exempt from this requirement. The District did not calculate the grain loading for the cooling tower, which would be subject to this rule, but Staff has calculated the grain loading to be 0.000031 grains per dry standard, well within the grain loading standard and in compliance with the requirements of this rule. (Ex. 200, pp. 4.1-49 to 4.1-50.)

***Rule 53* – Specific Air Contaminants**

This rule limits emissions of sulfur compounds (calculated as SO_2) to less than or equal to 0.05 percent, by volume, on a dry basis. The use of pipeline-quality natural gas fuel would ensure compliance with the sulfur compound emission limitation of this rule.

This rule also contains a limitation restricting particulate matter emissions from gaseous fuel combustion to less than or equal to 0.10 grains per dry standard cubic foot of exhaust calculated at 12 percent CO_2. The District calculated the maximum grain loading to be 0.002 grains per dry standard cubic foot for the gas turbines and 0.008 grains per dry standard cubic foot for the black-start engine, in compliance with the requirements of this rule. (Ex. 200, p. 4.1-50.)

***Rule 62* – Sulfur Content of Fuels**

This rule requires the sulfur content of gaseous fuels to contain no more than 10 grains of sulfur compounds, calculated as hydrogen sulfide, per 100 cubic feet of dry gaseous fuel (0.23 grams of sulfur compounds, calculated as hydrogen sulfide, per cubic meter of dry gaseous fuel), at standard conditions.

The FDOC did not specifically identify compliance with this rule, but the use of pipeline-quality natural gas would ensure compliance with this rule. (Ex. 200, p. 4.1-50.)

***Rule 69.3* – Stationary Gas Turbines - Reasonably Available Control Technology**

This rule limits NO_x emissions from gas turbines greater than 0.3 MW to 42 ppm at 15 percent oxygen when fired on natural gas. The rule also specifies monitoring and record-keeping requirements. Startups, shutdowns, and fuel changes are defined by the rule and excluded from compliance with these limits. The FDOC notes that compliance with this rule is expected. This rule's emission limits are less stringent than the BACT/LAER requirement of Rule 20.3(d)(1) for normal operation. (Ex. 200, p. 4.1-50.)

***Rule 69.3.1* – Stationary Gas Turbines - Best Available Retrofit Control Technology**

This rule limits NO_x emissions from existing and new gas turbines greater than 10 MW to 15 x (E/25) ppm when operating uncontrolled and 9 x (E/25) ppm at 15 percent oxygen when operating with controls and averaged over a one-hour period (where E is the percent thermal efficiency of the unit, typically between 30–40 percent for gas turbines). The NO_x emission limit consistent with the thermal efficiency for the OGP (37 percent) is 22.2 ppmv and 13.3 ppmv for uncontrolled and controlled operations, respectively. The rule also specifies

monitoring and record-keeping requirements. Startups, shutdowns, and fuel changes are defined by the rule and excluded from compliance with these limits. The District has also adopted a policy of 200 hours for initial commissioning when the standards of this rule do not apply.

The FDOC notes that compliance with this rule is expected. This rule's emission limits are less stringent than the BACT/LAER requirement of Rule 20.3(d)(1) for normal operation. (Ex. 200, p. 4.1-50.)

***Rule 69.4.1* – Stationary Reciprocating Internal Combustion Engines – Best Available Retrofit Control Technology**

This rule limits emissions of NO_x, CO, and VOC, and also has maintenance and recordkeeping requirements. NO_x emissions are limited to 6.9 grams/bhp-hr, where the black-start engine has an emission guarantee of 1.5 grams/bhp-hr and the fire pump engine has an emission guarantee of 3.84 grams/bhp-hr. CO emission are limited to 4500 ppmv at 15 percent oxygen, where the black-start engine emissions are calculated to be 314 ppmv and the fire pump engine emissions are calculated to be 107 ppmv. VOC emissions from rich burn engines (only applicable to the black-start engine) are limited to 250 ppmv at 15 percent oxygen, where the black-start engine emissions are calculated to be 38 ppmv. Therefore, compliance with this rule is expected. This rule also exempts emergency engines from periodic source testing. (Ex. 200, p. 4.1-51.)

***Regulation X* – Standards of Performance for New Stationary Sources**

This regulation adopts federal New Source Performance Standards (NSPS, 40 CFR Part 60) by reference. The relevant NSPS for the OGP, Subpart KKKK – Gas Turbines, has not been formally delegated for enforcement to SDAPCD; however, it is expected to be delegated later this year. This rule's emission limits are less stringent than the BACT/LAER requirement of Rule 20.3(d)(1) for normal operation. At the time of delegation the District would ensure compliance with the record-keeping requirements of this regulation. (Ex. 200, p. 4.1-51)

***Regulation XI* – National Emission Standards for Hazardous Air Pollutants**

This regulation adopts federal standards for hazardous air pollutants (HAPs) by reference. No such standards presently exist that would apply to the project due to the project's not being a major source of HAPs emissions. (Ex. 200, p. 4.1-51.)

REGULATION XII – TOXIC AIR CONTAMINANTS

***Rule 1200* – Toxic Air Contaminants, New Source Review**

This rule requires a health risk estimate for sources of toxic air contaminants. Toxics Best Available Control Technology (TBACT) must be installed if a Health Risk Assessment shows an incremental cancer risk greater than one in a million, and no source would be allowed to cause an incremental cancer risk exceeding ten in a million. The District found that the project complied with the requirements of this rule. (Ex. 200, p. 4.1-51.)

REGULATION XIV – TITLE V OPERATING PERMITS

***Rule 1401* – General Provisions**

This regulation contains the requirements for federal Title V Operating Permits. The Applicant is required to submit for a revised Title V Operating Permit application within twelve months of initial startup of the project. (Ex. 200, p. 4.1-51.)

***Rule 1412* – Federal Acid Rain Program Requirements**

This regulation contains the requirements for participation in the federal Acid Rain Program. The Applicant is required to submit an Acid Rain Program application to the District prior to commencement of operation. (Ex. 200, p. 4.1-52.)

Noteworthy Public Benefits

Although there was some suggestion that the Orange Grove Project would facilitate the closure of antiquated RMR power plant in the SDG&E service area, the uncontested evidence concludes that air quality related noteworthy public benefits have been identified.

PUBLIC COMMENT

Intervenor **Anthony Arand** submitted a letter that contained four comments, three of which concerned air quality. These comments and Staff's responses were fully addressed at the evidentiary hearing. (12/19/08 RT 65:21 to 69:7.)

Intervenor **Archie McPhee** expressed concern regarding methane gas escaping from recycled water truck deliveries, however, qualified expert testimony established that such "off-gassing" would be negligible. (12/19/08 RT 72:1-24.)

At the hearing, **Ms. Cyndy Day-Wilson,** representing **DFI Financial, Inc.**, referred to a comment letter submitted in advance of the evidentiary hearing. (12/19/08 RT 207:18- 208:2.)

DFI first contends that the Staff Assessment does not include "any reference to whether or not the California Air Resources Board ("ARB") conducted an impact analysis for the Project pursuant to Cal. Code Regs § 922.5.3(b)." We are not aware of any California regulation cited as "§ 922.5.3(b)." **DFI** does not provide a Title number. **DFI** may be referring to section 1722.5(b) of Title 20 of the California Code of Regulations, which provides that ARB shall review and submit written comments on the local air district's report in response to the filing of a notice of intention. (*See* 20 Cal. Code Regs., § 1722.5[b].) However, since the notice of intention requirements do not apply to this Project, this provision would be inapplicable as well.

DFI then references ARB's July 26, 2007 approval of "a regulation to reduce emissions from existing off-road diesel vehicles used in California in construction, mining, and other industries." **DFI** claims that the Staff Assessment contains no language stating whether the Project's vehicle fleet complies with this regulation. The record shows otherwise. (Ex. 1, p. 6.2-23.) Staff's Assessment states "[t]he Applicant has also proposed construction equipment mitigation that relies on pollution control retrofit for older construction equipment as required by ARB's Regulation for In-Use Off-Road Diesel Vehicles." (Ex. 200, p. 4.1-31.) The Staff Assessment includes a footnote containing a link to the ARB website specifically addressing the July 26, 2007 regulation. (*Id*.) The Project will comply with all applicable LORS. (Ex. 200, p. 4.1-52.) The modernization of the projects truck fleet is described in adequate detail (Ex. 200, pp. 4.1-37 and 4.1-52). Condition of Certification **AQ-SC8** requires the project owner to procure new water delivery trucks to ensure that they will minimize emissions. (12/19/08 RT 71:1-9.) Condition of Certification **AQ-SC5** specifically addresses diesel-fueled engine controls. (Exhibit 200, pp. 4.1-56 to 57.)

DFI also asserts that the Staff Assessment makes no provision regarding the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, and Greenhouse Gases from In-Use Heavy-Duty Diesel-Fueled Vehicles which is currently under consideration before the ARB.

It appears that this regulation is still being considered by ARB and has not yet been adopted. (Ex. 200, pp. 4.1-30 to 4.1-31.) However, both construction and operation vehicles will be required to comply with current and future state laws as they apply to diesel-fueled vehicles and/or retrofits. (*See* Ex. 200, pp. 4.1-96 and 4.1-100.)

DFI contends that the Staff Assessment does not identify and analyze the potential air quality impacts from "other projects" in the vicinity of the Project. **DFI** specifically refers to the communities of Pala and Fallbrook as other "projects" within the vicinity of the Project. We first point out that an existing community or municipality is not a "project" under the California Environmental Quality Act ("CEQA"), which defines a "project" as an "*activity* which may cause either a direct physical change in the environment . . . ." (Pub. Res. Code § 21065 [emphasis added].) An existing city or unincorporated community is not an "activity" and therefore is not a "project" for purposes of CEQA. Accordingly, the Staff Assessment need not analyze their cumulative air quality impacts in conjunction with the Project.

Furthermore, the Staff Assessment *did* identify and analyze potential air quality impacts from past, present and reasonably foreseeable projects. (*See* Ex. 200, pp. 4.1-44 to 4.1-47.) The Staff Assessment analyzes the air quality impacts of past and present projects through the use of ambient air quality monitoring data as the background for modeling. Staff, in consultation with Orange Grove and the San Diego Air Pollution Control District ("SDAPCD"), assessed reasonably foreseeable projects within six miles of the project site and determined reasonably foreseeable projects to consist of Rosemary's Mountain Quarry ("RMQ") and Gregory Canyon Landfill ("GCL"). Orange Grove conducted modeling pursuant to an approved protocol and the results were appropriately considered in the Staff Assessment. (*See* Ex. 200, p. 4.1-46, Tables 28 and 29; *see also* Ex. 12.)

Single source modeling demonstrates that the Project's maximum air quality impacts occur close to the Project's property line. (Ex. 200, p. 4.1-30; Ex. 1, p. 6.16-12.) Cumulative modeling shows that, even considering the closest nearby sources (RMQ and GCL), the Project's contributions to the worst case impacts are less than significant. (Ex. 1, p. 6.2-19; Ex. 200, p. 4.1-45 to 47.) The monitored pollutant concentrations were added to the model-predicted concentrations in order to calculate the total concentrations for comparison to ambient air quality standards. (Ex. 12, p. 1-2.) Larger contributions will not occur

in combination with other sources that are located further from the Project than RMQ and GCL such as the communities of Pala and Fallbrook located at two and five miles from the Project site. (Ex. 200 pp. 1-1 and 1-2.) The cumulative modeling conducted demonstrates that the proposed Project, in combination with existing sources and proposed nearby sources, will comply with the applicable air quality regulations and will have only a de minimus cumulative contribution, if any, to existing and reasonably foreseeable projects. (Ex. 12, p. 2.)

Finally, SDAPCD issued its Final Determination of Compliance ("FDOC") on December 4, 2008. The FDOC determined that the Project would not violate any Ambient Air Quality Standard. (Ex. 60, pp. 18-19.) As discussed above, the Staff Assessment identifies and analyzes the cumulative impacts of two other projects in the region, the RMQ and GCL. (Ex. 200, p. 4.1-45.) These projects were specifically identified by the SDAPCD as potential projects in the area that could have air quality impacts. (Ex. 1, p. 6.2-19; Ex. 200, p. 4.1-45.) Therefore, **DFI's** claim that the "Assessment has failed to identify and include in its analysis other projects in the vicinity of the Project" is completely unsubstantiated.

Ms. Day-Wilson closes her comments on Air Quality stating that the Assessment fails to address impacts from Greenhouse Gas Emissions (GHGs). However, there is a complete explanation of the project's GHGs in Appendix A of Staff's Assessment, which also discusses and describes ARB's scoping plan. (Ex. 200, pp. 4.1-91 to 4.1-102; Air Appendix A.)

In preparing this Decision, we have considered these comments, as well as the comments submitted by members of the public (non-parties) in writing and orally at public hearings on this matter. All such comments are part of the record in this proceeding.

FINDINGS

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

1. Construction and operation of the Orange Grove Project will result in emissions of criteria pollutants and their precursors.
2. The proposed Orange Grove Project is a peaking power facility that will be limited to an equivalent of 3,200 hours of full load operation.

3. The Orange Grove Project is located in unincorporated northern San Diego County within the jurisdiction of the San Diego Air Pollution Control District (SDAPCD).

4. SDAPCD is a nonattainment area for both the federal and state ozone standards and the state PM10 and PM2.5 standards.

5. Background Concentrations listed in **AIR QUALITY Table 8**, supra, represents an acceptable level of background concentrations for use in the air quality impacts analysis.

6. Construction-related impacts will be mitigated to insignificant levels with implementation of a Construction Mitigation Plan that specifies fugitive dust control, dust plume control, and diesel particulate reduction measures.

7. Condition of Certification **AQ-SC5** which limits idling times and requires equipment that meets the latest emissions standards will minimize intermittent construction greenhouse gas emissions to an insignificant level.

8. Undisputed modeling results establish that no significant short-term impacts would occur during initial commissioning.

9. Given the required emission offsets and ammonia slip limit, the project will not cause significant secondary pollutant impacts.

10. The project owner will employ the best available control technology (BACT) to limit pollutant emissions.

11. The Orange Grove Project's proposed emission controls/emission levels for criteria pollutants and ammonia slip will meet BACT requirements and, therefore, the proposed emission levels will be reduced to the lowest technically feasible levels.

12. The total emission reduction funding proposed is $244,224.00 for emission reductions through the Carl Moyer Program or a similar mechanism.

13. **Condition of Certification AQ-SC8** ensures that the new water delivery trucks will be properly maintained to minimize emissions.

14. Project operation is limited to 6,400 hours per year but is expected to operate less than 2,000 hours per year.

15. SDAPCD issued a Final Determination of Compliance that finds the Orange Grove Project will comply with all applicable District rules for project operation.

16. The Orange Grove Project is not subject to the requirements of SB 1368 and the Emission Performance Standard because, as a peaking facility, it would be permitted for less than a 60 percent annual capacity factor.

17. The proposed Orange Grove Project will emit over 160,000 metric tons of carbon dioxide equivalent gases per year.

18. Since the Orange Grove Project's permit limits operation to less than a 60 percent capacity factor, it does not need to meet the Environmental Performance Standard of 0.500 mt CO_2/MWH.

19. The project owner will mitigate the project's criteria pollutant emissions through measures set forth in the Conditions of Certification.

20. Implementation of all the Conditions of Certification, listed below, ensures that, if certified, the Orange Grove Project will be mitigated sufficiently to avoid any direct, indirect, or cumulative significant adverse impacts to air quality.

CONCLUSIONS

Implementation of the Conditions of Certification, below, will ensure that all air quality impacts will be mitigated below a significant level and that the Orange Grove Project will conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth in the pertinent portions of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

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

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

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

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

1. All unpaved roads and disturbed areas in the project and lay down construction sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of **AQ-SC4**. The frequency of watering may be reduced or eliminated during periods of precipitation.

2. No vehicle shall exceed 10 miles per hour on unpaved areas within the project and lay down construction sites.

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

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

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

6. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.

7. 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.

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

9. All paved roads within the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.

10. During any construction periods where Pala Del Norte Road is routinely used for vehicles existing the construction site, Pala Del Norte Road between the site exit and SR 76 shall be swept visually clean, using wet sweepers or air filtered dry vacuum sweepers, at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when dirt from the construction site is visible on the road. Until the south project driveway is surfaced with crushed rock and the driveway concrete access apron has been constructed pursuant to design drawings C150 and C802 in Appendix 2-A of the Application for Certification, during any construction periods where the south project driveway is routinely used for vehicles exiting the construction site, the westbound lane of SR 76 between the south project driveway and Pala Del Norte Road shall be swept visually clean, using wet sweepers or air filtered dry vacuum sweepers, at least twice daily (or less during periods of precipitation) on days when construction activity occurs

or on any other day when dirt from the construction site is visible on the road. CEC will waive this requirement for sweeping of SR 76 if Caltrans will not allow the applicant to operate sweeping equipment on the highway (*e.g.,* due to safety concerns). Shaker plates to reduce track out will be added to the exit from the site to SR 76 and, if needed, on the exit to Pala Del Norte Road.

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

12. All vehicles that are used to transport solid bulk material on public roadways and that have the 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 two feet of freeboard.

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

14. Disturbed areas will be re-vegetated as soon as practical.

The fugitive dust requirements listed in this condition may be replaced with as stringent or more stringent methods as required by SDAPCD Rule 55 if that rule becomes effective prior to the completion of the project's construction activities.

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

AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported 1) off the project site or 2) 200 feet beyond the centerline of the construction of linear facilities, or 3) within 100 feet upwind of any regularly occupied structures not owned by the project owner indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed:

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

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

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

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

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

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

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

C. All construction diesel engines, which have a rating of 50 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in Title 13, California Code of Regulations, section 2423(b)(1). The following exceptions for specific construction equipment items may be made on a case-by-case basis.

1. Equipment with non-Tier 2 engines that have tailpipe retrofit controls that reduce exhaust emissions of NOx and PM to no more than Tier 2 levels.

2. Tier 1 equipment will be allowed on a case-by-case basis only when the project owner has documented that no Tier 2 equipment or emissions equivalent retrofit equipment is available for a particular equipment type that must be used to complete the project's construction. This shall be documented with signed written correspondence by the appropriate construction contractors along with documented correspondence with at least two construction equipment rental firms.

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

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

F. Construction equipment will employ electric motors when feasible.

Verification: The project owner shall include in the MCR (1) a summary of all actions taken to maintain compliance with this condition, (2) copies of all diesel fuel purchase records, (3) a list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained, and (4) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC6 The project owner shall provide emission reduction mitigation to offset the project's NOx, PM10, SOx, and VOC emission increases at a ratio of 1:1. These emission reductions are based on the following maximum annual emissions for the facility (tons/yr).

Emission Reduction Credits/Pollutant	Tons/yr
NOx	6.86
PM10	3.76
SOx	0.40
VOC	1.70
Total Tons	12.72

Emission reductions can be provided in any one of the following methods in the following order of preference of their use:

1. The project owner can fund emission reductions through the Carl Moyer Fund in the amount of $16,000/ton, or final 2008 ARB Carl Moyer Program Guideline cost effectiveness cap value, for the total ton quantity listed in the above table, minus any tons offset using the other two listed methods, with an additional 20% administration fee to fund the SDAPCD and/or other responsible local agencies with jurisdiction within 25 miles of the project site to be used to find and fund local emission reduction projects to the extent feasible. Emission reduction projects funding by this method will be weighted for evaluation and selection, within the funding guideline value of $16,000/ton of reduction, based on the proximity of the emission reduction project and the relative health benefit to the local community surrounding the project site. Emission reduction project cost will not be a consideration for selection as long as the emission reduction project is within the proposed or approved 2008, or other year as applicable, Carl Moyer funding guideline value,

2. The project owner can fund other existing public agency regulated stationary or mobile source emission reduction programs or create a project specific fund to be administered through the SDAPCD or other local agency, which would provide surplus emission reductions. This funding shall include appropriate administrative fees as determined by the administering agency to obtain local emission reductions to the extent feasible. The project owner shall be responsible for demonstrating that the amount of such funding meets the emission reduction requirements of this condition. Emission reduction projects funding by this method will be weighted for evaluation and selection based on the proximity of the emission reduction project and the relative health benefit to the local community surrounding the project site.

3. ERC certificates from emission reductions occurring in the San Diego Air Basin can be used to offset each pollutant on a 1:1 offset ratio basis only if local emission reduction projects are clearly demonstrated to be unavailable using methods 1 or 2 to meet the total emission reduction burden required by this condition. ERCs can be used on an interpollutant basis for SOx for PM10, NOx for VOC, and VOC for NOx, where the project owner will provide a letter from the SDAPCD that indicates the District's allowed interpollutant offset ratio, or PM10 for SOx ERCs can be used on a 1:1 basis.

Carl Moyer or other emission reduction funding shall be provided to the responsible agencies prior to the initiation of on-site construction activities. The project owner shall work with the appropriate agencies to target emission reduction projects in the project area to the extent

feasible. Emission reduction project selection information will be provided to the CPM for review and comment. Unused administrative fees shall be used for additional emission reduction program funding. ERC certificates, if used, will be surrendered prior to first turbine fire.

Verification: The project owner shall submit to the CPM confirmation that the appropriate quantity of Carl Moyer Project or other emission reduction program funding and/or ERCs have been provided prior to initiation of on-site construction activities for emission reduction program funding and at least 30 days prior turbine first fire for ERCs. The project owner shall provide emission reduction project selection information to the CPM for review and comment at least 15 days prior to committing funds to each selected emission reduction project. The project owner shall provide confirmation that the level of emission reduction program funding will meet the emission reduction requirements of this condition.

AQ-SC7 The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the District or U.S. EPA, and any revised permit issued by the District or U.S. EPA, for the project.

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-SC8 The project owner shall procure the latest model year water delivery trucks, or trucks retrofit with new model year engines, that meet California on-road vehicle emission standards; and the water delivery trucks shall be properly maintained and the engines tuned to the engine manufacturer's specifications.

Verification: The project owner shall submit to the CPM information on the procured water delivery trucks that show compliance with this condition within 15 days of procuring the trucks. The project owner shall submit truck maintenance records for the year in the fourth quarter Quarterly Operation Reports (**AQ-SC11**) that show compliance with the maintenance provision of this condition.

AQ-SC9 The chiller cooling tower shall have a mist eliminator with a manufacturer guaranteed mist reduction rate of 0.001 percent or less of the water recirculation rate.

Verification: The project owner shall provide the CPM a copy of the manufacturer guarantee for the mist eliminator 30 days prior to installation of the chiller.

AQ-SC10 The chiller cooling tower water shall be tested for total dissolved solids and that data shall be used to determine and report the

particulate matter emissions from the chiller cooling tower. The cooling tower water shall be tested at least once annually during the anticipated summer operation peak period (July through September).

Verification: The project owner shall provide the water quality test results and the chiller cooling tower emissions estimates to the CPM as part of the fourth quarter's quarterly operational report (AQ-SC11).

AQ-SC11 The project owner shall submit to the CPM Quarterly Operation Reports, following the end of each calendar quarter that include operational and emissions information as necessary to demonstrate compliance with the conditions of certification herein. The Quarterly Operation Report will specifically note or highlight incidences of noncompliance.

Verification: The project owner shall submit the Quarterly Operation Reports to the CPM and to the District, if requested, no later than 30 days following the end of each calendar quarter.

GHG-1 Until the California Global Warming Solutions Act of 2006 (AB 32) is implemented, the project owner shall either participate in a GHG registry approved by the CPM, or report on a annual basis to the CPM the quantity of greenhouse gases (GHG) emitted as a direct result of facility electricity production.

The project owner shall maintain a record of fuels types and carbon content used on-site for the purpose of power production. These fuels shall include but are not limited to each fuel type burned: (1) in combustion turbines, (2) HRSGs (if applicable) or auxiliary boiler (if applicable), (4) internal combustion engines, (4) flares, (5) for the purpose of startup, shutdown, operation or emission controls, and/or (6) vehicles and equipment used to prepare fuel or maintain generation components.

The project owner may perform annual source tests of CO_2 and CH_4 emissions from the exhaust stacks while firing the facility's primary fuel, using the following test methods or other test methods as approved by the CPM. The project owner shall produce fuel-based emission factors in units of lbs CO_2 equivalent per MMBtu of fuel burned from the annual source tests. If a secondary fuel is approved for the facility, the project owner may also perform these source tests while firing the secondary fuel.

Pollutant	Test Method
CO_2	EPA Method 3A
CH_4	EPA Method 18 (VOC measured as CH_4)

As an alternative to performing annual source tests, the project owner may use the Intergovernmental Panel on Climate Change (IPCC) Methodologies for Estimating Greenhouse Gas Emissions (MEGGE). If MEGGE is chosen, the project owner shall calculate the CO_2, CH_4 and N_2O emissions using the appropriate fuel-based carbon content coefficient (for CO_2) and the appropriate fuel-based emission factors (for CH_4 and N_2O).

The project owner shall convert the N_2O and CH_4 emissions into CO_2 equivalent emissions using the current IPCC Global Warming Potentials (GWP). The project owner shall maintain a record of all SF_6 that is used for replenishing on-site transformers. At the end of each reporting period, the project owner shall total the mass of SF_6 used and convert that to a CO_2 equivalent emission using the IPCC GWP for SF_6. The project owner shall maintain a record of all PFCs and HFCs that are used for replenishing on-site refrigeration and chillers directly related to electricity production. At the end of each reporting period, the project owner shall total the mass of PFCs and HFCs used and convert that to a CO_2 equivalent emission using the IPCC GWP.

On an annual basis, the project owner shall report the CO_2 and CO_2 equivalent emissions from the described emissions of CO_2, N_2O, CH_4, SF_6, PFCs, and HFCs.

Verification: The project annual greenhouse gas emissions shall be reported, as a CO2 equivalent, by the project owner to a climate action registry approved by the CPM, or to the CPM as part of the fourth Quarterly or the annual Air Quality Report, until such time that GHG reporting requirements are adopted and in force for the project as part of the California Global Warming Solutions Act of 2006.

DISTRICT FINAL DETERMINATION OF COMPLIANCE CONDITIONS (SDAPCD 2008E)

985708

Gas Turbine Engine Generator #1: General Electric, Model LM-6000 PC SPRINT, 49.8 MW capacity, 468.8 MMBtu/hr heat input, natural gas fired, simple cycle, with water injection; a selective catalytic reduction (SCR) system including an automatic ammonia injection control system; an oxidation catalyst; a Continuous Emission Monitoring System (CEMS) for NOx, CO, and O_2; a data acquisition and handling system (DAHS); and remote data collection node (RDCN).

985711

Gas Turbine Engine Generator #2~~1~~: General Electric, Model LM-6000 PC SPRINT, 49.8 MW capacity, 468.8 MMBtu/hr heat input, natural gas fired, simple cycle, with water injection; a selective catalytic reduction (SCR) system including an automatic ammonia injection control system; an oxidation catalyst; a Continuous Emission Monitoring System (CEMS) for NOx, CO, and O_2; a data acquisition and handling system (DAHS); and remote data collection node (RDCN).

GENERAL CONDITIONS

AQ-1 This equipment shall be properly maintained and kept in good operating condition at all times.

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

AQ-2 The project owner shall operate the project in accordance with all data and specifications submitted with the application.

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

AQ-3 The project owner shall provide access, facilities, utilities, and any necessary safety equipment for source testing and inspection upon request of the Air Pollution Control District.

Verification: The project owner shall provide facilities, utilities, and safety equipment for source testing and inspections upon request of the District, ARB, and the Energy Commission.

AQ-4 The project owner shall obtain any necessary District permits for all ancillary combustion equipment including emergency engines, prior to on-site delivery of the equipment.

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-5 The exhaust stacks for the combustion turbine shall be at least 80 feet in height above site base elevation.

Verification: The project owner shall submit to the CPM for review the exhaust stack specification at least 60 days before the installation of the stack.

AQ-6 The unit shall be fired on Public Utility Commission (PUC) quality natural gas only. The project owner shall maintain, on site, quarterly records of sulfur content (grains of sulfur compounds per ~~/~~100 dscf of natural gas) and the higher and lower heating values (Btu/scf) of the natural gas; and provide such records to District personnel upon request.

Verification: The project owner shall submit the quarterly fuel sulfur content values in the in the Quarterly Operation Reports (**AQ-SC11**) and make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-7 Pursuant to 40 CFR 72.30(b)(2)(ii) of the Federal Acid Rain Program, the project owner shall submit an application for a Title IV Operating Permit at least 24 months prior to commencement of operation.

Verification: The project owner shall submit to the CPM copies of the acid rain permit application prior to initiating project construction.

AQ-8 The project owner shall submit an application to the District for a Federal (Title V) Operating Permit, in accordance with District Regulation XIV within 12 months after initial startup of this equipment.

Verification: The project owner shall submit to the CPM copies of the Title V operating permit application within five working days of its submittal by the project owner to the District.

AQ-9 The project owner shall comply with all applicable provisions of 40 CFR 73, including requirements to offset, hold and retire SO_2 allowances.

Verification: The project owner shall submit to the CPM and District the CTG annual operating data and SO_2 allowance information demonstrating compliance with all applicable provisions of 40 CFR 73 as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-10 The total combined unit operating hours for the combustion turbines of Permit No. 985708 and 985711 shall not exceed 6,400 hours per calendar year. Unit operating hour is defined in 40CFR 72.2. (NSR).

Verification: The project owner shall submit to the CPM and District the CTG annual operating data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Reports (**AQ-SC11**).

AQ-11 The total combined operation of the combustion turbines under startup and shutdown conditions shall not exceed 400 hours per year.

Verification: The project owner shall submit to the CPM and District the CTG startup and shutdown operating data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Reports (**AQ-SC11**).

AQ-12 The project owner shall comply with the applicable requirements in 40 CFR Parts 60, 72, 73, and 75.

Verification: The project owner shall submit to the CPM and District the CTG annual operating data demonstrating compliance with all applicable provisions of 40 CFR Parts 60, 72, 73, and 75 as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-13 Power output (net MW) from each turbine generator of Permit No. 985708 and 985711 to the grid shall not exceed 49.8 MW. (NSR).

Verification: The project owner shall submit to the CPM and District the CTG net power data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**).

Emission Limits

AQ-14 For purposes of determining compliance based on source testing, the average of three subtests shall be used. For purposes of determining compliance with emission limits based on the CEMS, data collected in accordance with the CEMS protocol shall be used and averaging periods shall be as specified herein.

Verification: The project owner shall provide the annual source test data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**), due in the quarter after the each year's source test report is completed. The project owner shall submit to the CPM for review and the District for approval a CEMS operating protocol at least 60 days prior to the operation the CEMS.

AQ-15 For each emission limit expressed as pounds per hour or parts per million based on a one-hour averaging period, compliance shall be based on each rolling continuous one-hour period using continuous emission data collected at least once every 15 minutes.

Verification: CEMS data summaries shall be submitted to the CPM as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-16 During startup, the emissions from each turbine shall not exceed the following emission limits as determined by the continuous emission monitoring system (CEMs), continuous monitor and/or District-approved emission testing. Compliance with each limit shall be based on a 1-hour averaging period.

Pollutant	Limit, lbs/hour
Oxides of Nitrogen (NOx), calculated as NO_2	15.4
Carbon Monoxide (CO)	15.1
Volatile Organic Compounds (VOC)	2.6

Verification: The project owner shall submit to the CPM the CTG operating data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-17 During shutdown, the emissions from each turbine shall not exceed the following emission limits as determined by the continuous emission monitoring system (CEMs), continuous monitor and/or District-approved emission testing. Compliance with each limit shall be based on a 1-hour averaging period.

Pollutant	Limit, lbs/hour
Oxides of Nitrogen (NOx), calculated as NO_2	5.9
Carbon Monoxide (CO)	9
Volatile Organic Compounds (VOC)	1.7

Verification: The project owner shall submit to the CPM the CTG operating data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC11**).

AQ-18 During an hour when both a startup and a shutdown occur, the emissions from each turbine shall not exceed the following emission limits as determined by the continuous emission monitoring system (CEMs), continuous monitor and/or District-approved emission testing. Compliance with each limit shall be based on a 1-hour averaging period.

Pollutant	Limit, lbs/hour
Oxides of Nitrogen (NOx), calculated as NO_2	16.1
Carbon Monoxide (CO)	16.8
Volatile Organic Compounds (VOC)	2.8

Verification: The project owner shall submit to the CPM the CTG operating data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC11**).

AQ-19 The emissions concentration of oxides of Nitrogen (NOx), calculated as nitrogen dioxide (NO_2), shall not exceed 2.5 parts per million by volume on a dry basis (ppmvd) corrected to 15 percent oxygen and averaged over one hour period. Compliance with these limits shall be demonstrated continuously based on the CEMs data and at the time of the initial source test calculated as the average of three subtests. This limit shall not apply during the initial commissioning period or startup and shutdown periods as defined herein.

Verification: The project owner shall provide the source test data to demonstrate compliance with this condition as part of the Quarterly Operation

Reports (**AQ-SC11**), due in the quarter after the source test report is completed. The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-20 The emissions concentration of CO from the unit exhaust stack shall not exceed 6 parts per million volume on a dry basis (ppmvd) corrected to15 percent oxygen and averaged over one hour period. Compliance with this limit shall be demonstrated at the time of the initial source test and continuously based on the CEMs data and based upon source testing calculated as the average of three subtests. This limit shall not apply during the initial commissioning period or startup and shutdown periods.

Verification: The project owner shall provide the source test data to demonstrate compliance with this condition as part of the Quarterly Operation Report (**AQ-SC11**), due in the quarter after the source test report is completed. The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-21 The VOC concentration, calculated as methane, measured in the exhaust stack, shall not exceed 2.0 ppmvd corrected to 15 percent oxygen. Compliance with this limit shall be demonstrated by source testing, calculated as the average of three subtests. At the time of the initial compliance test, a District-approved CO/VOC surrogate relationship shall be established. The CO/VOC surrogate relationship shall be verified and/or modified, if necessary, based on annual source testing. This limit shall not apply during the initial commissioning period or startup and shutdown periods.

Verification: The project owner shall provide the source test data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**), due in the quarter after the source test report is completed.

AQ-22 The emissions from each turbine shall not exceed the following emission limits, except during the initial commissioning period, startup and shutdown conditions, as determined by the continuous emission monitoring system (CEMs), continuous monitor and/or District-approved emission testing, calculated as the average of three subtests. Compliance with each limit shall be based on a 1-hour averaging period.

Pollutant	Limit, lbs/hour
Oxides of Nitrogen (NOx), calculated as NO_2	4.3
Carbon Monoxide (CO)	6.1
Volatile Organic Compounds (VOC)	1.3

Verification: The project owner shall submit to the CPM the CTG operating and/or source test data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-23 The emissions from each turbine shall not exceed the following emission limits, except during the initial commissioning period, as determined by the continuous emission monitoring system (CEMs), continuous monitor and/or District-approved emission testing, calculated as the average of three subtests. Compliance with each limit shall be based on a 1-hour averaging period.

Pollutant	Limit, lbs/day
Oxides of Nitrogen (NOx), calculated as NO_2	141.2
Carbon Monoxide (CO)	182.2
Volatile Organic Compounds (VOC)	36.5

Verification: The project owner shall submit to the CPM the CTG operating data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-24 The emissions from each turbine shall not exceed the following emission limits, as determined by the continuous emission monitoring system (CEMs), continuous monitor and/or District-approved emission testing, calculated as the average of three subtests. Compliance with each limit shall be based on a 1-hour averaging period.

Pollutant	Limit, tons/year
Oxides of Nitrogen (NOx), calculated as NO_2	8.6
Carbon Monoxide (CO)	11.3
Volatile Organic Compounds (VOC)	2.3

Verification: The project owner shall submit to the CPM the CTG operating data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Reports (**AQ-SC11**).

AQ-25 Emissions of particulate matter 10 microns or less (PM10) shall not exceed 3.0 lbs per hour. Compliance with this limit shall be demonstrated based upon source testing calculated as the average of three subtests.

Verification: The project owner shall provide the source test data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**), due in the quarter after the source test report is completed.

AQ-26 The discharge of particulate matter from the exhaust stack of each combustion turbine shall not exceed 0.10 grains per dry standard cubic foot. The District may require periodic testing to verify compliance with this standard.

Verification: The project owner shall provide the source test data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**), due in the quarter after the source test report is completed.

AQ-27 Ammonia emissions from each turbine shall not exceed 5 parts per million volume on a dry basis (ppmvd) corrected to 15% oxygen. This limit shall not apply during the commissioning period or startup and shutdown periods. Compliance with this limit shall be demonstrated through source testing calculated as the average of three subtests and utilizing one of the following procedures:

1. Calculate daily ammonia emissions using the following equation:

   NH_3 = ((a-(b*c/1,000,000))*(1,000,000/b))*d

   Where:

   a = ammonia injection rate (lbs/hour) / (17.0 lbs/lb-mole),

   b = exhaust flow rate at 15% oxygen / (29 lbs/lb-mole)

   c = change in measured NOx concentration (ppmvd @ 15% oxygen) across the catalyst,

   d = ratio of measured ammonia slip to calculate ammonia slip as derived during compliance testing.

2. Other calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @15% oxygen, as approved by the District.

Verification: The project owner shall provide the estimated daily ammonia concentration and daily ammonia emissions based on the procedures given in this condition and provide the annual source test data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**), where the source test data is due in the quarter after the source test report is completed.

AQ-28 When operating without SCR or oxidation catalyst during the initial commissioning period, the emissions from the turbine shall not exceed 50 pounds per hour and the combined emissions from both turbines shall not exceed 65.4 pounds per hour of oxides of nitrogen (NOx), calculated as nitrogen dioxide and measured over each clock hour period. (Rule 20.3(d)(2)(i)).

Verification: The project owner shall submit to the CPM the CTG operating and CEMS data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-29 When operating without SCR or oxidation catalyst during the initial commissioning period, the total emissions from the turbine shall not exceed 43.9 pounds per hour and the combined emissions from both turbines shall not exceed 59 pounds per hour of carbon monoxide (CO), measured over each clock hour period. (Rule 23(d)(2)(i))

Verification: The project owner shall submit to the CPM the CTG operating and CEMS data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-30 Visible emissions from the lube oil vents and the exhaust stack of the unit shall not exceed 20 percent opacity for more than three (3) minutes in any period of 60 consecutive minutes. (Rule 50)

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

AQ-31 Total aggregate emissions from all stationary emission units at this stationary source, except emissions or emission units excluded from the calculation of aggregate potential to emit as specified in Rule 20.1 (d) (1), shall not exceed the following limits in each rolling 12-calendar month period. The total aggregate emissions shall include emissions during all times that the equipment is operating, including but not limited to, emissions during periods of commissioning, startup, shutdown, and tuning.

1. Oxides of Nitrogen (NOx): 50 tons/year
2. Carbon Monoxide (CO): 100 tons/year
3. Volatile Organic Compounds (VOC): 50 tons/year
4. Oxides of Sulfur (SOx): 100 tons/year

Verification: The project owner shall submit to the CPM and District the facility annual operating and emissions data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Reports **(AQ-SC11).**

AQ-32 The emissions of any single federal Hazardous Air Pollutant (HAP) shall not equal or exceed 10 tons, and the aggregate emissions of all federal HAPs shall not equal or exceed 25 tons in any rolling 12-calendar month period. Compliance with these single and aggregate HAP limits shall be based on a methodology approved by the District for the purpose of calculating HAP emissions for this permit. If emissions exceed these limits, the project owner shall apply to amend permit to reflect applicable federal Maximum Achievable Control Technology (MACT) standards and requirements in accordance with applicable provisions (including timing requirements) of 40 CFR Part 63.

Verification: The project owner shall submit to the CPM and District the facility annual operating data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Reports **(AQ-SC11).**

Ammonia – SCR

AQ-33 At least 90 days prior to the start of construction, the project owner shall submit to the District the final selection, design parameters and details of the selective catalytic reduction (SCR) and oxidation catalyst emission control systems. Such information may be submitted to the District as trade secret and confidential pursuant to District Rules 175 and 176.

Verification: The project owner shall submit to the CPM for review and District for approval final selection, design parameters and details of the SCR and oxidation catalyst emission control systems at least 90 days prior to the start of construction.

AQ-34 Before operating an SCR system, continuous monitors shall be installed on each SCR system to monitor or calculate, and record the ammonia injection rate (lbs/hour) and the SCR catalyst temperature (°F). The monitors shall be installed, calibrated and maintained in accordance with a District approved protocol. This protocol, which shall include the calculation methodology, shall be submitted to the District for written approval at least 60 days prior to initial startup of the gas turbines with the SCR system. The monitors shall be in full operation at all times when the turbine is in operation.

Verification: The project owner shall provide a protocol as required in the condition for the installation, calibration, and testing for the SCR system continuous monitors at least 60 days prior to SCR system use. The project owner shall submit to the CPM and District the SCR system operating data demonstrating compliance with this condition as part of the Quarterly Operation Reports **(AQ-SC11).**

AQ-35 Except during periods when the ammonia injection system is being tuned or one or more ammonia injection systems is in manual control (for compliance with applicable permits), the automatic ammonia injection system serving the SCR shall be in operation in accordance with manufacturer's specifications at all times when ammonia is being injected into the SCR. Manufacturer specifications shall be maintained on site and made available to District personnel upon request.

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

AQ-36 The concentration of ammonia solution used in the ammonia injection system shall be less than 20 percent ammonia by weight. Records of ammonia solution concentration shall be maintained on site and made available to District personnel upon request.

Verification: The project owner shall maintain on site and provide on request of the CPM or District the ammonia delivery records that demonstrate compliance with this condition.

Definitions

AQ-37 For the purposes of this license startup conditions shall be defined as the time fuel flow begins until the time that the unit complies with the emission limits specified in Condition **AQ-22** but in no case exceeding 30 minutes per occurrence. Shutdown conditions shall be defined as the time preceding the moment at which fuel flow ceases and during which the unit does not comply with the emission limits specified in Condition **AQ-22** but in no cases exceeding 30 minutes per occurrence. The Data Acquisition and Recording System (DAS), as required by 40 CFR75, shall record these events. This condition may be modified by the District based on field performance of the equipment.

Verification: The project owner shall submit to the CPM the CTG start-up and shut-down event duration data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC11**).

AQ-38 A CEMS protocol is a document approved in writing by the APCD M&TS division that describes the Quality Assurance and Quality Control procedures for monitoring, calculating and recording stack emissions from the unit.

Verification: The project owner shall maintain a copy of the CEMS protocol on site and provide it for inspection on request of the CPM or District.

Testing

AQ-39 At least 60 days prior to initial startup of the gas turbines, the project owner shall submit a source test protocol to the District for approval. The source test protocol shall comply with the following requirements:

A. Measurements of NOx, CO, and O_2 emissions shall be conducted in accordance with U.S. Environmental Protection Agency (U.S. EPA) methods 7E, 10, and 3A, respectively, and District Source Test, method 100, or alternative methods approved by the District and U.S. EPA;

B. Measurement of VOC emissions shall be conducted in accordance with U.S. EPA Methods 25A and/or 18, or alternative methods approved by the District and U.S. EPA;

C. Measurements of PM10 emissions shall be conducted in accordance with U.S. EPA Methods 201A and 202 or alternative methods approved by the District and U.S. EPA;

D. Measurements of ammonia emissions shall be conducted in accordance with Bay Area Air Quality Management District ST-1B or an alternative method approved by the District and U.S. EPA;

E. Source testing shall be performed at the most frequently used load level, as specified in 40 CFR part 75 Appendix A Section 6.52.1.d, provided it is not less than 80% of the unit's rated load unless it is demonstrated to the satisfaction of the District that the unit cannot operate under these conditions. If the demonstration is accepted, then emissions source testing shall be performed at the highest achievable continuous level power level.

F. Measurements of opacity shall be conducted in accordance with U.S. EPA Method 9 or an alternative method approved by the District and U.S. EPA

G. Measurement of fuel flow shall be conducted in accordance with an approved test protocol.

Verification: The project owner shall submit to the CPM for review and the District for approval the initial source test protocol in compliance with requirements of this condition at least 60 days prior to the initial source test.

AQ-40 Each turbine shall be equipped with continuous monitors to measure or calculate, and record, the following operational characteristics of each unit:

1. Hours of operation (hours),
2. Natural gas flow rate (scfh),
3. Heat input rate (MMBtu /hr),
4. Exhaust gas flow rate (dscfm),
5. Exhaust gas temperature (ºF), and
6. Power output (gross MW).
7. Water (for NOx control) injection rate (lbs/hour) if equipped with water injection.

Verification: The project owner shall submit to the CPM for review and the District for approval a parametric monitoring protocol in compliance with this condition at least 60 days prior to the initial startup.

AQ-41 At least 60 days prior to the initial startup of the gas turbines, the project owner shall submit a turbine operation monitoring protocol, which shall include relevant calculation methodologies to the District for written approval. The monitors shall be installed, calibrated, and maintained in accordance with the protocol. The monitors should be in full operation at all times when the turbine is in operation. Calibration records for the continuous monitors shall be maintained on site and made available to the District upon request. The project owner shall make the site available for inspection of the turbine operation monitors and monitor maintenance records by representatives of the District, ARB, and the Energy Commission.

Verification: The project owner shall submit to the CPM for review and the District for approval a turbine operation monitoring protocol in compliance with this condition at least 60 days prior to the initial startup.

AQ-42 The exhaust stacks for each turbine shall be equipped with source test ports and platforms to allow for the measurement and collection of stack gas samples consistent with all approved test protocols. The ports and platforms shall be constructed in accordance with District Method 3A, Figure 2, and approved by the District.

Verification: The project owner shall submit to the CPM for review and District for approval a stack test port and platform plan at least 60 days before the installation of the stack ports and platform.

AQ-43 If source testing will be performed by an independent contractor and witnessed by the District, a source test protocol shall be submitted to the District for written approval at least 30 days prior to source testing.

Verification: The project owner shall submit to the CPM for review and District for approval, if necessary based on the condition requirements, a source test protocol at least 30 days prior to the source test.

AQ-44 Within 45 days after completion of the source test or RATA, a final test report shall be submitted to the District for review and approval.

Verification: The project owner will submit all RATA or source test reports to the CPM for review and the District for approval within 45 days of the completion of those tests.

AQ-45 This turbine shall be source tested once each permit year (annual source test) to demonstrate compliance with the emission standards contained in this permit. For the purposes of this permit, a permit year is the 12-month period ending on the last day of the permit expiration month. It is the responsibility of the project owner to schedule the source test with the District. The source test shall be performed or witnessed by the District. Each annual source test shall be separated

by at least 90 days. An annual CEMS RATA, where required, may be used to fulfill the annual source testing requirement for NOx and CO. The source test and the NOx and CO RATA tests shall be conducted in accordance with the RATA frequency requirements of 40 CFR 75, Appendix B, Sections 2.3.1 and 2.3.3. Test Audit (RATA) tests shall be conducted in accordance with the applicable RATA frequency requirements of 40 CFR75, appendix b, sections 2.3.1 and 2.3.3.

Verification: The results and field data collected during source tests required by this condition shall be submitted to the CPM for review and the District for approval within 45 days of testing.

Continuous Emission Monitoring System (CEMS)

AQ-46 The project owner shall comply with the continuous emission monitoring requirements of 40 CFR Part 75.

Verification: The project owner shall submit to the CPM for review and the District for approval a CEMS monitoring protocol at least 60 days prior to the operation the CEMS.

AQ-47 At least 60 days prior to the operation of the permanent CEMs, the project owner shall submit a CEMs operating protocol to the District for written approval. The project owner shall make the site available for inspection of the CEMs and CEMs maintenance records by representatives of the District, ARB, and the Energy Commission.

Verification: The project owner shall submit to the CPM for review and the District for approval a CEMS operating protocol at least 60 days prior to the operation the permanent CEMS.

AQ-48 A monitoring plan in conformance with 40 CFR 75.53 shall be submitted to U.S. EPA Region 9 and the District at least 45 days prior to the Relative Accuracy Test Audit test, as required in 40 CFR 75.62.

Verification: The project owner shall submit to the CPM for review and the District for approval a monitoring plan in compliance with this condition at least 45 days prior to the RATA test.

AQ-49 No later than 90 days after each unit commences commercial operation (defined for this condition as the instance when power is sold to the grid), a Relative Accuracy Test Audit (RATA) and other required certification tests shall be performed and completed on the CEMs in accordance with 40 CFR Part 75 Appendix A Specifications and Test Procedures. At least 60 days prior to the test date, the project owner shall submit a test protocol to the District for written approval. Additionally, the District shall be notified a minimum of 45 days prior to the test so that observers may be present. Within 30 days of

completion of this test, a written test report shall be submitted to the District for approval.

Verification: The project owner shall submit to the CPM for review and the District for approval the RATA certification test protocol at least 60 days prior to the RATA test and shall submit to the CPM for review and the District for approval a copy of the written test report within 30 days after test completion The project owner shall also notify the CPM and District of the RATA test date at least 45 days prior to conducting the RATA and other certification tests.

AQ-50 The oxides of nitrogen (NOx) and oxygen (O_2) CEMS shall be certified and maintained in accordance with applicable Federal Regulations including the requirements of Sections 75.10 and 75.12 of Title 40, Code of Federal Regulations Part 75 (40 CFR 75), the performance specifications of Appendix A of 40 CFR 75, the quality assurance procedures of Appendix B of 40 CFR 75 and the CEMS protocol approved by the District. The carbon monoxide (CO) CEMS shall be certified and maintained in accordance with 40 CFR 60, Appendices B and F, unless otherwise specified in this permit, and the CEMS protocol approved by the District.

Verification: The project owner shall submit to the CPM for review and the District for approval a CEMS operating protocol as required by **AQ-47**. The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-51 Continuous emission monitoring system (CEMS) shall be installed and properly maintained and calibrated to measure, calculate and record the following, in accordance with the District approved CEMS protocol:

A. Percent oxygen (O_2) in the exhaust gas (%);

B. Average concentration of oxides of nitrogen (NOx) for each continuous rolling 1-hour period, in parts per million (ppmv) corrected to 15% oxygen;

C. Average concentration of carbon monoxide (CO) for each continuous rolling 1-hour period, in parts per million (ppmv) corrected to 15% oxygen;

D. Annual mass emissions of oxides of nitrogen (NOx), in tons;

E. Annual mass emission of carbon monoxide (CO), in tons.

F. Natural gas flow rate to turbine in hscf/hr.

Verification: The project owner shall submit to the CPM for review and the District for approval a CEMS operating protocol as required by **AQ-47**. The

project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-52 The CEMS shall be in operation in accordance with the District approved CEMs monitoring protocol at all times when the turbine is in operation. A copy of the District approved CEMS monitoring protocol shall be maintained on site and made available to District personnel upon request.

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

AQ-53 When the CEMS is not recording data and the turbine is operating, hourly NOx emissions for the annual emission calculations shall be determined in accordance with 40 CFR 75 Subpart C. Additionally, hourly CO emissions for annual emission calculations shall be determined using CO emission factors to be determined from source test emission factors and fuel consumption data, in terms of pounds per hour of CO for the gas turbine. Emission calculations used to determine hourly emission rates shall be reviewed and approved by the District, in writing, before the hourly emission rates are incorporated into the CEMS emission data.

Verification: The project owner shall provide the District with all emission calculations required by this condition and shall provide notation of when such calculations are used in place of CEMS data as part of the Quarterly Operation Report (**AQ-SC11**).

AQ-54 Any violation of any emission standard as indicated by the CEMS shall be reported to the District's compliance division within 96 hours after such occurrence (H&S Code).

Verification: The project owner shall notify the District regarding any emission standard violation as required in this condition and shall document all such occurrences in each Quarterly Operation Report (**AQ-SC11**).

AQ-55 The CEMS shall be maintained and operated, and reports submitted, in accordance with the requirements of rule 19.2 Sections (d), (e), (f) (1), (f) (2), (f) (3), (f) (4) and (f) (5), and a CEMS protocol approved by the District.

Verification: The project owner shall submit to the District the CEMS reports as required in this condition and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-56 An operating log or data acquisition and handling system (DAHS) records shall be maintained either on site or at a District-approved alternate location to record actual times and durations of all startups and shut-downs, quantity of fuel used (scf) and energy generated

(MW-hr), (monthly and annually by calendar year), hours of daily operation and total cumulative hours of operation (monthly and annually by calendar year).

Verification: The operating log or DAHS operating records will be provided as part of the Quarterly Operation Report (**AQ-SC11**). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-57 Except for changes that are specified in the initial approved NOx monitoring protocol or a subsequent revision to that protocol that is approved in advance, in writing by the District, the District shall be notified in writing at least thirty (30) days prior to any planned changes made in the CEMS /DAHS (including the programmable logic controller) software which affects the value of data displayed on the CEMS / DAHS monitors with respect to the parameters measured by their respective sensing devices or any planned changes to the software that controls the ammonia flow to the SCR. Unplanned or emergency changes shall be reported within 96 hours.

Verification: The project owner shall submit to the CPM for review and the District for approval any revision to the CEMS/DAHS software, as required by this condition, to be approved in advance at least 30 days before any planned changes are made.

AQ-58 Fuel flow–meters with an accuracy of +/- 2% shall be maintained to measure the volumetric flow rate corrected for temperature and pressure. Correction factors and constants shall be maintained on site and made available to the District upon request. The fuel flow–meters shall meet the applicable quality assurance requirements of 40 CFR part 75, Appendix D, and Section 2.1.6.

Verification: The project owner shall submit to the CPM the natural gas usage data from the fuel flow–meters as part of the Quarterly Operation Report (**AQ-SC11**).

Commissioning

AQ-59 Beginning at initial startup of each turbine, a Commissioning Period for each turbine shall commence. The Commissioning Period shall end after not more than 200 hours of gas turbine operation. During the Commissioning Period, only the emission limits specified in Conditions 28 and 29 shall apply.

Verification: A log of the dates, times, and cumulative unit operating hours when fuel is being combusted during the commissioning period shall be maintained by the project owner. The project owner shall submit, commencing one month from the time of gas turbine first fire, a monthly commissioning status

report throughout the duration of the commissioning phase that demonstrates compliance with the requirements listed in this condition. The monthly commissioning status report shall be submitted to the CPM by the 10th of each month for the previous month, for all months with turbine commissioning activities following the turbine first fire date. The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-60 Within 200 hours of gas turbine operation, after initial startup of each turbine, the project owner shall install post-combustion air pollution control equipment to minimize emissions from this equipment. Once installed, the post-combustion air pollution control equipment shall be maintained in good condition and, with the exception of periods during startup and shutdown, shall be in full operation at all times when the turbine is in stable operation.

Verification: The project owner shall provide the CPM District records demonstrating compliance with this condition as part of the monthly commissioning status report (**AQ-59**).

AQ-61 After the end of the Commissioning Period for each turbine, the project owner shall submit a written progress report to the District. This report shall include, at a minimum, the date the Commissioning Period ended, the periods of startup, the emissions of NOx and CO during startup, and the emissions of NOx and CO during steady state operation. NOx and CO emissions shall be reported in both ppmv at 15 percent O_2 and lbs/hour. This report shall also detail any turbine or emission control equipment malfunction, upset, repairs, maintenance, modifications, or replacements affecting emissions of air contaminants that occurred during the Commissioning Period.

Verification: The project owner shall provide the CPM and the District records demonstrating compliance with this condition as part of the final monthly commissioning status report (**AQ-59**).

AQ-62 Only one combustion turbine shall undergo commissioning at a time. Combustion turbine operation for commissioning shall only occur during the hours of 7:00 A.M. to 7:00 P.M.

Verification: The project owner shall provide the CPM CEMS data demonstrating compliance with this condition as part of the monthly commissioning status report (**AQ-59**).

985710

Gas 965 brake horsepower (bhp) Cummins GTA38-G2 natural gas fueled black start engine, with catalytic converter and air to fuel ratio controller, driving a 625 kilowatt (KW) generator.

AQ-63 Project owner shall provide access, facilities, utilities and any necessary safety equipment, with the exception of personal protective equipment requiring individual fitting and specialized training, for source testing and inspection upon request of the District.

Verification: The project owner shall provide facilities, utilities, and safety equipment for source testing and inspections upon request of the District, ARB, and the Energy Commission.

AQ-64 Gaseous fuel engines shall use only gaseous fuel which contains no more than 10 grains of sulfur compounds, calculated as hydrogen sulfide, per 100 cubic feet dry gaseous fuel at standards conditions. Gaseous fuels include natural gas, propane, liquefied petroleum gas (LPG), butane. Gasoline engines shall use only California Reformulated Gasoline. (Rule 62).

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

AQ-65 Visible emissions including crank case smoke shall comply with Rule 50. (Rule 50)

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

AQ-66 At no time shall the subject equipment described cause or contribute to a public nuisance. (Rule 51)

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

AQ-67 A non-resettable engine hour meter shall be installed on this engine, maintained in good working order, and used for recording engine operating hours. If a meter is replaced, the Air Pollution Control District's Compliance Division shall be notified in writing within 10 calendar days. The written notification shall include the following information:

A. Old meter's hour reading.

B. Replacement meter's manufacturer name, model, and serial number if available and current hour reading on replacement meter.

C. Copy of receipt of new meter or of installation work order.

A copy of the meter replacement notification shall be maintained on site and made available to the Air Pollution Control District upon request. (Rule 69.4.1.)

Verification: The project owner shall provide notification to the District as required by this condition and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-68 The engine operation shall not exceed 0.5 hours per day and 52 hours per calendar year for non-emergency purposes (testing and maintenance). (NSR, Rule 69.4.1)

Verification: The project owner shall submit to the CPM the black-start engine operating data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC11**).

AQ-69 The owner or operator shall conduct periodic maintenance of this engine and any add-on control equipment, as applicable, as recommended by the engine and control equipment manufacturer or as specified by any other maintenance procedure approved in writing by the District. The periodic maintenance shall be conducted at least once each calendar year. (Rule 69.4.1)

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

AQ-70 The owner or operator of the engine shall keep the following records: applicable fuel certification; manual of recommended maintenance provided by the manufacturer, or other maintenance procedure as approved in writing, in advance, by the District. These records shall be kept on site for at least the same period of time as the engine to which the records apply is located at the site. These records shall be made available to the District. (Rule 69.4.1)

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

AQ-71 The owner or operator of this engine shall maintain an operating log containing, at a minimum, the following: dates and times of engine operation, indicating whether the operation was for non- emergency purposes or during an emergency situation and the nature of the emergency, if available (these records are not required if the total engine operations for any purpose, including emergency situation, do not exceed 52 hours in a calendar year); total cumulative hours of operation per calendar year, based on actual readings of engine hour meter or fuel meter; records of periodic maintenance including the dates maintenance, calibration or replacement were performed. (Rule 69.4.1)

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

AQ-*72* All operational and maintenance logs required by this permit shall be kept for a minimum of three years, unless otherwise indicated by the conditions of this permit, and these records shall be made available to the District upon request. (Rule 69.4.1)

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

985709

373 bhp Cummins CFP11E-F10 diesel fueled emergency fire pump engine.

AQ-73 Project owner shall provide access, facilities, utilities and any necessary safety equipment, with the exception of personal protective equipment requiring individual fitting and specialized training, for source testing and inspection upon request of the District.

Verification: The project owner shall provide facilities, utilities, and safety equipment for source testing and inspections upon request of the District, ARB, and the Energy Commission.

AQ-74 Engine operation for maintenance and testing purposes shall not exceed 0.5 hour per day and 50 hours per calendar year. (NSR) (17 CCR §93115) (ATCM reportable)

Verification: The project owner shall submit to the CPM the fire pump engine operating data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC11**).

AQ-75 The engine shall only use ARB Diesel Fuel. (Rule 69.4.1, 17 CCR §93115)

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

AQ-76 Visible emissions including crankcase smoke shall comply with Air Pollution Control District Rule 50. (Rule 50)

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

AQ-77 The equipment described above shall not cause or contribute to public nuisance. (Rule 51)

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

AQ-78 This engine shall not operate for non-emergency use during the following periods, as applicable:

A. Whenever there is any school sponsored activity, if engine is located on school grounds or

B. Between 7:30 and 3:30 PM on days when school is in session, if the engine is located within 500 feet of, but not on school grounds.

This condition shall not apply to an engine located at or near any school grounds that also serve as the student's place of residence (17 CCR §93115) (ATCM reportable).

Verification: The project owner shall submit to the CPM the engine operating data demonstrating compliance with this condition on request and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-79 A non-resettable engine hour meter shall be installed on this engine, maintained in good working order, and used for recording engine operating hours. If a meter is replaced, the Air Pollution Control District's Compliance Division shall be notified in writing within 10 calendar days. The written notification shall include the following information:

A. Old meter's hour reading.

B. Replacement meter's manufacturer name, model, and serial number if available and current hour reading on replacement meter.

C. Copy of receipt of new meter or of installation work order.

A copy of the meter replacement notification shall be maintained on site and made available to the Air Pollution Control District upon request. (Rule 69.4.1) (17 CCR §93115)

Verification: The project owner shall provide notification to the District as required by this condition and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-80 The owner or operator shall conduct periodic maintenance of this engine and add-on control equipment, if any, as recommended by the engine and control equipment manufacturers or as specified by the engine servicing company's maintenance procedure. The periodic maintenance shall be conducted at least once each calendar year. (Rule 69.4.1)

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

AQ-81 The owner or operator of the engine shall maintain the following records on site for at least the same period of time as the engine to which the records apply is located at the site:

A. Documentation shall be maintained identifying the fuel as ARB diesel;
B. Manual of recommended maintenance provided by the manufacturer, or maintenance procedures specified by the engine servicing company; and
C. Records of annual engine maintenance, including the date the maintenance was performed.

These records shall be made available to the Air Pollution Control District upon request. (Rule 69.4.1)

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

AQ-82 The owner or operator of this equipment shall maintain a monthly operating log containing, at a minimum, the following:

A. Dates and times of engine operation, indicating whether the operation was for maintenance and testing purposes or emergency use; and, the nature of the emergency, if known;

B. Hours of operation for all uses other than those specified above and identification of the nature of that use.

(Rule 69.4.1) (17 CCR §93115)

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

AQ-83 All operational and maintenance logs required by this permit shall be kept a minimum of 36 months from their date of creation unless otherwise indicated by the conditions of this permit. The records shall be maintained onsite for a minimum of 24 months from their date of creation. Records for the last 24 months of operation shall be made available to the Air Pollution Control District upon request. Records for operation for the last 25 to 36 months shall be made available to the Air Pollution Control District within 5 working days of request.

Verification: The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.
Additional General Conditions

AQ-84 All records required by these conditions shall be maintained on site for a minimum of five years and made available to the District upon request.

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

B. PUBLIC HEALTH

The public health analysis supplements the previous discussion on air quality and considers the potential public health effects from project emissions of toxic air contaminants. In this analysis, we review the evidence concerning whether such emissions will result in significant adverse public health impacts that violate standards for public health protection.[8]

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project construction and operation will result in routine emissions of toxic air contaminants (TACs). These substances are categorized as noncriteria pollutants because there are no ambient air quality standards established to regulate their emissions.[9] In the absence of standards, state and federal regulatory programs have developed a health risk assessment procedure to evaluate potential health effects from these emissions.

The risk assessment consists of the following steps:

- Identify the types and amounts of hazardous substances that the project could emit to the environment;
- Estimate worst-case concentrations of project emissions in the environment using dispersion modeling;
- Estimate amounts of pollutants to which people could be exposed through inhalation, ingestion, and dermal contact;[10] and
- Characterize potential health risks by comparing worst-case exposure to safe standards based on known health effects. (Ex. 200, pp. 4.7-5 to 4.7-6.)

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[8] This Decision discusses other potential public health concerns in the following sections. The accidental release of hazardous materials is discussed in **HAZARDOUS MATERIALS MANAGEMENT** and **WORKER SAFETY AND FIRE PROTECTION**. Electromagnetic fields are discussed in the section on **TRANSMISSION LINE SAFETY AND NUISANCE**. Potential impacts to soils and surface water sources are discussed in the **SOIL AND WATER RESOURCES** section. Hazardous and non-hazardous wastes are described in **WASTE MANAGEMENT**.

[9] Criteria pollutants are discussed in the **AIR QUALITY** section, *supra*.

[10] Exposure pathways, or ways in which people might come into contact with toxic substances, include inhalation, dermal (through the skin) absorption, soil ingestion, consumption of locally grown plant foods, and mother's milk.

Typically, the initial risk analysis for a project is performed at a "screening level" which is designed to conservatively estimate actual health risks. The risks for screening purposes are based on examining conditions that would lead to the highest, or worst-case, risks and then using those conditions in the study. Such conditions include:

- Using the highest levels of pollutants that could be emitted from the plant;
- Assuming weather conditions that would lead to the maximum ambient concentration of pollutants;
- Using the type of air quality computer model which predicts the greatest plausible impacts;
- Calculating health risks at the location where the pollutant concentrations are estimated to be the highest;
- Assuming that an individual's exposure to cancer-causing agents occurs continuously for 70 years; and
- Using health-based standards designed to protect the most sensitive members of the population (i.e., the young, elderly, and those with respiratory illnesses). (Ex. 200, p. 4.7-6.)

The risk assessment process addresses three categories of health impacts: acute (short-term) health effects; chronic (long-term) non-cancer effects; and cancer risk (also long-term). Acute health effects result from short-term (one-hour) exposure to relatively high concentrations of pollutants. Chronic health effects are those which arise as a result of long-term exposure to lower concentrations of pollutants. The exposure period is considered to be approximately from twelve to one hundred percent of a lifetime, or from eight to seventy years. (Ex. 200, p. 4.7-7.)

The analysis for non-cancer health effects compares the maximum project contaminant levels to safe levels called "reference exposure levels" or RELs. These are amounts of toxic substances to which even sensitive people can be exposed and suffer no adverse health effects. These exposure levels are designed to protect the most sensitive individuals in the population such as infants, the aged, and people suffering from illness or disease which makes them more sensitive to the effects of toxic substance exposure. The RELs are based on the most sensitive adverse health effects reported, and include margins of safety.

For carcinogenic substances, the health assessment considers the risk of developing cancer and assumes that continuous exposure to the cancer-causing

substance occurs over a 70-year lifetime. The risk that is calculated is not meant to project the actual expected incidence of cancer, but rather a theoretical upper-bound number based on worst-case assumptions. (Ex. 200, p. 4.7-7.)

Cancer risk is expressed in chances per million, and is a function of the maximum expected pollutant concentration, the probability that a particular pollutant will cause cancer, and the length of the exposure period. Cancer risks for each carcinogen are added to yield total cancer risk. The conservative nature of the screening assumptions used means that actual cancer risks due to project emissions are likely to be considerably lower than those estimated.

If the screening analysis predicts no significant risks, then no further analysis is required. However, if risks are above the significance level then further analysis, using more realistic, site-specific assumptions, is performed to obtain a more accurate assessment of potential public health risks. (Ex. 200, p. 4.7-8.)

A total[11] hazard index of less than one indicates that cumulative worst-case exposures are at or below safe levels. Cancer risks are calculated based on the total risk from exposure to all cancer-causing chemicals. A significant increased lifetime cancer risk occurs if one excess case of cancer in an exposed population of 100,000 (equivalent to a risk of ten in one million or 10×10^{-6}) is calculated to occur. (Ex. 200, p. 4.7-8.)

Toxic emissions will be attributable to the project during its construction and operation phases. Applicant and Staff each performed an analysis of the impacts of the project which evaluated potential cancer and non-cancer health risks to the public. (12/19/08 RT 46, 181; Ex 200, pp. 4.7-1 to 4.7-23.)

Construction of the entire project including linear facilities is anticipated to take place over a period of six months. As noted earlier, assessment of chronic (long-term) health effects assumes continuous exposure to toxic substances over a significantly longer time period, typically from 8 to 70 years. Modeling the daily emissions of construction activities using a 12-hour work day resulted in annual PM10 concentrations of 0.311 µg/m3 and annual PM2.5 concentrations of 0.0881 µg/m3. The evidence shows that, due to the short duration of construction for

[11] The hazard index for every toxic substance which has the same type of health effect is added to yield a total hazard index. The total hazard index is calculated separately for acute and chronic effects.

this project, health risks from construction emissions are not expected. (Ex. 200, p. 4.7-10.)

During operation, the emission sources at the project include two combustion turbine generators, one black start engine, one diesel-fueled emergency firewater pump, and the exhaust from tanker trucks hauling water for project operations. The testimony explains, in depth, the methodology used in identifying and quantifying the emission rates of the toxic non-criteria pollutants which could adversely affect public health. (Ex. 200, pp. 4.7-12 to 4.7-17.) Basically, once potential emissions are identified, they are then quantified by conducting a "worst case" analysis. Maximum hourly emissions are used to calculate acute (one-hour) non-cancer health effects, while estimates of maximum emissions on an annual basis are used to calculate cancer and chronic (long-term) non-cancer health effects. (Ex. 200, p. 4.7-11.)

Ambient concentrations of toxic substances are then estimated by using a screening air dispersion model and assuming conditions that result in maximum impacts. Finally, ambient concentrations were used in conjunction with RELs and cancer unit risk factors to estimate health effects which might occur from exposure to facility emissions. (Ex. 200, pp. 4.7-11 to 4.7-12.)

The Applicant's screening health risk assessment for the project including emissions from all sources resulted in a maximum acute Hazard Index (HI) of 1.54 and a maximum chronic HI of 0.0413. The maximum acute and chronic HI occurred at locations just beyond the north boundary and near the center western boundary of the project, respectively. The highest acute and chronic hazard indices at a residential location were calculated to be 0.538 and 0.00204, respectively, both occurring at residences northeast of the facility. As **Public Health Table 3** below shows, the chronic HI at the point of maximum impact is less than 1.0 while the acute HI is more than 1.0, indicating that no long-term adverse health effects are expected but short-term health effects may be significant. However, the maximal hazard indices at any residential or public receptor are below the level of significance.

As shown in **Public Health Table 3** below, total worst-case individual cancer risk was calculated by the Applicant to be 3.65 in 1 million at the location of maximum impact, which is outside the western property line at an elevation of about 995 feet. The highest cancer risk at a residence was calculated to be 0.178 in a million for a residence on a hill northeast of the project.

Public Health Table 3
Operation Hazard/Risk at Point of Maximum Impact: Applicant Assessment

Type of Hazard/Risk	Hazard Index/Risk	Significance Level	Significant?
Acute Noncancer	1.54	1.0	Yes
Chronic Noncancer	0.0413	1.0	No
Individual Cancer	3.65 in a million	10.0 in a million	No

Source: Ex. 200, p. 4.7-13.

Staff conducted an independent quantitative health risk assessment and compared the results to those presented by the Applicant. Emitting units assessed include two natural gas-fired combustion turbines, a natural gas-fired black start engine, and a diesel fire water pump, for a total of four emitting sources evaluated.

Staff's health risk assessment of power plant operations included the following:

- Stack parameters, building parameters, emission rates and locations of sources were obtained from the AFC and modeling files provided by the Applicant.
- Emissions from the two combustion turbine generator stacks, the black start engine and the diesel fire water pump were included in the analysis.
- Use of a receptor grid of -1200 to 1200 m east and -1200 to 1200 m north, at 100 m increments.
- Exposure pathways assessed include inhalation, dermal absorption, soil ingestion, locally grown produce and mother's milk.

Atmospheric dispersion modeling was conducted using the CARB/OEHHA Hotspots Analysis and Reporting Program (HARP), Version 1.4a, which includes air dispersion modeling using EPA's ISCST model. Screening meteorological data were used to predict project risks and hazards because the local metrological data was not presented to Staff in a usable format. Also, due to the severe terrain of the project area, and the tendency of the ISCST air dispersion model to over-predict ground level concentrations in such situations of severe terrain, cancer risk and chronic hazard index were calculated based on the annual average modeling results predicted by AERMOD at the maximum impact location for NOx, SOx and PM (provided by Will Walters of Aspen Engineering, e-mail correspondence September 29, 2008). The maximum Chi/Q value

predicted is 0.86 (ug/m^3)/(g/sec), at a location about one-half mile west southwest from the project, at an elevation approximately 450 feet above the project site. (Ex. 200, p. 4.7-13.)

The emission factors used in Staff's analysis of cancer risk and hazard were obtained from the AFC and are listed in **Public Health Table 4** below. For cancer risk calculations using the HARP model, Staff used the "Derived (Adjusted) Method" and for chronic non-cancer hazard Staff used the "Derived (OEHHA) Method." The following receptor locations were quantitatively evaluated in Staff's analysis:

- The point of maximum impact (PMI) located west of the site (70 year residential scenario)
- The Maximally Exposed Individual Resident (MEIR) located northeast of the site (70 year residential scenario)

Ground level concentrations (GLCs) predicted at the maximum impact location using AERMOD results are listed in **Public Health Table 5.** Annual facility emissions in units of pounds/year are converted to units of g/sec/facility for this analysis. GLCs at the PMI were determined by multiplying the g/sec emission factor (the sum of emissions from all three sources) for each substance by the Chi/Q value. GLCs were then entered into the HARP program according to the protocol outlined in Topic 8 of the HARP How-to Guide ("*How to Perform Health Analyses Using a Ground Level Concentration*").

Results of Staff's analysis using screening and local meteorology, as well as the Chi/Q approach, are summarized below in **Public Health Table 6** and are compared to the results presented in the AFC.

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PUBLIC HEALTH TABLE 4
Emission Rates Used in the Cancer Risk and Hazard Analyses

Substance	Annual Average Emissions (lbs/year)	Maximum 1-Hour Emissions (lbs/hour)
EMISSION RATES FROM OPERATION OF EACH COMBUSTION TURBINE		
Ammonia	9.64E+03	3.01E+00
1,3-Butadiene	6.50E-01	2.03E-04
Acetaldehyde	6.05E+01	1.89E-02
Acrolein	9.67E+00	3.02E-03
Benzene	1.81E+01	5.67E-03
Ethylbenzene	4.84E+01	1.51E-02
Formaldehyde	1.07E+03	3.35E-01
Propylene Oxide	4.38E+01	1.37E-02
Toluene	1.96E+02	6.14E-02
Xylenes	9.67E+01	3.02E-02
Benzo(a)anthracene	1.98E-01	6.19E-05
Benzo(a)pyrene	1.35E-01	4.23E-05
Benzo(b)fluoranthene	9.92E-02	3.10E-05
Benzo(k)fluoranthene	9.92E-02	3.10E-05
Chrysene	2.21E-01	6.90E-05
Dibenz(a,h)anthracene	1.98E-01	6.19E-05
I(1,2,3-cd)pyrene	1.98E-01	6.19E-05
Naphthalene	1.16E+01	3.64E-03
EMISSION RATES FROM OPERATION OF BLACK START ENGINE		
1,3-Butadiene	3.40E-03	2.43E-04
Acetaldehyde	1.06E-01	7.60E-03
Acrolein	6.54E-02	4.67E-03
Benzene	5.60E-03	4.00E-04
Ethylbenzene	5.05E-04	3.61E-05
Formaldehyde	6.72E-01	4.80E-02
Methanol	3.18E-02	2.27E-03
n-Hexane	1.41E-02	1.01E-03
Phenol	3.05E-04	2.18E-05
Toluene	5.19E-03	3.71E-04
Xylenes	2.34E-03	1.67E-04
Benzo(a)anthracene	1.23E-06	8.80E-08
Benzo(a)pyrene	4.82E-08	3.44E-09
Benzo(b)fluoranthene	9.91E-07	7.08E-08
Benzo(k)fluoranthene	1.50E-07	1.07E-08
Chrysene	2.80E-07	2.00E-08
Dibenz(a,h)anthracene	4.82E-08	3.44E-09
I(1,2,3-cd)pyrene	1.35E-07	9.67E-09
Naphthalene	3.85E-04	2.75E-05

PUBLIC HEALTH TABLE 4 (continued)
Emission Rates Used in the Cancer Risk and Hazard Analyses

Substance	Annual Average Emissions (lbs/year)	Maximum 1-Hour Emissions (lbs/hour)
EMISSION RATES FROM OPERATION OF DIESEL FIRE WATER PUMP		
Benzene	5.98E-02	1.15E-03
Toluene	2.62E-02	5.04E-04
Xylenes	1.83E-02	3.51E-04
Propylene	1.65E-01	3.18E-03
1,3-Butadiene	2.51E-03	4.82E-05
Formaldehyde	7.56E-02	1.45E-03
Acetaldehyde	4.92E-02	9.45E-04
Acrolein	5.93E-03	1.14E-04
Benzo(a)anthracene	1.08E-04	2.07E-06
Benzo(a)pyrene	1.21E-05	2.32E-07
Benzo(b)fluoranthene	6.35E-06	1.22E-07
Benzo(k)fluoranthene	9.93E-06	1.91E-07
Chrysene	2.26E-05	4.35E-07
Dibenz(a,h)anthracene	3.74E-05	7.19E-07
Indeno(1,2,3-cd)pyrene	2.40E-05	4.62E-07
Naphthalene	5.44E-03	1.05E-04

PUBLIC HEALTH TABLE 5
Ground Level Concentrations Based on AERMOD

Substance	Annual Average Emissions (lbs/year)			Annual Average Emissions (g/sec)	Ground Level Conc. (ug/m3)
	Each Turbine	Black Start Engine	Fire Water Pump	All Sources	All Sources
Ammonia	9.64E+03			1.39E-01	1.19E-01
1,3-Butadiene	6.50E-01	3.40E-03	2.51E-03	9.44E-06	8.12E-06
Acetaldehyde	6.05E+01	1.06E-01	4.92E-02	8.73E-04	7.50E-04
Acrolein	9.67E+00	6.54E-02	5.93E-03	1.40E-04	1.21E-04
Benzene	1.81E+01	5.60E-03	5.98E-02	2.62E-04	2.25E-04
Ethylbenzene	4.84E+01	5.05E-04		6.96E-04	5.99E-04
Formaldehyde	1.07E+03	6.72E-01	7.56E-02	1.55E-02	1.33E-02
n-Hexane		1.41E-02		2.03E-07	1.75E-07
Propylene Oxide	4.38E+01			6.31E-04	5.43E-04
Toluene	1.96E+02	5.19E-03	2.62E-02	2.83E-03	2.43E-03
Xylenes	9.67E+01	2.34E-03	1.83E-02	1.39E-03	1.20E-03
B(a)anthracene	1.98E-01	1.23E-06	1.08E-04	2.85E-06	2.45E-06
B(a)pyrene	1.35E-01	4.82E-08	1.21E-05	1.95E-06	1.68E-06
B(b)fluoranthene	9.92E-02	9.91E-07	6.35E-06	1.43E-06	1.23E-06

Substance	Annual Average Emissions (lbs/year)	Annual Average Emissions (g/sec)	Ground Level Conc. (ug/m3)	Substance	Annual Average Emissions (lbs/year)
Chrysene	2.21E-01	2.80E-07	2.26E-05	3.18E-06	2.73E-06
Di(a,h)anthracene	1.98E-01	4.82E-08	3.74E-05	2.85E-06	2.45E-06
I(1,2,3-cd)pyrene	1.98E-01	1.35E-07	2.40E-05	2.85E-06	2.45E-06
Naphthalene	1.16E+01	3.85E-04	5.44E-03	1.68E-04	1.44E-04

PUBLIC HEALTH TABLE 6
Results of Staff's Analysis and the Applicant's Analysis for Cancer Risk and Chronic and Acute Hazard Indices

	Staff's Analysis HARP with ISCST Screening Meteorological Data			Applicant's Analysis		
	Cancer Risk (per million)	Chronic HI	Acute HI	Cancer Risk (per million)	Chronic HI	Acute HI
PMI	4.3	0.049	0.6	3.7	0.041	1.5
MEIR	1.9	0.021	0.3	0.18	0.0020	0.54
	Staff's Analysis AERMOD with Local Meteorological Data					
	Cancer Risk (per million)	Chronic HI	Acute HI			
PMI	0.64	0.0072	n/a			
MEIR	n/a	n/a	n/a			

The evidence shows that Applicant's cancer risk estimate is about the same as Staff's screening assessment using the HARP model (3.7 compared to 4.3 in one million, respectively). The Applicant's acute and chronic noncancer estimates are higher than Staff's estimate when using the HARP model and in fact, the Applicant's estimate of the acute hazard index at the PMI (1.5) is above the threshold of significance (but is not above that threshold at the nearest residence, 0.54). The Staff's estimate of acute hazard index is 0.6 which is below the level of significance. Both the Applicant's and Staff's estimates of the

chronic hazard index at the PMI are in agreement (0.041 and 0.049, respectively) and are well below the level of significance. When Staff used a more refined air dispersion model (AERMOD) to estimate cancer risk and chronic hazard index at the PMI, Staff found a lower cancer risk (0.64 in one million) and a lower chronic hazard index (0.0072).

All cancer risks calculated by the Applicant and Staff are well below the level of significant risk, which is 10 in one million. On the basis of this evidence we find that the project will not cause a significant risk of cancer to the public. And, since Staff's assessment using screening meteorology data found both the chronic and acute hazard indices to be less than significant (< 1.0), we also find that the project will not cause a significant acute or chronic hazard to the public. (Ex. 200, p. 4.7-17.)

Applicant and Staff also examined the potential health impacts of emissions from trucks used to transport water for project operations. The Applicant plans to transport recycled and fresh water from off-site pickup stations to the proposed site, with a one-way distance of 15.6 miles for recycled water and 9.0 miles for fresh water. Based on expected use of the proposed plant, water hauling is expected to typically occur about 60 days/year. The peak expected rate of water hauling is one truck per hour for fresh water and one truck per hour for recycled water. (Ex. 200, p. 4.7-17.)

Staff requested that the Applicant provide a health risk assessment for the impacts of diesel emissions on the public along the water transportation routes. The Applicant modeling resulted in a maximum cancer risk at a residential receptor of 3.91 in one million from diesel exhaust emissions along the road, 2.26 in one million for idling at the fresh water pickup location, and 1.71 in one million for idling at the recycled water pickup location. The maximum chronic HI at a residential receptor was calculated to be 0.00246 along the road, 0.00142 at the fresh water pickup station, and 0.00107 at the recycled water pickup station. The acute HI at all locations was found to be zero. (Ex. 7, DR 52, Ex. 52-1 and Ex. 52-2; Ex. 200, p. 4.7-18.)

Staff also analyzed cancer risks and chronic hazards due to emissions from the water trucks. Staff used the maximum operational hours possible, 3,200 hrs/year, in its estimate of impacts and obtained approximately the same risk and hazard index results as the Applicant (see **Public Health Table 7**). In order to verify that the analysis identified the maximally impacted receptor, Staff conducted an additional analysis which resulted in a maximum cancer risk of 6.0E-06 and

maximum chronic hazard index of 0.0038, located at a receptor next to the roadway.

The risks reported in this analysis are for residents along the one mile road segment of Mission Road on the fresh water haul route but are applicable to any person along any route.

Public Health Table 7
Applicant and Staff Water Transport
Cancer and Chronic Hazard Index Results

	Maximally Impacted Receptor	
	Applicant	**Staff**
Cancer Risk	3.9E-06	6.0E-06
Chronic HI	0.0025	0.0038

These results show that both the Applicant's and Staff's modeling of the transport of water to the project show that health impacts would be less than significant. Note that during drought conditions, the project may use more recycled water if fresh water is not available; however the project would require the same number of water transport truck trips. We note that the cancer and Chronic HI could change during a drought if the number of truck trips along the recycled water route were to increase, but find that this is highly unlikely given Staff's conservative use of 3200 hr/yr. as its assumed operational level. Moreover, Condition of Certification **TRANS-4** limits the project to a maximum of two water truck deliveries per hour.

Intervenor Archie McPhee testified at length about the use of recycled water at the Orange Grove Project. His concerns, as they related to the topic of public health, referred to the sanitation of the recycled water (12/19/08 RT 105:4-8; 107:18-25; 108:19-22), the presence of ammonia in the recycled water (12/19/08 RT 126:16-19) and the risk of human exposure to the recycled water (12/19/08 RT 107:1-7).

Mr. McPhee also asserts that the presence of ammonia in FPUD's Reclaimed Water Chemistry Profile for 2006-2007 indicates that FPUD's recycled water is not disinfected. (12/19/08 RT 126:16-19.) However, Mr. McPhee's testimony also indicates that FPUD disinfects its recycled water using chlorine (12/19/08 RT 126:17-23; 126-127:2.) As discussed above, the water supplied by FPUD must meet the specifications of disinfected tertiary recycled water as defined in

Section 60301.230 of Title 22 of the California Code of Regulations. Furthermore, Staff noted at the evidentiary hearing that FPUD's National Pollutant Discharge Elimination System (NPDES) permit indicates that FPUD indeed produces disinfected tertiary recycled water. (12/19/08 RT 130:24-131:13.) Staff subsequently corrected the record to indicate that the document they were referring to was Order No. 91-39, Waste Discharge Requirements for Fallbrook Sanitary District (see Declaration of Jared Babula, Ex. 209). We are satisfied then that the Orange Grove Project will receive disinfected tertiary recycled water from FPUD.

In addition, Condition of Certification **SOIL & WATER-8** requires the Project to comply with all recycled water use requirements established in Title 22 and Title 17 of the California Code of Regulations and any applicable local recycled water use ordinances. (Ex. 200 p. 4.9-35.) This condition also requires Orange Grove Project to submit a Title 22 Engineer's Report prior to delivery of recycled water to the site. The Engineer's Report must include comments on the report from the California Department of Public Health and the San Diego Regional Water Quality Control Board, and the report must be reviewed and approved by the Compliance Project Manager (CPM). (Ex. 200, p. 4.9-35.)

We find that regardless of whether the water is called recycled or reclaimed water, it must be processed through modern primary, secondary, and/or tertiary treatment and disinfection following the strict standards of the California Department of Public Health (Testimony of Cheryl Closson, 12/19/08 RT 92:18-25, 93:1-9. *See also*, the written testimony of Richard Jones and Joseph Stenger, Ex. 23.)

Mr. McPhee also asserts that the presence of ammonia in FPUD's Reclaimed Water Chemistry Profile for 2006-2007 indicates that FPUD's recycled water is not disinfected. (12/19/08 RT 126:16-19.) However, Mr. McPhee's testimony also indicates that FPUD disinfects its recycled water using chlorine (12/19/08 RT 126:17-23; 126-127:2.) As discussed above, the water supplied by FPUD must meet the specifications of disinfected tertiary recycled water as defined in Section 60301.230 of Title 22 of the California Code of Regulations. Furthermore, Staff noted at the evidentiary hearing that FPUD's National Pollutant Discharge Elimination System (NPDES) permit indicates that FPUD indeed produces disinfected tertiary recycled water. (12/19/08 RT 130:24-131:13.) We are satisfied then that the Orange Grove Project will receive disinfected tertiary treated recycled water from FPUD.

As to Mr. McPhee's concerns about human exposure to recycled water (12/19/08 RT 107:1-7; 111:13-17), the California Department of Public Health has set standards for recycled water use (Cal. Code Regs., tit. 22, §§ 60304, 60305, 60306, 60307). Section 60306(a) of the regulations states:

> "Recycled water used for industrial or commercial cooling or air conditioning that involves the use of a cooling tower, evaporative condenser, spraying or any mechanism that creates a mist shall be a disinfected tertiary recycled water." [Cal. Code Regs., tit. 22, § 60306, subd. (a).]

It is undisputed that the Water Code and Title 22 allow for the widespread use of recycled water that has undergone tertiary treatment and disinfection. Such uses include all the proposed applications by the Orange Grove Project. We have already noted that Condition of Certification **Soil and Water 8** requires the Applicant to comply with all recycled water use requirements established in Title 22 and Title 17 of the California Code of Regulations as well as Orange Grove's Option Water Agreement that directs FPUC: "to provide recycled water which meets all requirements for Title 22 tertiary treated recycled water." (Covenant No. 4 Appen. 6.5-G, Ex. 1. *See also,* the testimony of Cheryl Closson, 12/19/08 RT 92:18-25; 93:1-9.)

The State has broadly recognized that recycled water is safe. The use of recycled water in accordance with Title 22 recycled water standards "does not cause, constitute, or contribute to, any form of contamination," unless the department or the Regional Water Quality Control Board determines otherwise. (Cal. Water Code § 13522[b].) Water Code Section 13529(f) declares that "the use of recycled water has been proven safe." Tertiary treated recycled water has been determined by the State to be of such a low environmental and health threat that, even if spilled directly in Waters of the State, such a discharge need not even be reported under State law unless it is 50,000 gallons or more. (Water Code § 13529.2.) Fifty-thousand gallons is the equivalent of approximately eight truckloads using the water truck capacity included in the Project design. (*See* Ex. 200 at 4.10-6; 12/19/08 RT 82:9; 83-19) The great weight of the evidence persuades us that the use of disinfected tertiary treated recycled water at the Orange Grove Project poses no risk to public health.

Finally, the record shows that in addition to being a source of potential toxic air contaminants, the possibility exists for bacterial growth, including Legionella, to occur in the cooling tower. It is the principal cause of legionellosis, otherwise

known as Legionnaires' disease, which is similar to pneumonia. Transmission to people results mainly from inhalation or aspiration of aerosolized contaminated water. Untreated or inadequately treated cooling systems, such as industrial cooling towers and building heating, ventilating, and air conditioning systems, have been correlated with outbreaks of legionellosis.

According to the evidence, good preventive maintenance is very important in the efficient operation of cooling towers and other evaporative equipment. Preventive maintenance includes having effective drift eliminators periodically cleaning the system if appropriate, maintaining mechanical components in working order, and maintaining an effective water treatment program with appropriate biocide concentrations. (Ex. 200, p. 4.7-20.)

The State of California regulates recycled water for use in cooling towers in Title 22, section 60303, California Code of Regulations. This section requires that, in order to protect workers and the public who may come into contact with cooling tower mists, chlorine or another biocide must be used to treat the cooling system water to minimize the growth of Legionella and other micro-organisms. This regulation applies to the project since it intends to use tertiary-treated recycled water provided by the FPUD Wastewater Treatment Plant No. 1 for cooling. (Ex. 200, p. 4.7-20.)

In order to ensure that Legionella growth is kept to a minimum, Condition of Certification **PUBLIC HEALTH-1** is necessary. The Condition will require the project owner to prepare and implement a biocide and anti-biofilm agent monitoring program to ensure that proper levels of biocide and other agents are maintained within the cooling tower water at all times, that periodic measurements of Legionella levels are conducted, and that periodic cleaning is conducted to remove bio-film buildup.

1. Cumulative Impacts

The Applicant has contacted the SDCAPCD, which identified two facilities within a 6-mile radius that submitted applications for authority to construct: a thermal oxidizer for soil remediation in Escondido and an industrial dust collector in the City of Vista. The Applicant identified no other sources of emissions in the project vicinity and therefore cumulative impacts from this project are not expected (Ex. 200, p. 4.7-21.)

The maximum cancer risk for emissions from project as calculated by Staff is 0.64 in one million. The contribution of the project to both cancer risk and chronic and acute non-cancer disease are comparatively very small. We find that even in a cumulative context including other regional sources, the estimates for cancer risk from the OGP project are less than significant. We further find that OGP's contribution to chronic and acute non-cancer disease is less than significant in a cumulative context.

PUBLIC COMMENT

Written comment submitted on December 18, 2008, by the law firm Best, Best & Krieger, representing **DFI Funding, Inc**., notes the inconsistency between Applicant's and Staff's cancer risk and hazard index estimates and suggests that Applicant and Staff "correct and repeat" the risk assessments "before conclusively presuming that public health will not be impacted." However, we note that the comment does not consider the fact that both cancer assessments as well as both chronic non-cancer assessments resulted in figures substantially below the level of significance. It is only the Applicant's short term acute non-cancer assessment that resulted in an estimate of significance at the PMI**.** The fact that the Applicant's preliminary assessment differs with Staff's is not unusual. Even though the results differ, Staff's assessment provided a complete double check on the modeling conducted by Orange Grove. We note that Applicant's modeling lacks the transparency and verifiability of Staff's assessments. Further, Staff relies entirely on its own assessment to make its findings and does not use the Applicant's assessment. The record establishes that the AERMOD air dispersion model is more accurate for complex terrain (see, Ex. 200 p. 4.7-17.) As noted above, this model produced the lowest cancer and chronic hazard index figures of all. The AERMOD figures are mere fractions of the already-low risk figures produced by Orange Grove and Staff's ISC/HARP analyses. (Ex. 200, p. 4.7-17.) Therefore, we find the Staff's assessment more persuasive in this regard and we have no evidence that repeating Staff's risk assessments could lead to results exceeding the level of significance.

Also **DFI** argues that the health impacts from the diesel-fueled water trucks should not be addressed separately from the health impacts of the Project facilities, and instead should be addressed cumulatively. However, the effects from both the Project and the water trucks are so slight that even when considered cumulatively they would still be below the level of significance. The significance of non-cancer health effects is established by calculating a hazard index, which is a ratio comparing exposure from facility emissions to the safe exposure level. (Ex. 200 p. 4.7-8.) A ratio of less than 1.0 is less than

significant. For the Project's operation emissions (excluding the water trucks), Applicant found a maximum chronic hazard index of 0.0413. (Ex. 200 pp. 4.7-12 and 13.) Staff found a maximum chronic hazard index of 0.049. (Ex. 200 p. 4.7-17.) For the water truck emissions, Applicant found a maximum chronic hazard index of 0.0025 and Staff found a chronic hazard index of 0.0038 using different assumptions of the number of truck trips. (Ex. 200 p. 4.7-19.) The risk of chronic non-cancer health impacts is so low based on the calculations of both Applicant and Staff that even when the emissions from Project operations and from the water trucks are considered together, the impact would be far less than significant.

FINDINGS

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

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

2. Potential construction-related adverse health effects from diesel emissions and fugitive dust will be mitigated to insignificant levels.

3. Emissions of criteria pollutants, which are discussed in the **AIR QUALITY** section of this Decision, will be mitigated to levels below significance and consistent with applicable standards.

4. Applicant and Staff both performed health risk assessments, using well-established scientific protocol, to analyze potential adverse health effects of toxic air contaminants.

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

6. Application of the hazard index method establishes that emission of non-criteria pollutants from the project will not cause acute or chronic adverse public health effects.

7. The maximum non-cancer and the maximum cancer risks associated with the project are substantially below the significance thresholds commonly accepted for risk analysis purposes.
8. The project owner will implement a Cooling Water Management Plan in accordance with applicable LORS and guidelines to minimize the potential for growth of Legionella bacteria and other micro-organisms in cooling tower emissions.
9. Cumulative impacts from noncriteria pollutants were analyzed in accordance with the provisions of CEQA and are not expected to be significant.
10. Water supplied to the Orange Grove Project by FPUD will be "disinfected tertiary recycled water."

CONCLUSIONS

We therefore conclude that emissions of noncriteria pollutants from the construction and operation of the Orange Grove Project, and its use of recycled water, do not pose a significant direct, indirect, or cumulative adverse public health risk and that the project will comply with the applicable laws, ordinances, regulations, and standards specified in the appropriate portion of **Appendix A** of this Decision.

CONDITION OF CERTIFICATION

Public Health-1 The project owner shall develop and implement a Cooling Water Management Plan to ensure that the potential for bacterial growth in cooling water is kept to a minimum. The Plan shall be consistent with either Staff's "Cooling Water Management Program Guidelines" or with the Cooling Technology Institute's "Best Practices for Control of Legionella" guidelines but, in either case, the Plan must include sampling and testing for the presence of Legionella bacteria at least every six months. After two years of power plant operations, the project owner may ask the Compliance Project Manager (CPM) to re-evaluate and revise the Legionella bacteria testing requirement.

Verification: At least 60 days prior to the commencement of cooling tower operations, the Cooling Water Management Plan shall be provided to the CPM for review and approval.

C. WORKER SAFETY AND FIRE PROTECTION

Industrial workers are exposed to potential health and safety hazards on a daily basis. Implementation of various existing laws and standards will suffice to reduce these hazards to minimal levels. Therefore, this subsection focuses on whether Applicant's proposed health and safety plans will be adequate to protect industrial workers in accordance with all applicable LORS. The record also examines the availability and adequacy of fire protection and emergency response services.

Although the evidence submitted by Applicant and Staff was uncontested, members of the public expressed concern about the potential fire hazard posed by the project, as well as the provision of fire protection services. (12/19/08 RT 49, 182, 201-206; Exs. 1; 7; 10; 18(n); 54; 200, § 4.14.) We address this matter below.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Worker Safety

Industrial environments are potentially dangerous during construction, operation, and demolition activities. Workers at the proposed project will be exposed to loud noises, moving equipment, trenches, and confined space entry and egress problems. The workers may experience falls, trips, burns, lacerations, and various other injuries. They may be exposed to falling equipment or structures, chemical spills, hazardous waste, fires, explosions, and electrical sparks and electrocution. In addition, there is the risk of potential soil contamination during site preparation.[12] Thus, it is important for the Orange Grove Project to have well-defined policies and procedures, training, and hazard recognition and controls to minimize injuries and protect workers.

The evidence is uncontested and extensively details the type and content of several plans which will be developed to ensure the protection of worker health and safety, as well as compliance with applicable LORS. (Ex. 200 pp. 4.14-5 to 4.14-12.) For example, the project owner will develop and implement a "Construction Safety and Health Program" and an "Operations and Maintenance

[12] A Phase I Environmental Site Assessment was conducted for this site in 2008. There was no evidence of any use, spillage, or disposal of hazardous substances on the site. Conditions of Certification **WASTE-1** and **-2** require that a registered professional engineer or geologist be available during soil excavation and grading to ensure proper handling and disposal of any contaminated soil which may be encountered. (Ex. 200, p. 4.14-4.)

Safety and Health Program", both of which must be reviewed by the Compliance Project Manager prior to project construction and operation. Separate Injury and Illness Prevention Programs, Personal Protective Equipment Programs, Emergency Action Plans, Fire Protection and Prevention Plans, and other general safety procedures will be prepared for both the construction and operation phases of the project. (Exs. 1, Appendix 6.17-A; 200, pp. 4.14-5 to 4.14-9.) Conditions of Certification **WORKER SAFETY-1** and **-2** ensure that these measures will be developed and implemented.

OSHA and Cal-OSHA standards encourage employers to monitor worker safety by employing a "competent person" who has knowledge and experience with enforcing OSHA/Cal-OSHA standards, can identify workplace hazards, and has authority to take appropriate action. (Ex. 200, p. 4.14-10.) To implement the intent expressed in these standards, Condition **WORKER SAFETY-3** requires the project owner to designate a power plant Construction Safety Supervisor. This individual will coordinate and implement the Construction and Operation Safety and Health programs, as well as investigate any safety-related incidents and emergency responses.

To reduce and/or eliminate safety hazards during project construction and operation, it is also necessary to employ a professional Safety Monitor. The Safety Monitor, who is hired by the project owner but reports to the Chief Building Official and the Compliance Project Manager, will track compliance with OSHA/Cal-OSHA regulations and serve as an on-site OSHA expert. This professional will periodically audit safety compliance during construction, commissioning, and the transition to operational status, and ensure that safety procedures and practices are fully implemented.[13] (Ex. 200, p. 4.14-11.) Condition **WORKER SAFETY-4** describes the role of a Safety Monitor.

The project owner will maintain an automatic, portable defibrillator on-site to provide immediate response in the event of a medical emergency.[14] Condition **WORKER SAFETY-5** requires the project owner to ensure this device is

[13] Safety audits conducted by Staff in 2005 and 2006 at CEC-certified power plants revealed safety and health hazards and LORS violations due to errors, misunderstandings, and/or the failure to properly train supervisors and workers. (Ex. 200, pp. 4.14-10 to 4.14-11.)

[14] Staff's testimony contends that the potential for both work-related and non work-related heart attacks exists at power plants. The quickest medical intervention can be achieved with the use of an on-site defibrillator. Many modern industrial and commercial enterprises maintain defibrillators for emergency use. Staff therefore endorses this as an appropriate safety and health precaution. (Ex. 200, p. 4.14-13.)

available during construction and operation, and that appropriate personnel are trained to use it.

Finally, as an additional safeguard and because of the uncertainty discussed below concerning the provision of emergency medical and fire response services, we have also included Condition of Certification **WORKER SAFETY-6.** This Condition requires the project owner to provide either a private service contract or written proof that the project will be served by a designated fire protection district before any activity takes place on the site. (Ex. 200, p. 4.14-13.)

2. Fire Protection and Emergency Response

Project construction and operation pose the potential for both small fires and major structural fires. Electrical sparks, combustion of diesel fuel oil, natural gas, hydraulic fluid, mineral oil, insulating fluid or flammable liquids, explosions, and over-heated equipment may cause small fires. The on-site fire protection system provides the first line of defense for such occurrences. The Construction Fire Prevention and Protection Plan (Condition **WORKER SAFETY-1**) will address the placement of fire extinguishes and will detail measures to minimize the likelihood of fires during construction. (Ex. 200, p. 4.14-12.)

During operations, the project will meet the fire protection and suppression requirements of the California Fire Code, all applicable recommended National Fire Protection Association (NFPA) standards (including Standard 850 addressing fire protection at electric generating plants), and all Cal/OSHA requirements. Fire suppression elements will include both fixed and portable fire extinguishing systems. The fire water will be supplied from the Fallbrook Public Utility District (FPUD) by truck transport and stored in a 535,000-gallon tank; 360,000 gallons will be reserved for fire suppression. (Ex. 1, § 2.6.2.2, 2.6.2.3.) The water tank will supply the plant fire loop using one electric fire pump and one diesel-driven fire pump to maintain adequate pressure. (Ex. 1, § 2.9.3.)

A fixed sprinkler system will be installed in administrative buildings in accordance with NFPA requirements. A carbon dioxide fire protection system will be provided for the combustion turbine generators and accessory equipment. This system will have fire detection sensors that will trigger alarms, turn off ventilation, close ventilation openings, and automatically actuate the CO_2 suppression system. In addition to the fixed fire protection system, appropriate class-of-service portable extinguishers and hose reels will be located throughout the facility at code-approved intervals. (Ex. 1, §§ 2.9.3, 6.17.2.4.2.) The evidence

establishes that these systems will provide adequate fire protection. (Ex. 200, p. 4.4-12.)

A lack of specificity, however, currently exists regarding which fire district would provide assistance to the project if needed. Members of the public, including **Mr. Ray Gray** and **Ms. Angie Wolf**, expressed concern over this situation. (12/19/08 RT 201-02, 204-05.)

The evidence explains that while the project site is not currently within the jurisdiction of a fire department, it is within the Sphere of Influence of the North County Fire Protection District (NCFPD). The evidence also indicates that the County of San Diego will assign a fire protection district (likely the NCFPD) to provide services to the project; as an alternative, the project owner will contract directly with the NCFPD for services. (Ex. 200, p. 4.14-3; see also, 12/19/08 RT 206: 3-12.) Once either happens, the project will be under the jurisdiction of the fire district for code enforcement and fire protection/emergency medical response services. (Exs. 1, § 6.10.1.5.2; 200, p. 4.14-3.)

The nearest station is the Pala Fire Department (PFD) station, located about two miles northeast. This station would respond under a mutual aid agreement with NCFPD. The PFD station is equipped with fire response personnel and is staffed with paramedics assigned by Mercy Ambulance, an emergency medical services contractor. Total response time form this station is about three minutes. (Exs. 1, § 6.10.1.5.2; 200, p. 4.14-3.) The closest NCFPD station is #4, located at 4375 Pala Mesa Drive (approximately five miles west). Response time from this station to the site takes about nine minutes.

The NCFPD is also the first responder to hazardous materials incidents, with full response provided by the San Diego City and County Department of Health Hazardous Materials Incident Response Team (DEH-HIRT). The DEH-HIRT is capable of handling any hazardous materials-related incident and would respond within one hour from Station No. 44, located at 10011 Black Mountain Road in San Diego, approximately 37 miles away. (Ex. 200, p. 4.14-3.)

The evidence shows that the Orange Grove Project will not unduly burden the resources of the foregoing responders. For example, the NCFPD has indicated that annexation and mitigation fees, in addition to property taxes from the project, will cover any costs involved. This will ensure that the NCFPD is properly staffed and equipped. Similarly, the PFD has indicated that it is sufficiently equipped and staffed to deal with incidents at the project. Furthermore, mutual aid agreements with surrounding fire departments provide that fire coverage to other

areas of the District will remain available even if all PFD's resources are required at the project site. (Ex. 200, pp. 4.14-13 to 4.14-14.)

In our opinion, the record satisfactorily addresses the concerns voiced by members of the public at the December hearing. Condition **WORKER SAFETY-6** ensures that appropriate fire and emergency response services will be in place before site activities commence. There is simply no credible indication that fire protection services will be inadequate, or that the project will create a high or unique fire hazard to the area.

PUBLIC COMMENT

Public comment from **Ray Gray** and **Angie Wolf**, were addressed and considered in this section of the Decision, *supra*.

Written comment submitted on December 18, 2008, by **Ms**. **Cyndy Day-Wilson** of the law firm Best, Best & Krieger, representing DFI Funding, Inc., asserts that the Assessment improperly defers analysis and mitigation of fire safety impacts by allowing Orange Grove to develop its "Fire Protection [sic] Plan" after the Assessment was issued. Therefore, she contends that the public will not have an opportunity to review and comment on this fire safety analysis as required by CEQA and the [Commission's] regulations."

We have searched the Staff Assessment and Conditions of Certification and we can only assume that **Ms. Day-Wilson** intended to refer to the Fire <u>Prevention</u> Plan.

Ms. Day-Wilson may be correct that the Fire Prevention Plan has not yet been finalized. However, the specifics of the Fire Prevention Plan must be reviewed by the North County Fire Protection District consistent with Conditions of Certification **WORKER SAFETY-1** and -**2.** (Ex. 200 p. 4.14-14 to 4.14-15.) The contents of Fire Prevention Plan are specifically prescribed in Title 8, California Code of Regulations section 3221. We find that these performance-based Conditions of Certification, when read in conjunction with section 3221, adequately describe the components of the Fire Prevention Plan sufficient for compliance by the Applicant as well as oversight by the Compliance Project Manager and the North County Fire Protection District. Further, we find that there is no improper deferral of mitigation where, as here, there is a preexisting framework that demonstrates a commitment to mitigate by the North County Fire Protection District and adequate criteria to determine that the plan to be submitted is adequate pursuant to Title 8 California Code of Regulations section

3221 (see *Endangered Habitats League v. County of Orange* (4th Dist. 2005) 131 Cal. App. 4th 777). Finally, we find that the public has had ample time to review the fire safety analysis contained in Staff's Assessment.

FINDINGS

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

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

2. To protect workers from job-related injuries and illnesses, the project owner will implement comprehensive Safety and Health Programs for both the construction and the operation phases of the project.

3. The project will employ an on-site professional Safety Monitor during construction and operation.

4. The Orange Grove Project will include on-site fire protection and suppression systems as the first line defense in the event of a fire.

5. The North County Fire Protection District (NCFPD) and, if necessary, the Pala Fire Department (PFD) are available to provide fire protection and emergency response services to the project.

6. Prior to site activities, the project owner must establish that it has a binding agreement with the NCFPD for fire response and emergency medical services, or that the County of San Diego has designated a fire protection district to serve the Orange Grove Project.

7. Existing fire and emergency service resources are adequate to meet project needs.

8. The Orange Grove Project will not create cumulative adverse impacts upon the fire and emergency response capabilities of either the NCFPD or the PFD.

9. The project owner will maintain an automatic defibrillator on-site to provide immediate response in the event of a medical emergency.

CONCLUSIONS

Implementation of the Conditions of Certification, below, and the mitigation measures contained therein will ensure that the project conforms with all applicable laws, ordinances, regulations, and standards on industrial worker health and safety as identified in the pertinent portion of **Appendix A** of this Decision.

The Commission therefore concludes that implementation of the Safety and Health Programs and Fire Protection measures described in the record will reduce potential adverse impacts to the health and safety of industrial workers to levels of insignificance. Condition **WORKER SAFETY-6** ensures that fire protection and emergency services to the project are adequate.

CONDITIONS OF CERTIFICATION

WORKER SAFETY-1 The project owner shall submit to the Compliance Project Manager (CPM) a copy of the Project Construction Safety and Health Program containing the following:

1. a Construction Personal Protective Equipment Program;
2. a Construction Exposure Monitoring Program;
3. a Construction Injury and Illness Prevention Program;
4. a Construction Emergency Action Plan; and
5. a Construction Fire Prevention Plan.

The Personal Protective Equipment Program, the Exposure Monitoring Program, and the Injury and Illness Prevention Program shall be submitted to the CPM for review and approval concerning compliance of the programs with all applicable Safety Orders. The Construction Emergency Action Plan and the Fire Prevention Plan shall be submitted to the North County Fire Protection District for review and comment prior to submittal to the CPM for approval.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Safety and Health Program. The project owner shall provide a copy of the letter to the CPM from the North County Fire Protection District stating the

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:

1. an Operation Injury and Illness Prevention Plan;

2. an Emergency Action Plan;

3. a Hazardous Materials Management Program;

4. an Operation Fire Prevention Program (8 CCR § 3221); and

5. a Personal Protective Equipment Program (8 CCR §§ 3401-3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the CPM for review and comment concerning compliance of the programs with all applicable Safety Orders. The Operation Fire Prevention Plan, the Hazardous Materials Management Program, and the Emergency Action Plan shall also be submitted to the North County Fire Protection District for review and comment.

Verification: At least 30 days prior to the start of first-fire or commissioning, the project owner shall submit to the CPM for approval a copy of the Project Operations and Maintenance Safety and Health Program. The project owner shall provide a copy of the letter to the CPM from the North County Fire Protection District providing the Fire Department's comments on the Operations Fire Prevention Plan and Emergency Action Plan.

WORKER SAFETY-3 The project owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant laws, ordinances, regulations, and standards; is capable of identifying workplace hazards relating to the construction activities; and has authority to take appropriate action to assure compliance and mitigate hazards. The CSS shall:

1. have overall authority for coordination and implementation of all occupational safety and health practices, policies, and programs;

2. assure that the safety program for the project complies with Cal/OSHA and federal regulations related to power plant projects;

3. assure that all construction and commissioning workers and supervisors receive adequate safety training;

4. complete accident and safety-related incident investigations and emergency response reports for injuries and inform the CPM of safety-related incidents; and

5. assure that all the plans identified in Conditions of Certification **WORKER SAFETY-1** and **-2** are implemented.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM the name and contact information for the Construction Safety Supervisor (CSS). The contact information of any replacement (CSS) shall be submitted to the CPM within one business day.

The CSS shall submit in the Monthly Compliance Report a monthly safety inspection report which includes:

- a record of all employees trained for that month (all records shall be kept on site for the duration of the project);
- a summary report of safety management actions and safety-related incidents that occurred during the month;
- a report of any continuing or unresolved situations and incidents that may pose danger to life or health; and
- a report of accidents and injuries that occurred during the month.

WORKER SAFETY-4 The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Those services shall be in addition to other work performed by the CBO. The Safety Monitor shall be selected by and report directly to the CBO, and will be responsible for verifying that the Construction Safety Supervisor, as required in Condition of Certification **WORKER SAFETY-3**, implements all appropriate Cal/OSHA and Energy Commission safety requirements. The Safety Monitor shall conduct on-site (including linear facilities) safety inspections at intervals necessary to fulfill those responsibilities.

Verification: Prior to the start of construction, the project owner shall provide proof of its agreement to fund the Safety Monitor services to the CPM for review and approval.

WORKER SAFETY-5 The project owner shall ensure that a portable automatic external defibrillator (AED) is located on-site during construction and operations, shall implement a program to ensure that workers are properly trained in its use, and shall ensure that the equipment is properly maintained and functioning at all times. During construction and commissioning, the following persons shall be trained in use of the AED and shall be on-site whenever the workers that they supervise are on-site: the Construction Project Manager or delegate,

the Construction Safety Supervisor or delegate, and all shift foremen. During operations, all power plant employees shall be trained in use of the AED. The training program shall be submitted to the CPM for review and approval.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM proof that a portable automatic external defibrillator (AED) exists on-site, and a copy of the training and maintenance program for review and approval.

WORKER SAFETY-6 Prior to start of any site activities, the project owner shall provide to the CPM for review and approval either: 1) written proof in the form of a legally binding contract with the North County Fire Protection District for private fire response and emergency medical services for the project during construction, commissioning, and operations; or 2) written proof that the County of San Diego has designated a fire protection district and that the district will provide the above-mentioned services.

Verification: At least 30 days prior to the start of any site activities, the project owner shall provide proof of fire and EMS services to the CPM for review and approval.

D. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the Orange Grove Project (OGP) will create significant impacts to public health and safety resulting from the use, handling, or storage of hazardous materials. Several locational factors affect the potential for project-related hazardous materials to cause adverse impacts. These include local meteorological conditions, terrain characteristics, and the proximity of population centers and sensitive receptors. The **Worker Safety and Fire Protection** portion of this Decision analyzes the protection of workers from hazardous material risks.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Engineering controls and administrative controls affect the significance of potential impacts from hazardous materials usage. Engineering controls are those physical or mechanical systems (such as storage tanks or automatic shut-off valves) which can prevent a hazardous material spill from occurring, which can limit the spill to a small amount, or which can confine it to a small area. Administrative controls are those rules and procedures that workers at the facility must follow. These are designed to help prevent accidents or keep them small if they do occur. In both cases, the goal is to prevent a spill from moving off-site and causing harm. (Ex. 200, p. 4.4-6.)

Hazardous materials, such as mineral and lubricating oils, cleaning detergents, and welding gasses will be present at the proposed OGE project. Hazardous materials used during construction include petroleum products, compressed gases, paints, coatings, and adhesives. No acutely toxic hazardous materials will be used on site during construction. None of these materials pose significant potential for off-site impacts as a result of the quantities on site, their relative toxicity, their physical state, and/or their environmental mobility. Handling of hazardous materials during construction would comply with all applicable LORS and would aim to minimize environmental effects. ORANGE GROVE PROJECT contractors would follow standard operating procedures when fueling and servicing construction equipment to prevent spills. (Ex 200, p. 4.4-2.)

Energy Commission staff's assessment of the risks posed by the use of hazardous materials. This assessment included the following elements:

- A review of chemicals and the amounts proposed for on-site use and a determination of the need and appropriateness of their use.

- Chemicals which would be used in small amounts, or whose physical state is such that there is virtually no chance that a spill would migrate off the site and impact the public, were removed from further consideration.
- Measures proposed to prevent spills were reviewed and evaluated. These included engineering controls such as automatic shut-off valves and different size transfer-hose couplings, as well as administrative controls such as worker training and safety management programs.
- Measures proposed to respond to accidents were reviewed and evaluated. These measures also included engineering controls such as catchment basins and methods to keep vapors from spreading, as well as administrative controls such as training emergency response crews.
- An analysis of the theoretical impacts on the public of a worst-case spill of hazardous materials even with the mitigation measures proposed. (Ex. 200, pp. 4.4-6 to 4.4-7.)

The general population includes many sensitive subgroups that may be at greater risk from exposure to emitted pollutants. These sensitive subgroups include the very young, the elderly, and those with existing illnesses. In addition, the location of the population in the area surrounding a project site may have a major bearing on health risk. The nearest sensitive receptor is the Vivian Banks Charter School located approximately 2.0 miles west of the project site. The nearest public receptors are commercial uses located on the property boundary south and west of the project site. (Ex. 200, p. 4.4-5.)

The evidence is clear that, but for natural gas and aqueous ammonia, none of the hazardous materials which will be used during the project's construction and operation pose a significant potential for off-site impacts. This determination is based on the quantities on-site, the substances' relative toxicity, physical state, or environmental mobility. (Ex. 200, p. 4.4-7.)

During the December 19, 2008, Evidentiary Hearing, Intervenor Archie D. McPhee commented that the reclaimed water proposed for use in the Orange Grove Project contains dissolved methane gas that will be released as it is used, especially during hotter periods. Staff witness William Walters agreed that the water would contain "very low" quantities of trihalomethanes but asserted that off-gassing of those materials would be essentially negligible. We find in accordance with Mr. Walters' expert testimony on this point. (12/19/08 RT 72:1 to 24.)

Although no natural gas is stored on site, the project will involve the handling of large amounts of this fuel, with an accompanying risk of fire and explosion. Compliance with applicable codes which incorporate measures such as the use

of double block and bleed valves for secure shut off, automated combustion controls, and air purging of the gas turbines prior to startup will mitigate the potential for off-site impacts. (Ex. 200, pp. 4.4-7 to 4.4-8.)

Aqueous ammonia (19 percent ammonia in an aqueous solution) will be used in controlling the emission of oxides of nitrogen (NO_x) from the combustion of natural gas in the facility. It is the only acutely hazardous material to be used or stored at the ORANGE GROVE PROJECT in significant quantities. No more than 10,000 gallons will be stored on-site at any given time, in an above ground tank surrounded by a secondary containment basin capable of holding the full contents of the tank plus rainfall. The tanker truck transfer pad will be contained by a berm that drains into the storage tank's secondary containment structure. Plastic balls in the containment basin will limit the surface area coming in contact with the atmosphere, reducing the ammonia evaporation rate.

The accidental release of aqueous ammonia could, without proper mitigation, result in significant down-wind concentrations of ammonia gas. Staff's assessment of the potential impacts associated with an accidental release of aqueous ammonia used four benchmark exposure levels of ammonia gas occurring off site:

1. the lowest potentially lethal concentration — 2,000 parts per million (ppm);
2. the concentration immediately dangerous to life and health — 300 ppm;
3. the emergency response planning guideline level 2 of 150 ppm, which is also the risk management plan (RMP) level 1 criterion used by U.S. Environmental Protection Agency (EPA) and California; and
4. the level Staff considers to be without serious adverse effects on the public for a one-time exposure — 75 ppm.

If the potential exposure associated with a release exceeds 75 ppm at any public receptor, further review of probability of occurrence of the release, the severity of the consequences, and the nature of the potentially exposed population is considered to determine whether the potential impact is significant.

The Applicant's modeling estimates that ammonia concentrations exceeding 75 ppm, and 150 ppm could extend beyond the facility fence line for the worst-case scenario. Although concentrations exceeding 75 ppm would not reach the nearest residence or any public receptor, they could possibly reach State Route 76 (SR 76). Staff found the assumptions used in the modeling to result in

overestimated ammonia concentrations at this location. Combined with the plastic balls in the containment basin that will reduce evaporation and engineering and administrative controls such as the risk management plan required by Condition of Certification **HAZ-2**, limitations on the use and storage of hazardous materials including their strengths and volumes (**HAZ-1**), and a safety management plan (**HAZ-3**) to reduce the possibility and severity of accidents, Staff found that potential impacts due to an ammonia release would not be significant. (Ex. 200, pp. 4.4-8 – 4.4-10.)

At a maximum, Orange Grove Project will require about 6 tanker truck deliveries of aqueous ammonia per year, with each delivery totaling 8,000 gallons or less. Applicant and Staff each analyzed the risks associated with the transportation of hazardous materials – with emphasis on aqueous ammonia – in the vicinity of the project site. The potential for accidental release during transport is exceedingly low, and compliance with the existing body of regulations covering the transportation of hazardous materials, as well as the use of the type of delivery vehicle specified in Condition of Certification **HAZ-5** will ensure that the risk to the public of exposure to significant concentrations of aqueous ammonia remain less than significant. Condition of Certification **HAZ-6** further limits deliveries to a specified route and times which will avoid any school buses present in the vicinity. (Ex. 200, pp. 4.4-12 – 4.4-14.)

The record also contains a cumulative risk assessment for the Orange Grove Project in conjunction with existing and planned facilities in the area. The evidence indicates that all such facilities in the area were reviewed and that none were found which could, in combination with the impacts of the Orange Grove Project, cause cumulative impacts. (Ex. 200, pp. 4.4-16 – 4.4-17.)

In addition to accidental releases of hazardous materials, there is a potential for intentional release caused by malicious mischief, vandalism, or domestic/foreign terrorist attacks. Staff proposes Conditions of Certification **HAZ-7** and **HAZ-8** to mitigate those concerns. The required security measures include perimeter fencing and breach detectors, alarms, site access procedures for employees and vendors, site personnel background checks, and law enforcement contacts in the event of a security breach. (Ex. 200, pp. 4.4-15 – 4.4-16.)

In conclusion, the evidence convinces us that the proposed Conditions of Certification adequately and appropriately prevent the occurrence of significant adverse impacts from the storage and transportation of hazardous materials

which will be used during the construction and the operation of the Orange Grove Project.

HAZ-1 ensures that no hazardous material would be used at the facility except those listed unless there is prior approval by the City and County and the Energy Commission Compliance Project Manager (CPM). **HAZ-2** requires that a Risk Management Plan be prepared and submitted prior to the delivery of aqueous ammonia. **HAZ-3** requires development of a Safety Management Plan for the delivery of all liquid hazardous materials, including aqueous ammonia. This will further reduce the risk of any accidental release not addressed by the proposed spill prevention mitigation measures and the required RMP. **HAZ-4** requires that the aqueous ammonia storage tank be designed to certain rigid specifications, and the transportation of hazardous materials is addressed in **HAZ-5, and 6**. Site security during both the construction and operations phases is addressed in **HAZ-7** and **HAZ-8**. Appropriate security measures such as perimeter fencing and detectors, alarms, site access procedures and background checks will also be used.

PUBLIC COMMENT

Written comment submitted on December 18, 2008, by **Cyndy Day-Wilson** of the law firm Best, Best & Krieger, representing **DFI Funding, Inc**., asserts that delivery of hazardous materials to the project site "on a substandard road such as SR 76" puts both the public and the environment at risk. She further comments that even though the project will use and generate many types of hazardous waste, Conditions of Certification for hazardous materials are largely directed at aqueous ammonia. She also claims that Staff's analysis of the likelihood of spills of hazardous materials during transportation to and from the Project site is flawed because it relies on data generated from California's highways in general.

We find these comments to be overstated. Transportation of all hazardous materials is discussed in-depth in the Staff Assessment (Ex. 200, pp. 4.4-12 to 4.4-14.). The evidence demonstrates that the greatest risk to human health and the environment from the Orange Grove Project is posed by the transport of aqueous ammonia and that all other risks would be substantially less. The risk is attributable to the physical state of the hazardous material, its mobility, and toxicity. (Ex. 200, pp. 4.4-12 to 4.4-14.). Where the evidence shows that the risk associated with the transport of aqueous ammonia is below the level of

significance, then it follows *a fortiori* that the risk due to the transportation of all other less hazardous materials to the site is not significant.

Aqueous ammonia is the only acutely hazardous material proposed to be either used or stored at the Project site in quantities exceeding the reportable amounts defined in the California Health and Safety Code. (Exhibit 200, p. 4.4-1.) Although other hazardous materials will be present at the proposed Project site, none of these materials pose significant potential for off-site impacts as a result of the quantities on site, their toxicity, their physical state, or their environmental mobility. (Ex. 200, p. 4.4-2.) Therefore, aqueous ammonia is the primary hazardous material of concern at the Orange Grove site. Nevertheless, contrary to **DFI's** assertions, the Conditions of Certification do address other hazardous materials, including transportation and delivery procedures, a safety management plan, and security plans applicable to all hazardous materials. (Ex. 200, pp. 4.4-18 to 22.)

Indeed, Staff did analyze general statistics compiled on a state and national level. (Ex. 200, p. 4.4-13.) However, the Assessment also describes the transportation risk assessment model, developed by Staff, which allowed Staff to calculate the risk of an accident on a rural two-lane highway such as SR-76 and Pala Del Norte Road. (Ex. 200, p. 4.4-13.) This model was extremely conservative, and it still revealed that the risk of a transportation accident along roads such as these is insignificant. (Ex. 200, pp. 4.4-13 to 4.4-14.).

Finally, Intervenor **Archie McPhee's** testimony implies that the recycled water to be trucked from FPUD to the Orange Grove Project site should be considered a hazardous material (12/19/08 RT 56:12 – 57:14; 72:1-7.). For reasons more fully described in the **Public Health** section of this Decision, we are convinced that the recycled water will be quite safe and not a hazardous material.

FINDINGS

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

1. The Orange Grove Project will use hazardous materials during construction and operation, including aqueous ammonia and natural gas.

2. The major public health and safety hazard is associated with the catastrophic release of aqueous ammonia. It is the hazardous material which will be stored on-site in reportable quantities.

3. A worst-case catastrophic release of aqueous ammonia will not pose a hazard to the public, nor result in off-site concentrations greater than 75 ppm. A concentration of 75 ppm or less would not cause significant impacts.

4. Compliance with appropriate administrative, engineering, and regulatory requirements for safe transportation, delivery, and storage of aqueous ammonia will reduce potential risks of accidental release to insignificant levels.

5. The risk of fire and explosion from natural gas will be reduced to insignificant levels through adherence to applicable codes and the implementation of effective safety management practices.

6. The hazardous materials used in the construction and operation of the Orange Grove Project, when considered in conjunction with those used at other facilities in the project vicinity, will not cumulatively result in a significant risk to the public.

CONCLUSIONS

The Commission concludes that with the implementation of the mitigation measures described in the evidentiary record and contained in the Conditions of Certification, below, that the project will not cause significant impacts to public health and safety as the result of the use, handling, storage, or transportation of hazardous materials. Further, the Orange Grove Project will comply with all applicable laws, ordinances, regulations, and standards related to hazardous materials management as identified in the evidentiary record and in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

HAZ-1 The project owner shall not use any hazardous materials not listed in APPENDIX B, below, or in greater quantities or strengths than those identified by chemical name in APPENDIX B, below, 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.

HAZ-2 The project owner shall provide a Business Plan and a Risk Management Plan (RMP) prepared pursuant to the California Accidental Release Program (CalARP) to the San Diego County

Department of Environmental Health, Hazardous Materials Division (HMD) and the CPM for review. After receiving comments from the San Diego County DEH HMD and the CPM, the project owner shall reflect all recommendations in the final documents. Copies of the final Business Plan and RMP shall then be provided to the San Diego County DEH HMD and the North County Fire Protection District for information and to the CPM for approval.

Verification: At least 30 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Business Plan to the CPM for approval. At least 30 days prior to delivery of aqueous ammonia to the site, the project owner shall provide the final RMP to the Certified Unified Program Agency and the North County Fire Protection District for information and to the CPM for approval.

HAZ-3 The project owner shall develop and implement a Safety Management Plan for delivery of aqueous ammonia and other liquid hazardous materials by tanker truck. 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 incompatible hazardous materials including provisions to maintain lockout control by a power plant employee not involved in the delivery or transfer operation. This plan shall be applicable during construction, commissioning, and operation of the power plant.

Verification: At least 30 days prior to the delivery of any liquid hazardous material to the facility via tanker truck, 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 125 percent of the storage volume or the storage volume plus the volume associated with 24 hours of rain assuming the 25-year storm. The final design drawings and specifications for the ammonia storage tank and secondary containment basins shall be submitted to the CPM.

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

HAZ-5 The project owner shall direct all vendors delivering aqueous ammonia to the site to use only tanker truck transport vehicles which meet or exceed the specifications of DOT Code MC-307.

Verification: At least 30 days prior to receipt of aqueous ammonia on site, 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-6 At least 30 days prior to receipt of any hazardous materials on site, the project owner shall direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM (I-15 to the project site via SR 76). The project owner shall obtain approval of the CPM if an alternate route is desired. The project owner shall also consult with any school in the area where school buses use the designated hazardous materials transportation route and shall prohibit through contractual language the transportation of aqueous ammonia to the site that would coincide with school bus traffic along the approved route. The project shall provide evidence of consultation with the school(s) to the CPM.

Verification: At least 30 days prior to receipt of any hazardous materials on site, the project owner shall submit to the CPM for review and approval copies of 1) notices to hazardous materials vendors describing the required transportation route; 2) the contract with the aqueous ammonia vendor describing the time of day limitation on deliveries; and 3) evidence that schools in the area who use the transport route have been consulted.

HAZ-7 Prior to commencing construction, a site-specific Construction Site Security Plan for the construction phase shall be prepared and made available to the CPM for review and approval. The Construction Security Plan shall include the following:

1. perimeter security consisting of fencing enclosing the construction area;
2. security guards;
3. site access control consisting of a check-in procedure or tag system for construction personnel and visitors;
4. written standard procedures for employees, contractors and vendors when encountering suspicious objects or packages on site or off site;
5. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; and
6. evacuation procedures.

Verification: At least 30 days prior to commencing construction, the project owner shall notify the CPM that a site-specific Construction Security Plan is available for review and approval.

HAZ-8 The project owner shall also prepare a site-specific security plan for the commissioning and operational phases that will be available to the CPM for review and approval. The project owner shall implement site security measures that address physical site security and hazardous materials storage. The level of security to be implemented shall not be less than that described below (as per NERC 2002).

The Operation Security Plan shall include the following:

1. permanent full perimeter fence or wall, at least eight feet high;

2. main entrance security gate, either hand operated or motorized;

3. evacuation procedures;

4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency;

5. written standard procedures for employees, contractors, and vendors when encountering suspicious objects or packages on site or off site;

6. A. a statement (refer to sample, **Attachment A**), signed by the project owner certifying that background investigations have been conducted on all project personnel. Background investigations shall be restricted to determine the accuracy of employee identity and employment history and shall be conducted in accordance with state and federal laws regarding security and privacy;

   B. a statement(s) (refer to sample, **Attachment B**), signed by the contractor or authorized representative(s) for any permanent contractors or other technical contractors (as determined by the CPM after consultation with the project owner), that are present at any time on the site to repair, maintain, investigate, or conduct any other technical duties involving critical components (as determined by the CPM after consultation with the project owner) certifying that background investigations have been conducted on contractors who visit the project site;

7. site access controls for employees, contractors, vendors, and visitors;

8. a statement(s) (refer to sample, **Attachment C**), signed by the owners or authorized representative of hazardous materials transport vendors, certifying that they have prepared and implemented security plans in compliance with 49 CFR 172.880,

and that they have conducted employee background investigations in accordance with 49 CFR Part 1572, subparts A and B;

9. closed circuit TV (CCTV) monitoring system, recordable, and viewable in the power plant control room and security station (if separate from the control room) or from a remote location capable of viewing, at a minimum, the main entrance gate and the ammonia storage tank; and

10. additional measures to ensure adequate perimeter security consisting of either:

    A. security guard(s) present 24 hours per day, 7 days per week; OR

    B. power plant personnel on site or at a remote location 24 hours per day, seven days per week, and ALL of the following:

        (1) the CCTV monitoring system required in item 9, above, shall include cameras able to pan, tilt, and zoom; that have low-light capability, are recordable, and are able to view 100 percent of the perimeter fence, the ammonia storage tank, the outside entrance to the control room, and the front gate from a monitor in the power plant control room; AND

        (2) perimeter breach detectors OR on-site motion detectors.

The project owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to those security plans. The CPM may authorize modifications to these measures, or may require additional measures such as protective barriers for critical power plant components— transformers, gas lines, and compressors—depending upon circumstances unique to the facility or in response to industry-related standards, security concerns, or additional guidance provided by the U.S. Department of Homeland Security, the U.S. Department of Energy, or the North American Electrical Reliability Council, after consultation with both appropriate law enforcement agencies and the Applicant.

Verification: At least 30 days prior to the initial receipt of hazardous materials on site for commissioning or operations, the project owner shall notify the CPM that a site-specific operations site security plan is available for review and approval. In the annual compliance report, the project owner shall include a statement that all current project employee and appropriate contractor background investigations have been performed, and that updated certification statements have been appended to the operations security plan. In the annual compliance report, the project owner shall include a statement that the

operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.

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HAZARDOUS MATERIALS

Hazardous Materials Proposed for Use at the Orange Grove Project

Material	CAS No.	Application	Hazardous Characteristics	Maximum Quantity On Site
Acetylene	74-86-2	Welding gas	Health: none Physical: flammable	650 cubic feet
Aqueous Ammonia 19% Solution	7664-41-7	NO_X emissions control in SCR	Health: irritation to permanent damage from inhalation, ingestion, and skin contact Physical: reactive, vapor is combustible	10,000 gallons
Chlorine (12% sodium hypochlorite)	8007-59-8	Circulating system biocide	Health: skin, eye, and lung hazard Physical: corrosive	250 pounds
CO_2	124-38-9	Fire suppression	Health: asphyxiant Physical: pressure	100 cubic feet
Compressed Gases: NO_x O_2 CO	 175876-44-5 80937-33-3 630-08-0	CEMS	Health: Physical: pressure release	1,000 cubic feet
Diesel No. 2	68334-30-5	Fire pump	Health: none Physical: flammable	500 gallons
HFC-134a	811-97-2	Chiller refrigerant	Health: asphyxiant Physical:	5,600 pounds
Hydraulic Oil	Mixture	CTGs start system	Health: none Physical: flammable	100 gallons
Laboratory Reagents (liquid)	Various	Water quality testing	Health: various Physical: various	10 gallons
Laboratory Reagents (solid)	Various	Water quality testing	Health: various Physical: various	50 pounds

Material	CAS No.	Application	Hazardous Characteristics	Maximum Quantity On Site
Lead Acid Batteries (sealed)	7664-93-9	Emergency fire pump, black-start generator engines; plant uninterruptible power supply	Health: acute and chronic toxicity Physical: reactive and corrosive	
Mineral Insulating Oil (Non PBC)	8012-95-1	Electrical transformers	Health: hazardous if ingested Physical: flammable	12,000 gallons
Mineral Lube Oil	99551-14-1	Generator sleeve bearing lubrication and cooling	Health: acute toxicity Physical: corrosive	1,000 gallons
Mineral Lube Oil	99551-14-1	Fuel gas reciprocating compressors bearing and cylinder lubrication and cooling	Health: acute and chronic toxicity Physical: reactive and corrosive	100 gallons
Natural Gas	74-82-8	CTG/Blackstart generator fuel	Health: none Physical: flammable	Pipeline supplies natural gas
Non-RCRA and RCRA Hazardous Waste Solids	Various	Petroleum wastes, sandblast residue, paint residue, oil filters, spent SCR catalyst	Health: toxic Physical: flammable	Small quantity generator
Other Non-Resource Conservation and Recovery Act (RCRA) and RCRA Hazardous Waste Liquids	Various	Waste paint, used or off-spec petroleum products, spent solvent, water with hydrocarbons, spent or off-spec coolant	Health: toxic Physical: flammable and corrosive	Small quantity generator
Proprietary scale/corrosion control made up of: Sodium Tolyltriazole; 2-Phosphono	Various	Circulating system scale and corrosion control	Health: skin, eye, and lung hazard Physical: corrosive	(Mixture) Sodium Tolyltriazole: 100 pounds; 2-Phosphono butane-1, 2, 4-

Material	CAS No.	Application	Hazardous Characteristics	Maximum Quantity On Site
butane-1, 2, 4-Tricarboxylic acid; Sodium poly-acrylate; Poly-phosphate; Sodium hydroxide (product pH control); Water				Tricarboxylic acid:100 pounds; Sodium polyacrylate: 100 pounds; Poly-phosphate; 100 pounds; Sodium hydroxide; 100 pounds
Propylene Glycol	57-55-6	Antifreeze for closed cooling water system and in inlet air chillers	Health: chronic toxicity Physical: none	55 gallons
Universal Waste	Various	Used batteries, used lamps, cathode ray tubes, electronic equipment, aerosol cans	Health: toxic Physical: flammable	Small quantity handler
Used Oil	8002-05-9	Mechanical equipment	Health: toxic Physical: flammable	165 gallons/6 months
Synthetic Lubricating Oil	1330-78-5	CTGs roller bearing lubrication and cooling	Health: none Physical: flammable	300 gallons
Sulfur Hexaflouride	2551-62-4	Switchyard breakers	Health: asphyxiant Physical: none	66 pounds
Sulfuric Acid 93%	7664-93-9	Circulating system pH control	Health: skin, eye, and lung hazard Physical: corrosive	2,500 pounds (approximately 200 gallons)

(Source: Ex. 200, pp. 4.4-35 – 4.4-37.)

SAMPLE CERTIFICATIONS

(Attachments A, B, and C)

SAMPLE CERTIFICATION (Attachment A)

Affidavit of Compliance for Project Owners

I, _____
(Name of person signing affidavit)(Title)

do hereby certify that background investigations to ascertain the accuracy of the identity and employment history of all employees of:

_____
(Company name)

for employment at:

_____
(Project name and location)

have been conducted as required by the California Energy Commission Decision for the above-named project.

_____
(Signature of Officer or Agent)

Dated this _____ day of _____, 20 _____.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

SAMPLE CERTIFICATION (Attachment B)

Affidavit of Compliance for Contractors

I, _____
(Name of person signing affidavit)(Title)

do hereby certify that background investigations to ascertain the accuracy of the identity and employment history of all employees of:

_____
(Company name)

for contract work at:

_____
(Project name and location)

have been conducted as required by the California Energy Commission Decision for the above-named project.

_____
(Signature of Officer or Agent)

Dated this _____ day of _____, 20 _____.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

SAMPLE CERTIFICATION (Attachment C)

Affidavit of Compliance for Hazardous Materials Transport Vendors

I,

_____

(Name of person signing affidavit)(Title)

do hereby certify that the below-named company has prepared and implemented security plans in conformity with 49 CFR 172.880 and has conducted employee background investigations in conformity with 49 CFR 172, subparts A and B:

_____

(Company name)

for hazardous materials delivery to:

_____

(Project name and location)

as required by the California Energy Commission Decision for the above-named project.

_____

(Signature of Officer or Agent)

Dated this _____ day of _____, 20 _____.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

E. WASTE MANAGEMENT

The Orange Grove Project will generate nonhazardous and hazardous wastes during construction and operation. This section reviews the project's waste management plans for reducing the risks and environmental impacts associated with handling, storage, and disposal of project-related nonhazardous and hazardous wastes.

Nonhazardous wastes are degradable or inert materials, which do not contain concentrations of soluble pollutants that could degrade water quality and are therefore eligible for disposal at Class II or III disposal facilities. (Cal. Code Regs., tit. 14, § 17200 et seq.)

Hazardous waste consists of materials that exceed criteria for toxicity, corrosivity, ignitability, or reactivity as established by the California Department of Toxic Substances Control (DTSC).[15] State law requires hazardous waste generators to obtain U.S. EPA identification numbers and contract with registered hazardous waste transporters to transfer hazardous waste to appropriate Class I disposal facilities. (Cal. Code Regs., tit. 22, § 66262.10 et seq.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Site Excavation

As described previously in this Decision, the Orange Grove Project will be constructed on an 8.5-acre site within a 202-acre property owned by San Diego Gas & Electric containing the Pala substation and a SDG&E storage area. (Ex. 200, p. 4.13-6.)

Applicant submitted a Phase I Environmental Site Assessment (ESA), which was prepared by TRC in accordance with the American Society for Testing and Materials Standard Practice E 1527-00 for ESAs. (Ex. 1, § 6.14, appen. 6.14A; Ex. 200, p. 4.13-8.) For any proposed power plant site, the project proponent must provide documentation of any actual or potential soil or water contamination at the site. The certification process requires a Phase I ESA to provide the history of the use of the site and a list of hazardous waste releases within a

[15] California Health and Safety Code, section 25100 et seq. (Hazardous Waste Control Act of 1972, as amended) and Title 22, California Code of Regulations, section 66261.1 et seq.

certain distance of the site. If there is reasonable potential that the site contains hazardous waste, a Phase II ESA must be conducted to analyze the contamination and to establish a remediation plan. (Ex. 200, pp. 4.13-7 to 4.13-8.)

Applicant's Phase I ESA was completed in June 2008. The Phase I ESA did not identify any recognized environmental conditions associated with the project site and linear facility corridors. A recognized environmental condition is the presence or likely presence of any hazardous substances or petroleum products that indicate an existing release, past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the site or in the ground, groundwater, or surface water of the site. (Ex. 200, p. 4.13-9.)

On Staff's recommendation, we adopt Conditions of Certification **WASTE-1** and **WASTE-2** to require the project owner to employ a professional geologist or engineer to be available for consultation during soil excavation and grading activities. This would be adequate to address identification and investigation of any soil or groundwater contamination that may be encountered.

2. Construction

Site preparation and construction of the power plant and its associated facilities will generate both nonhazardous and hazardous wastes in solid and liquid forms (Ex. 1, § 6.14.2.1.) Condition **WASTE-3** requires the project owner to develop and implement a Construction Waste Management Plan that must identify all waste streams and the methods of managing each waste.

a. Nonhazardous Wastes

Construction of the Orange Grove Project will generate nonhazardous solid waste products comprised of vegetation, scrap wood, concrete, steel/metal, paper, glass, and plastics. These wastes will be recycled where practical. Non-recyclable wastes will be collected and deposited disposed of pursuant to California Integrated Waste Management Board regulations (tit. 14, Cal. Code. Regs., §17200 et seq.). (Ex. 200, p. 4.13-9.)

Non-hazardous liquid wastes would also be generated during construction, including sanitary wastes, dust suppression drainage, and equipment wash water. Sanitary wastes would be collected in portable, self-contained toilets and pumped periodically for disposal at an appropriate facility. Potentially

contaminated equipment wash water will be contained at designated wash areas and transported to a sanitary wastewater treatment facility. Please see the **SOIL AND WATER RESOURCES** section of this Decision for further discussion of project wastewater. (Ex. 200, p. 4.13-10.)

b. Hazardous Wastes

Hazardous wastes anticipated to be generated during construction include empty hazardous material containers, solvents, waste paint, oil absorbents, used oil, oily rags, batteries, and cleaning wastes. The amount of waste generated would be minor if handled in the manner identified in the AFC (Ex. 1, p. 6.14-5 et seq.).

The project owner must obtain a unique hazardous waste generator identification number for the site prior to starting construction. Condition of Certification **WASTE-4**. Wastes would be accumulated onsite for less than 90 days and then properly manifested, transported and disposed at a permitted hazardous waste management facility by licensed hazardous waste collection and disposal companies. The Applicant provided a list of six recycling facilities that may be used to manage project recycle materials and wastes (Ex. 7, Data Response 71.). Staff reviewed the disposal methods described in (Ex. 1, p. 6.14-7.) and in the responses to data requests, and concluded that all wastes would be disposed in accordance with all applicable LORS. Should any construction waste management-related enforcement action be taken or initiated by a regulatory agency, the project owner must notify the Energy Commission's Compliance Project Manager (CPM) whenever the owner becomes aware of any such action. Condition of Certification **WASTE-5**. (Ex. 200, p. 4.13-10.)

In the event that construction excavation, grading or trenching activities for the proposed project encounter potentially contaminated soils, specific handling, disposal, and other precautions may be necessary pursuant to hazardous waste management LORS. Conditions of Certification **WASTE-1** and **WASTE-2** will address any soil contamination contingency that may be encountered during construction of the project and would ensure compliance with LORS. (Ex. 200, p. 4.13-10.)

c. Construction and Demolition (C&D) Waste Diversion

As an incentive to builders to recycle or reuse construction wastes and to help divert a larger percentage of these wastes from disposal at local landfills, San Diego County has adopted a C&D waste diversion deposit program, Ordinance

9840 Sections 68.508 through 68.518. This program was established in accordance with the mandates of the Integrated Waste Management Act of 1989 [Assem. Bill No. (AB) 939, Sher, ch. 1095, Stats. 1989.], which established landfill waste diversion goals for both the state and local jurisdictions. Effective April 21, 2007, debris from construction and demolition projects must be diverted away from landfill disposal in the unincorporated portions of San Diego County. The ordinance requires that 90 percent of inert materials and 70 percent of all other materials must be recycled from a project. In order to comply with the ordinance, Applicants must submit a Construction and Demolition Debris Management Plan and a fully refundable Performance Guarantee prior to starting construction. The County's requirements are reflected in Condition of Certification **WASTE-6**. (Ex. 200, p. 4.13-11.)

3. Operation

Condition **WASTE-7** requires the project owner to develop and implement an Operation Waste Management Plan to identify all waste streams and the methods of managing each waste. (Ex. 200, p. 4.13-11.)

a. Nonhazardous Wastes

Applicant expects to generate about 1.5 tons per year of nonhazardous waste materials during project operation, including routine maintenance wastes (such as used air filters, spent deionization resins, sand and filter media) as well as domestic and office wastes (such as office paper, newsprint, aluminum cans, plastic, and glass). All non-hazardous wastes will be recycled to the extent feasible, and non-recyclable wastes will be regularly transported offsite to a local solid waste disposal facility. Nonhazardous liquid wastes generated during project operation are discussed in the **Soil and Water Resources** section of this Decision. (Ex. 200, pp. 4.13-11 – 4.13-12.)

b. Hazardous Wastes

Since the project will generate hazardous wastes during operation, Condition **WASTE-4** requires the project to maintain its hazardous waste generator identification number. Hazardous wastes at the site will include used hydraulic fluids, oils, greases, oily filters and rags, spent SCR catalysts, cleaning solutions and solvents, and batteries. (Ex. 200, p. 4.13-12.)

Spills and unauthorized releases of hazardous materials or hazardous wastes may result in contaminated soils. To ensure proper cleanup and management of contamination due to spills, Condition **WASTE-8** requires the project owner/operator to report, clean up, and remediate as necessary, any hazardous materials spills or releases in accordance with applicable law. See also, the **Hazardous Material Management** section of this Decision. (Ex. 200, p. 4.13-12.)

The amounts of hazardous wastes generated during the operation of Orange Grove Project would be minor, with source reduction and recycling of wastes implemented whenever possible. The hazardous wastes would be temporarily stored on-site, transported offsite by licensed hazardous waste haulers, and recycled or disposed at authorized disposal facilities in accordance with established standards applicable to generators of hazardous waste (tit. 22, CCR, §66262.10 et seq.). Condition **WASTE-5**, *supra*, also applies to any waste management-related enforcement action during project operations. (Ex. 200, p. 4.13-12.)

4. Potential Impacts on Waste Disposal Facilities

During construction of the Orange Grove Project, approximately 1,100 tons of solid waste will be generated and recycled or disposed in a Class III landfill. The non-hazardous solid wastes generated yearly at Orange Grove Project would also be recycled if possible, or disposed in a Class III landfill. (Ex. 200, p. 4.13-12.)

Table 6.14-1 of the AFC identifies five non-hazardous (Class III) waste disposal facilities that could potentially take the non-hazardous construction and operation wastes generated by the Orange Grove Project. These Class III landfills are all located in San Diego County. The combined remaining capacity for the landfills is over 95 million cubic yards. The total amount of nonhazardous waste generated from project construction and operation will contribute less than one percent of the available landfill capacity. Disposal of the solid wastes generated by the Orange Grove Project can occur without significantly impacting the capacity or remaining life of any of these facilities. (Ex. 1, § 6.14.1.3, **Table** 6.14-1; Ex. 200, pp. 4.13-12 to 4.13-13.)

Hazardous wastes will be transported to one of California's two available Class I landfills: Clean Harbor's Buttonwillow Landfill in Kern County and Waste Management's Kettleman Hills Landfill in Kings County. The Kettleman Hills

facility also accepts Class II, and III waste. In addition, there are several commercial hazardous waste treatment and recycling facilities in Southern California. Evidence indicates there is sufficient capacity at these facilities to handle the project's hazardous wastes during its operating lifetime. (Ex. 1, §§ 5.14.2.3.2, 5.14.2.4; Ex. 200, p. 4.13-12.)

Regarding potential cumulative impacts, the quantities of solid and hazardous wastes generated by the Orange Grove Project will add to the total quantities of waste generated by new residential and commercial development in California. However the Orange Grove Project's waste stream is relatively low, recycling efforts will be prioritized, and sufficient disposal capacity is available. As a result, the project's cumulative impacts on disposal facilities will be insignificant for both nonhazardous and hazardous waste disposal. (Ex. 200, p. 4.13-13.)

PUBLIC COMMENT

No public comment was received regarding **Waste Management**.

FINDINGS

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

1. Applicant's Phase I Environmental Site Assessment did not identify any recognized environmental conditions associated with the project site or linear facility corridors.

2. The project owner will implement appropriate characterization, disposal, and remediation measures to ensure that if suspect soils are uncovered during earth moving activities, any risk of exposure to contaminated soils will be reduced to insignificant levels.

3. The project will generate nonhazardous and hazardous wastes during demolition of site structures, excavation, construction, and operation.

4. The project will recycle nonhazardous and hazardous wastes to the extent feasible and in compliance with applicable law.

5. Hazardous wastes that cannot be recycled will be transported by registered hazardous waste transporters to appropriate Class I landfills.

6. Solid nonhazardous wastes that cannot be recycled will be deposited at Class II and III landfills in the local area.

7. Liquid wastes will be classified for appropriate disposal and stormwater runoff will be managed in accordance with the Stormwater Pollution Prevention Plan and the Drainage, Erosion, and Sedimentation Control Plan.

8. Disposal of project wastes will not result in any significant direct, indirect, or cumulative impacts on existing waste disposal facilities.

CONCLUSIONS

The Commission therefore concludes that the Conditions of Certification, below, and the waste management practices described in the evidentiary record will reduce potential impacts to insignificant levels and ensure that project wastes are handled in an environmentally safe manner. Further, the management of project wastes will comply with all applicable laws, ordinances, regulations, and standards related to waste management as identified in the pertinent portions of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall provide the resume of an experienced and qualified Professional Engineer or Professional Geologist, who shall be available for consultation during site characterization (if needed), demolition, excavation and grading activities, to the CPM for review and approval. The resume shall show experience in remedial investigation and feasibility studies. The Professional Engineer or Professional Geologist shall be given full authority by the project owner 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 to the CPM for review and approval.

WASTE-2 If potentially contaminated soil is identified during site characterization, demolition, excavation, or grading at either the proposed site or linear facilities, as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Professional Engineer or Professional Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and provide a written report to the project owner, representatives of Department of Toxic Substances Control, and the

CPM stating the recommended course of action. Depending on the nature and extent of contamination, the Professional Engineer or Professional 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 Professional Engineer or Professional Geologist, significant remediation may be required, the project owner shall contact the CPM and representatives of the Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any final reports filed by the Professional Engineer or Professional Geologist to the CPM within five 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 prepare a Construction Waste Management Plan for all wastes generated during construction of the facility, and shall submit the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following:

1. A description of all construction waste streams, including projections of frequency, amounts generated and hazard classifications; and

2. Management methods to be used for each waste stream, including temporary onsite storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans.

Verification: The project owner shall submit the Construction Waste Management Plan to the CPM for approval no less than 30 days prior to the initiation of construction activities at the site.

WASTE-4 The project owner shall obtain a hazardous waste generator identification number from the United States Environmental Protection Agency prior to generating any hazardous waste during construction and operations.

Verification: The project owner shall keep a copy of the identification number on file at the project site and provide the number to the CPM in the next Monthly Compliance Report.

WASTE-5 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 way project-related wastes are managed.

WASTE-6 The project owner shall provide a Debris Management Plan and a Performance Guarantee per the County of San Diego's Construction and Demolition Recycling Program (San Diego County Code of Reg. Ord. 9840 §§ 68.508 to 68.518.).The project owner shall ensure compliance with all of the county of San Diego's diversion program requirements and shall provide proof of compliance documentation to the county of San Diego and the CPM, including a Debris Management Plan, Performance Guarantee receipts, and records of measurement, consistent with the county of San Diego's normal reporting requirements. Project mobilization and construction shall not proceed until the county of San Diego issues an approval document, consistent with the county's normal building permit approval process, and the CPM provides written concurrence.

Verification: Sixty days prior to the start of any construction activities, the project owner shall submit for review to the county of San Diego a Debris Management Plan and a Performance Guarantee per the County of San Diego's Construction and Demolition Recycling Program. At least thirty days prior to the start of any construction activities, the project owner shall submit the proposed Debris Management Plan, along with any comments received from the county of San Diego, to the CPM for review and approval. The CPM shall consider all comments by the county prior to approving the Debris Management Plan.

The project owner shall ensure that project activities are consistent with the approved Debris Management Plan and all applicable county of San Diego waste diversion requirements and provide adequate documentation of the types and volumes of wastes generated, how the wastes were managed, and volumes of wastes diverted. Project mobilization and construction shall not proceed until the county of San Diego issues an approval document, consistent with the city's normal building permit approval, and the CPM provides written concurrence. Not later than sixty days after completion of compliance with the diversion program requirements to the CPM and county of San Diego. The required documentation shall include a Debris Management Plan (as set forth by the county program), along with all necessary receipts and records of measurement from entities receiving project wastes.

WASTE-7 The project owner shall prepare an Operation Waste Management Plan for all wastes generated during operation of the facility, and shall submit the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following:

1. A detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications;

2. Management methods to be used for each waste stream, including temporary onsite storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans;

3. Information and summary records of conversations with the local Certified Unified Program Agency and the Department of Toxic Substances Control regarding any waste management requirements necessary for project activities. Copies of all required waste management permits, notices, and/or authorizations shall be included in the plan and updated as necessary;

4. A detailed description of how facility wastes will be managed, and any contingency plans to be employed, in the event of an unplanned closure or planned temporary facility closure; and

5. A detailed description of how facility wastes will be managed and disposed upon closure of the facility.

Verification: The project owner shall submit the Operation Waste Management Plan to the CPM for approval no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions to the CPM within 20 days of notification from the CPM that revisions are necessary.

The project owner shall also document in each Annual Compliance Report the actual volume of wastes generated and the waste management methods used during the year; provide a comparison of the actual waste generation and management methods used to those proposed in the original Operation Waste Management Plan; and update the Operation Waste Management Plan as necessary to address current waste generation and management practices.

WASTE-8 The project owner shall ensure that all spills or releases of hazardous substances, hazardous materials, or hazardous waste are reported, cleaned-up, and remediated as necessary, in accordance with all applicable federal, state, and local requirements.

Verification: The project owner shall document all unauthorized releases and spills of hazardous substances, materials, or wastes that occur on the project property or related pipeline and transmission corridors. The documentation shall include, at a minimum, the following information: location of release; date and

time of release; reason for release; volume released; amount of contaminated soil/material generated; how release was managed and material cleaned-up; if the release was reported; to whom the release was reported; release corrective action and cleanup requirements placed by regulating agencies; level of cleanup achieved and actions taken to prevent a similar release or spill; and disposition of any hazardous wastes and/or contaminated soils and materials that may have be generated by the release.

Copies of the unauthorized spill documentation shall be provided to the CPM within 30 days of the date the release was discovered.

VI. ENVIRONMENTAL ASSESSMENT

A. BIOLOGICAL RESOURCES

The Commission must consider the potential impacts of project-related activities on biological resources, including state and federally listed species, species of special concern, wetlands, and other topics of critical biological interest such as unique habitats. The following review describes the biological resources in the vicinity of the project site and linear alignments, assesses the potential for adverse impacts on biological resources, and determines whether mitigation measures are necessary to ensure compliance with applicable laws, ordinances, regulations, and standards (LORS).

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. The Setting

The Orange Grove Project would be located in north San Diego County, approximately 3.5 miles northeast of Interstate 15 on State Route (SR) 76, and approximately two miles west of the community of Pala. The region is primarily rural, consisting of agricultural lands and low-density residential, but also includes large-scale commercial or industrial development such as the Pala Casino and Spa Resort and former aggregate mining operations on the San Luis Rey River. (Ex. 200, p. 4.2-4.)

The 8.5-acre site consists mostly of an abandoned lemon orchard on a very old alluvial fan surface that slopes southward toward the San Luis Rey River. The northwestern portion of the site was used for orchard debris disposal and supports disturbed Diegan coastal sage scrub. The San Diego Gas & Electric (SDG&E) Pala Substation is located approximately 700 feet southwest of the site, and Pala del Norte Road, a paved private road, generally parallels the western boundary of the site. Ponds from an old aggregate mine and riparian vegetation occur in the San Luis Rey River just south of SR 76. (Ex. 200 p. 4.2-7)

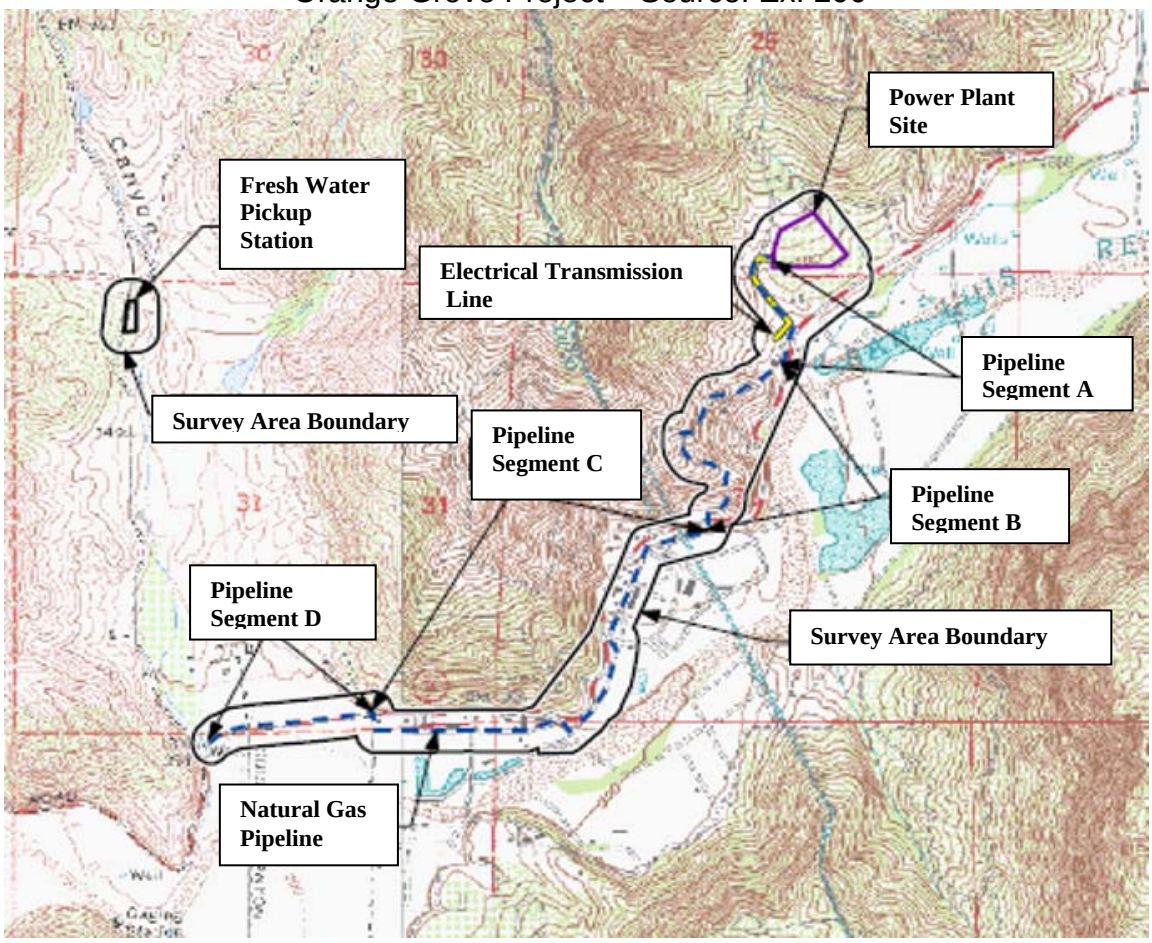
Habitat adjacent to the northern and western boundaries of the site consists of coastal sage scrub. Ephemeral drainages that run in a generally north to south direction are located to the west and east of the site. Both drainages have been extensively disturbed by orchard land clearing and debris disposal, but are considered waters of the United States and waters of the State. The western

drainage is lined with scattered remnants of coastal sage scrub vegetation while the eastern drainage is lined with open coast live oak woodland. An abandoned avocado grove is located east of the eastern drainage. (Ex. 200, pp. 4.2-7 to 4.2-8.)

Linear Facilities

Biological Resources - Figure 1

Orange Grove Project – Source: Ex. 200



As shown in **Biological Resources Figure 1** above, an approximately 2.4-mile natural gas pipeline lateral (gas pipeline) would connect the site to an existing SDG&E 16-inch gas main that passes approximately 1.3 air miles west of the site. Segment A is approximately 0.4 mile-long segment of the gas pipeline and begins at the site boundary and ends at the southeast corner of the Pala Substation. Segment A would be located entirely within developed areas (i.e., roads and road shoulder) except for a short segment of Diegan coastal sage scrub that would be temporarily disturbed for construction. (Ex. 200, p. 4.2-8.)

Segment B, approximately 0.6 mile-long segment begins at the existing unpaved graded pad at the southeast corner of the Pala Substation and traverses generally steep upland terrain comprised of Diegan coastal sage scrub. This segment ends just south of SR 76 approximately 0.4 air miles southwest of the Pala Substation in a former dairy farm. This segment follows existing unpaved roads throughout the upland terrain, except for the easternmost approximately 400 feet where the route crosses Diegan coastal sage scrub. (Ex. 200, p. 4.2-8.) Segment C begins generally parallels SR 76 and is an approximately 1.0 mile-long segment that follows existing unpaved roads through the two former dairy farms. Approximately 700 feet of this segment is along a 12- to 15-foot unpaved road that is surrounded by southern riparian forest associated with the San Luis Rey River. The west end of Segment C occurs at a second crossing of SR 76, where the pipeline will cross back over to the north side of the road. A portion of Segment C that is within 100 feet of riparian forest would be directionally drilled rather than trenched to avoid potential impacts to sensitive species and habitats if work would be conducted during the breeding/active season for arroyo toad, least Bell's vireo, and other sensitive species (March 1 through September 15). (Ex. 200, p. 4.2-8.)

Segment D is an approximately 0.4-mile-long segment that would be constructed within urban developed land or adjacent to the SR 76 right-of-way. Agricultural land and the highway are adjacent to this segment, with no natural habitat in areas to be disturbed. (Ex. 200, p. 4.2-8.)

The two staging/laydown areas for construction of the pipeline are located south of SR 76 on developed land previously occupied by dairy operations. (Ex. 200, p. 4.2-9.)

Biological Resources Tables 1 and 2, below, lists special status species plants and animals potentially found in the project area.

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Biological Resources Table 1
Special Status Species Potentially Occurring in the Project Area

Common Name	Scientific Name	Status** (Federal, State, CNPS, San Diego)
Brewers' calandrinia	*Calandrinia breweri*	--/--/CNPS 4.2/D/--
California screw-moss	*Tortula californica*	--/--/CNPS 1B.2/--
Chaparral nolina	*Nolina cismontane*	--/--/CNPS 1B.2/MSCP-A
Chaparral sand-verbena	*Abronia villosa var. aurita*	--/--/CNPS 4.2/ MSCP-A
Cooper's rein orchid	*Piperia cooperi*	--/--/CNPS 4.2/ MSCP-D
Englemann oak*	***Quercus engelmannii***	**--/--/CNPS 4.2/ MSCP-D**
Felt-leaved monardella	*Monardella hypoleucca ssp. Lanata*	--/--/CNPS 1B.3/ MSCP-A
Gander's ragwort	*Packera [Senecio] ganderi*	--/--/CNPS 4/2/ MSCP-A
Graceful tarplant	*Holcarpha virgata elongate*	--/--/CNPS 4/2/ MSCP-D
Hall's monardella	*Monardella macrantha ssp. Hallii*	--/--/CNPS 1B.3/ MSCP-A
Jaeger's mile-vetch	*Astragalus pachypus var. jaegeri*	--/--/CNPS 1B.1/ MSCP-A
Lakeside ceanothus	*Ceanothus cyaneus*	--/--/CNPS 1B.2/ MSCP-A-NE
Lewis sun cup	*Camissonia lewisii*	--/--/CNPS 1B.1 MSCP-A
Mesa horkelia	*Horkelia cuneata ssp. puberula*	--/--/CNPS 1B.1/ MSCP-A-NE
Nevin's barberry	*Berberis nevinii*	FE/SE/CNPS 1B.1/ MSCP-A-NE
Orcutt's brodiaea	*Brodiaea orcutti*	--/--/CNPS 1B.1/ MSCP-A
Parry's tetracoccus	***Tetracoccus dioicus***	**--/--/CNPS 1B.3, MSCP-A**
Rainbow manzanita	*Arctostaphylos rainbowensis*	--/--/CNPS 1B.1/ MSCP- A
Ramona horkelia	*Horkelia truncate*	--/--/CNPS 1B.3/ MSCP-A
Robinson's peppergrass	*Lepidium virginicum var. robinsonii*	--/--/CNPS 1B.2, A
San Diego adolphia	*Adophia californica*	--/--/CNPS 2.1/B
San Diego ambrosia	*Ambrosia pumila*	FE/__/CNPS 1B.1/A-NE
San Diego sunflower	*Hulsea californica*	--/--/CNPS 1B3/A
San Diego thornmint	*Acanthomintha ilicifolia*	FT/SE/CPNS 1B.1/A-NE
San Miguel savory	*Satureja chandleri*	--/--/CNPS 1B.2/A
Slender-horned spineflower	*Dodecahema leptoceras*	FE/SE/CHPS 1B.1/--
Small flowered microseris	*Microseris douglasii var. platycarha*	--/--/CNPS 4.2/D
Southwestern spiny rush	*Jucus acutus ssp. Leopoldii*	--/--/CNPS 4/2/D
Spreading navarretia	*Navarretia fossalis*	FT/--/CNPS 1B.1/A
Sticky dudleya	*Dudleya viscida*	--/--/CNPS 1B.2/A
Summer holly	*Comarostaphylis diversifolia ssp. Diversifolia*	--/--/CNPS 1B.2/A
Palmer's goldenbush	*Ericameria palmeri ssp. Palmeri*	--/--/CNPS 2.2, B-NE
Thread-leaved brodiaea	*Brodiaea filifolia*	FT/SE/CNPS 1B.1/A
Vail Lake ceanothus	*Ceanothus ophiochilus*	FT/SE/CNPS 1B.1/--
Western dichondra	*Dichondra occidentalis*	--/--/CNPS 4.2/D

* See **Status Legend** following Biological Resource Table 3 to translate the status codes.

* **Bolded** species names are those observed on or near the proposed project site or linear facilities during the 2007/08 field surveys.

Biological Resources Table 2
Special Status Wildlife Potentially Occurring in the Project Area

Common Name	Scientific Name	Status (Federal, State, MSCP)
Fish		
Arroyo chub	*Gila orcuttii*	CSC/MSCP 1
Invertebrates		
Quino checkerspot butterfly	*Euphydryas editha quino*	FE, MSCP 1
Hermes copper	*Lycaena hermes*	MSCP 1
Monarch butterfly	*Danaus plexippus*	MSCP 2
Amphibians		
Arroyo toad	*Bufo californicus*	FE, CSC, MSCP-1
California red-legged frog	*Rana aurora draytoni*	FT, CSC, MSCP-1
Western spadefoot	*Spea hammondii*	CSC, MSCP-2
Reptiles		
Coast (San Diego) horned lizard	*Phrynosoma coronatum*	CSC, MSCP-2
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	CSC,
Coastal western whiptail	*Aspidoscelis tigris stejnegeri*	MSCP-2
Coastal rosy boa	*Charina trivirgata roseofusca*	MSCP-2
Coronado skink	*Eumeces skiltonianus interparietalis*	CSC, MSCP-2
Northern red-diamond rattlesnake	*Crotalus ruber ruber*	CSC, MSCP-2
Orange-throated whiptail	*Aspidoscelis hyperythra*	CSC, MSCP-2
San Diego banded gecko	*Coeonyx variegates abbottii*	MSCP-1
San Diego ringneck snake	*Diadophis punctatus similis*	MSCP-2
Silvery legless lizard	*Anniella pulchra pulchra*	CSC, MSCP-2
South coast garter snake	*Thamnophis sirtalis novum*	CSC, MSCP-2
Southwestern pond turtle	*Actinemys marmorata pallida*	CSC, MSCP-2
Two-striped garter snake	*Thamnophis hammondii*	CSC, MSCP-1
Birds		
Bell's sage sparrow	*Amphispiza belli belli*	BCC, SCS, MSCP-1
Burrowing owl	*Oteo cunicularia*	CSC, MSCP-1
California gull	*Larus californicus*	CSC, MSCP-2
California horned lark	*Eremophila alpestris actia*	CSC, MSCP-2
Coastal cactus wren	*Campylorhynchus brunneicapillus sandiegensis*	BCC, CSC, MSCP
Coastal California gnatcatcher	*Polioptila californica californica*	FT, CSC, MSCP-1
Common barn-owl	*Tyto alba*	MSCP-1
Cooper's hawk	*Accipiter cooperii*	CSC, MSCP-1
Double-crested cormorant	*Phalacrocorax auritus*	CSC
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE, MSCP-1
Northern harrier	*Circus cyaneus*	CSC, MSCP-1
Osprey	*Pandion haliaetus*	CSC
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	CSC,MSCP-1
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, CE, MSCP-1
White-tailed kite	*Elanus leucurus*	CFP, MSCP-1

Common Name	Scientific Name	Status (Federal, State, MSCP)
Yellow-breasted chat	*Icteria virens*	CSC, MSCP-1
Yellow warbler	*Dendroica petechia brewsteri*	CSC, MSCP-2
Mammals		
American badger	*Taxidea taxus*	CSC, MSCP-2
Big free-tailed bat	*Nyctinomops macrotis*	CSC, MSCP-2
Mexican long-tongued bat	*Choeronycteris mexicana*	CSC, MSCP-2
Pallid bat	*Antrozous pallidus*	CSC, MSCP-2
San Diego blacktailed jackrabbit	*Lepus californicus bennettii*	CSC, MSCP-2
San Diego desert woodrat	*Neotoma lepida intermedia*	CSC, MSCP-2
Western mastiff bat	*Eumops perotis californicus*	CSC, MSCP-2

***Status Codes:**

Federal: FE - Federally listed endangered: species in danger of extinction throughout a significant portion of its range
FT - Federally listed, threatened: species likely to become endangered within the foreseeable future

State SE - State listed, endangered
ST = state listed as threatened
SR - State listed, rare

California Native Plant Society (source: CNPS 2007**)**
List 1B - Rare, threatened, or endangered in California and elsewhere
List 2 - Rare, threatened, or endangered in California but more common elsewhere
List 3 - Plants which need more information
List 4 - Limited distribution – a watch list
0.1 - Seriously threatened in California (high degree/immediacy of threat)
0.2 - Fairly threatened in California (moderate degree/immediacy of threat)
0.3 - Not very threatened in California (low degree/immediacy of threats or no current threats known)

County of San Diego Multiple Species Conservation Plan
List A - Plants rare, threatened or endangered in California and elsewhere
List B - Plants rare, threatened, or endangered in California but more common elsewhere
List C - Plants which may be quite rare, but need more information to determine true rarity status
List D - Plants of limited distribution, uncommon, but need more information to determine true rarity status
NE – Listed in the Multiple Species Conservation Program as a narrow endemic, a species confined to a specific geographic region, soil type, and/or habitat;

Group 1 - Species has a very high level of sensitivity, either because it is listed as threatened or endangered or it has very specific natural history requirements.
Group 2 - Species becoming less common, but not so rare that extirpation or extinction is imminent. Species tend to be prolific within suitable habitat types.

(Ex. 200, pp. 4.2-11 to 4.2-13.)

Based on survey results, nine endangered, threatened, or special-status species were confirmed present at or near the site. They are: Engelmann oak, Parry's tetracoccus, coastal California gnatcatcher, Cooper's hawk, least Bell's vireo, Southern California rufous-crowned sparrow, Southwestern willow flycatchers, San Diego horned lizard, and northern red diamond rattlesnake. An additional two special-status species San Diego desert woodrat and arroyo toad could not be ruled out because suitable habitat is available and surveys did not conclusively demonstrate their absence. (Ex. 200, pp. 4.2-13 to 4.2-15.)

2. Potential Construction Impacts and Mitigation

Construction of the Orange Grove Project will result in direct impacts to plant communities and wildlife from vegetation clearing, grading, and trenching within the site and along linear facilities. **Biological Resources Table 3** summarizes the potential impacts to special status species resulting from construction and operation of the OGP.

Biological Resources Table 3
Special-Status Species - Summary of Impacts/Mitigation

Species	Status	Impact/Mitigation
Englemann oak *Quercus engelmannii*	CNPS 4.2 MSCP-D	**Impact:** Loss of one mature oak and several saplings. **Mitigation**: Incorporate Englemann oak in landscaping plan **(VIS-2)**.
Parry's tetracoccus *Tetracoccus dioicus*	CNPS 1B.3, MSCP-A	**Impact**: Loss of 23 Parry's tetracoccus plants. **Mitigation**: Implement Parry's tetracoccus mitigation plan **(BIO-11)**; fence/protect Parry's tetracoccus plants as Environmentally Sensitive Areas (ESAs) **(BIO-9).**
Arroyo toad *Bufo californicus*	FE, CSC, MSCP-1	**Direct**: Potential direct impacts from construction activities adjacent to riparian forest; water quality impacts to downstream breeding habitat in San Luis Rey River. **Mitigation**: Limited construction period (**BIO-7**); protect riparian habitat as an ESA (**BIO-9**); install toad exclusion fence in vicinity of riparian habitat (**BIO-12**); protect drainages and implement Best Management Practices (BMPs) & water quality protection measures (**BIO-6, 9**);
San Diego horned lizard *Phrynosoma coronatum blainvillii*	CSC, MSCP-2	**Direct**: Potential mortality due to grading, vegetation removal, trapping within trenches; loss of cover, foraging habitat from loss of coastal sage scrub. **Mitigation**: Acquire 18.6 acres of coastal sage scrub compensatory mitigation lands (**BIO-10**); implement BMPs, including checking open trenches (**BIO-6**); protect coastal sage scrub in ESA (**BIO-9**).
Northern red-diamond rattlesnake *Crotalus ruber ruber*	CSC, MSCP-2	**Direct**: Potential mortality due to grading, vegetation removal, trapping within trenches; loss of cover, foraging habitat from loss of coastal sage scrub. **Mitigation**: Acquire 18.6 acres of coastal sage scrub compensatory mitigation lands (**BIO-10**); implement BMPs, including checking open trenches (**BIO-6**); protect coastal sage scrub in ESA (**BIO-9**).
Coastal California gnatcatcher *Polioptila californica californica*	FT, CSC, MSCP-1	**Impact**: Potential loss of nest, eggs, or young; loss of coastal sage scrub breeding and foraging habitat; disturbance of nesting activities. **Mitigation**: Limited construction period (**BIO-7**); protect coastal sage scrub in ESA (**BIO-9**); acquire 18.6 acres of coastal sage scrub compensatory mitigation lands (**BIO-10**).
Cooper's hawk *Accipiter cooperii*	CSC, MSCP	**Impact**: Potential loss of nest, eggs, or young; loss of breeding and foraging habitat; disturbance of nesting activities. **Mitigation**: Limited construction period (**BIO-7**); conduct pre-construction nest surveys and implement avoidance measures (**BIO-8**).
Least Bell's vireo *Vireo bellii pusillus*	FE, CE, MSCP	**Impact**: Potential loss of nest, eggs, or young due to disturbance; disturbance of nesting activities, increased risk of cowbird parasitism. **Mitigation**: Limited construction period (**BIO-7**); protect riparian habitat as an ESA (**BIO-9**).

Species	Status	Impact/Mitigation
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	CSC MSCP	**Impact**: Potential loss of nest, eggs, or young; loss of coastal sage scrub breeding and foraging habitat; disturbance of nesting activities **Mitigation**: Limited construction period (**BIO-7**); protect coastal sage scrub in ESA (**BIO-9**); acquire 18.6 acres of coastal sage scrub compensatory mitigation lands (**BIO-10**).
San Diego desert woodrat *Neotoma lepida intermedia*	CSC	**Direct**: Potential mortality due to grading, vegetation removal, trapping within trenches; loss of cover, foraging habitat from loss of coastal sage scrub. **Mitigation**: Acquire 18.6 acres of coastal sage scrub compensatory mitigation lands (**BIO-10**); protect coastal sage scrub in ESA (**BIO-9**).

(Ex. 200, p. 4.2-18.)

Of the 9.3 acres of coastal sage scrub impacted by the OGP, 7.5 acres would be the result of disturbance from gas pipeline construction. The majority of this coastal sage scrub impact would result from construction on the steep hillside west of the existing SDG&E substation (Segment B). The impacts to coastal sage scrub habitat along the pipeline alignment will be temporary because disturbed soils within the work area will be seeded with an erosion control mix of native species, and allowed to revegetate naturally. (Ex. 200, p. 4.2-19.)

Fuel modification (fire clearing) zones around the project site and access road will aggregate to approximately 1.4 acres of coastal sage scrub as required in Condition of Certification **BIO-9**. The remaining 0.4 acres of coastal sage scrub loss results from construction of the site and its access road. Project construction will also result in impacts to 3.4 acres of non-native grassland, mostly from use of the laydown area on the site. (Ex. 200, p. 4.2-19.)

Temporary and permanent losses of 9.3 acres of coastal sage scrub and 3.4 acres of non-native grassland contribute to the significant cumulative loss of these habitat types in the northern San Diego County region. To compensate for these losses, the Applicant must secure a Habitat Loss Permit from the County of San Diego Public Works Department. The Habitat Loss Permit includes acquisition of credits in a mitigation approved by the CDFG, the USFWS, and the San Diego Department of Public Works, as described in Condition of Certification **BIO-10**. The project owner will mitigate for impacts to Diegan coastal sage scrub at a 2:1 ratio, and non-native grassland at a 0.5:1 ratio, consistent with the Biological Mitigation Ordinance and the North County Multiple Species Conservation Program (NCMSCP). Other mitigation measures that must be implemented to avoid potentially significant impacts to Diegan coastal sage scrub are described in Conditions of Certification **BIO-7**, **8**, and **9**. (Ex. 200, pp. 4.2-19 to 4.2-20.)

Construction of the Orange Grove Project would result in the loss of 2.1 acres of disturbed habitat and 9.1 acres of urban/developed area. No special status species are likely to use this cover type for nesting, foraging, or cover, and the site provides only marginal value to common wildlife species. The loss of disturbed, urban areas associated with construction of the Orange Grove Project is therefore considered less than significant, and no mitigation is required to offset this loss. (Ex. 200, p. 4.2-20.)

Birds nesting near the footprint of the site and the gas pipeline alignment could be directly impacted by construction activities because the six-month construction schedule is slated to begin in April 2009, the peak of the nesting season for many birds. Construction activities, noise, or vegetation removal could impact nesting activity, possibly resulting in the incidental loss of fertile eggs or nestlings, or could lead to nest abandonment in violation of the Migratory Bird Treaty Act. Conditions of Certification **BIO-6, 7**, and **9** avoid impacts to nesting birds. Condition of Certification **BIO-6** limits the operating period for construction within coastal sage scrub and riparian habitat. If construction activities cannot be avoided during these periods, pre-construction nest surveys shall be conducted and avoidance measures implemented under Condition of Certification **BIO-8.** (Ex. 200, p. 4.2-20.)

Small mammals and reptiles can get trapped in construction trenches, making them vulnerable to temperature stress, desiccation, and predation. To reduce such potential impacts to less than significant levels, Condition of Certification **BIO-6** requires the installation of passive escape ramps to allow wildlife species to exit the trenches and requires the designated biologist will check trenches daily to remove individuals that may enter the trench. (Ex. 200, p. 4.2-20.)

Arroyo toads could be directly impacted by construction activities within the segment of the gas pipeline near the southern cottonwood willow riparian habitat (Area #2 shown in Exhibit 1 Appendix 6.6H – Attachment A, Arroyo Toad Habitat Assessment). Potential significant impacts to arroyo toads can be avoided with implementation of Condition of Certification **BIO-12**, creation of a toad exclusion fence and with other measures described in Conditions of Certification **BIO-7** and **BIO-9**. (Ex. 200, p. 4.2-21.)

The westernmost portion of the Segment C of the gas pipeline passes through an abandoned dairy farm which is designated as mitigation lands for impacts resulting from the Gregory Canyon Landfill. Condition of Certification **BIO-13** requires the project owner to offset potential impacts to the 2.2 acres of disturbed

mitigation land at a 2:1 ratio, with acquisition of 4.4 acres of oak woodland credits in a suitable off-site mitigation bank. (12/19/08 RT 192:14 to 195:14; Ex. 200, pp. 4.2-21 through 4.2-22.)

Reconductoring and other system upgrades to SDG&E's transmission line from the Monserate to Pala Substation may impact biological resources. Impacts to sensitive habitat types such as coastal sage scrub resulting from transmission system upgrades will be mitigated under the terms and conditions of Chapter 7 and 7.4 (Mitigation and Mitigation Credits) of SDG&E's Natural Community Conservation Plan. (Ex. 200, p. 4.2-22.)

The gas pipeline alignment crosses six drainages or their tributaries, but the crossings will be accomplished by boring beneath the drainages by means of horizontal drilling. With establishment of appropriate setbacks for the drilling described in Conditions of Certification **BIO-9** and **BIO-10**, and implementation of BMPs, drilling and other surface-disturbing activities are not likely to result in increased sedimentation or other water quality impacts in these drainages. (Ex. 200, p. 4.2-22.) Construction of a bridge over the drainage west of the Site and east of Pala del Norte Road is proposed to provide site access. This drainage does not support wetland or riparian vegetation. Direct impacts to water quality due to bridge construction can be avoided with implementation of Conditions of Certification **BIO-6** and **BIO-14**. All drainages slope to the south so that storm water runoff from the project site eventually discharges directly to the floodplain of the San Luis Rey River. Conditions of Certification **BIO-6, 7, 9,** and **14** protect water quality in the San Luis Rey River itself. (Ex. 200, pp. 4.2-22 to 4.2-23)

Construction activities during the breeding season near riparian habitat along the San Luis Rey River could have significant direct impacts to arroyo toad, least Bell's vireo, and other sensitive riparian species. Condition of Certification **BIO-7** requires avoidance of all construction activities within 100 feet of riparian habitat from March 1 through September 15 and protection of all riparian habitats. The limited construction window encompasses the breeding/active season for arroyo toads as well as least Bell's vireo and other bird species inhabiting riparian habitat (Ex. 200, p. 4.2-23.).

Finally, the presence of a construction crew, either by bringing dogs to the work site that could prey on wildlife or by bringing food items that might attract predators (coyotes, ravens, raccoons), could indirectly affect sensitive species. Condition of Certification **BIO-6** includes guidelines for construction personnel to

keep food-related trash in sealed containers and keep pets at home, to avoid these potential impacts. (Ex. 200, p. 4.2-24.).

3. Operational Impacts and Mitigation

The Orange Grove Project site is adjacent to SR 76, a busy roadway that generates ambient daytime noise. Noise from operation of the Orange Grove Project will be more prominent at night. As discussed in the **Noise and Vibration** section of this Decision, project noise control design features will reduce plant noise impacts to below the level of significance, in accordance with all applicable state and local laws, ordinances, regulations and standards. Based on this analysis, operational noise from the Orange Grove Project will have no significant impacts to special status wildlife and other species in the vicinity of the site. (Ex. 200, pp. 4.2-24 to 4.2-25.).

Operation of the Orange Grove Project would result in emissions of criteria pollutants and toxic air pollutants, as explained in the **Air Quality** section of this Decision. The analysis of toxic air pollutants indicates that the facility impacts will not result in violations of existing air quality standards, nor cause an exacerbation of existing violations. The record demonstrates that direct impacts of CO, SO_x, NO_x, and airborne particulates from the Orange Grove Project are not likely to have significant impacts to special status plants, animals, or other biological resources in the San Luis Rey River or coastal sage scrub habitat. (Ex. 200, p. 4.2-25.).

Lighting at the Orange Grove Project could adversely affect wildlife by disrupting normal foraging and nesting activities. Lights can also attract nocturnal migrants to tall structures such as exhaust stacks, putting them at risk of collision. The potential for collision with the exhaust stacks is considered less than significant, however, because the site offers no topographic or habitat features that would draw nocturnal migrants or funnel them in a north-south direction through the project area. Nevertheless, Condition of Certification **VIS-3** in the **Visual Resources** section of this Decision restricts lighting to areas required for safety, security, and operation; and mandates that exterior lights be hooded and directed on site. With implementation of this Condition of Certification, Orange Grove Project lighting will have no significant impacts to nearby sensitive wildlife and their habitat. (Ex. 200, p. 4.2-25.).

Condition of Certification **VIS-2** in the **Visual Resources** section of this Decision requires the Orange Grove Project perimeter to be planted with trees and shrubs as a visual screen. To avoid potential impacts to existing biological resources, Condition of Certification **VIS-2** requires that the landscaping plans do not include

exotic, invasive plant species or those that require intensive irrigation or fertilizing. (Ex. 200, p. 4.2-26.).

4. Cumulative Impacts

Cumulative impacts refer to a proposed project's incremental effect viewed over time, together with other closely related past, present, and reasonably foreseeable future projects (Pub. Resources Code § 21083; Cal. Code. Reg., tit. 14, §§ 15064[h], 15065[c], 15130, 15355.). Cumulative impacts can occur when individually minor but collectively significant projects take place over time. (Ex. 200, p. 4.2-26.)

Direct, indirect, and cumulative impacts to sensitive species and the loss of habitat are critical issues in the San Diego County region, an area supporting an extraordinarily high number of sensitive species. Consequently, state, federal, and local agencies have developed regional and subregional strategies to help minimize sensitive species impacts. In general, compliance with the North Area Multiple Species Conservation Program (NAMSCP) is the primary means of conserving San Diego County's sensitive biological resources and special status species and minimizing direct, indirect, and cumulative impacts of future development of both public and private lands within the NAMSCP area. (Ex. 200, p. 4.2-26.)

In addition to direct impacts from construction and operation, loss of cover, foraging and breeding habitat in coastal sage scrub contributes to the cumulative loss of these native plant communities. Implementation of Condition of Certification **BIO-10**, which calls for offsetting the impacts of coastal sage scrub impacts with compensatory off-site habitat acquisition, will reduce these potential impacts to less than significant levels. (Ex. 200, p. 4.2-21.)

Also, an estimated 83 Parry's tetracoccus were observed within coastal sage scrub habitat during 2007/2008 floristic surveys; 23 of these will be impacted by grading within the site and by fuel reduction activities. An assessment of the regional impact revealed at least 500 individual Parry's tetracoccus occur within this area, indicating that the loss of 23 individual plants would not likely jeopardize this species locally or regionally. However, this loss contributes to the regional cumulative loss of Parry's tetracoccus and other rare plants associated with coastal sage scrub habitat. To reduce this cumulative impact to less than significant levels, mitigation measures described in Condition of Certification **BIO-9** and **BIO-11** require an on-site revegetation plan to replace the Parry's

tetracoccus lost during construction or fuel reduction clearing. (Ex. 200, p. 4.2-21.)

We find that the mitigation measures in the Conditions of Certification are consistent with the NAMSCP and that the Orange Grove Project will not result in cumulative impacts to special status species or other sensitive biological resources.

5. LORS Compliance

The proposed project must comply with state, federal, and county laws, ordinances, regulations, and standards that address state and federally listed species, as well as other sensitive species, and their habitats. In San Diego County, the Multiple Species Conservation Program Subregional Plans provide guidance for protection of sensitive wildlife and plant communities within the San Diego region. (Ex. 200, p. 4.2-26.)

The County of San Diego incorporates the habitat and sensitive species protection measures through their Habitat Loss Permit (HLP). The Orange Grove project is currently under review by the San Diego Public Works Department. The Energy Commission staff's analysis made the following findings based on the MSCP of the HLP. These findings were not disputed by the Applicant or Intervenors. The findings are as follows:

Finding 1.a: The habitat loss does not exceed the 5 percent guideline, as presented in the following table:

Biological Resources Table 4
Unincorporated Areas – Coastal Sage Scrub Cumulative Loss

Total loss allowed under 5% guideline:	**2953.30 acres**
Cumulative loss of coastal sage scrub to date:	1359.92 acres
Net loss due to this project:	9.32 acres
Total cumulative loss:	1369.24 acres
Remaining loss under 5% guideline:	1584.06 acres

(Ex. 200, p. 4.2-27.)

Finding 1.b: The habitat loss will not preclude connectivity between areas of high habitat values.

The only intact and undisturbed coastal sage scrub habitat that will be directly affected by the project is an approximately 400-foot portion of the alignment

immediately west of the Pala Substation. Upon completion of pipeline installation, this disturbed area will be allowed to revegetate, and therefore will not create a substantial break in the continuity of coastal sage scrub vegetation. The proposed project, therefore, will not preclude connectivity between areas of high habitat value. (Ex. 200, p. 4.2-27.)

Finding 1.c: The habitat loss will not preclude or prevent the preparation of the subregional NCCP.

The proposed impacts do not affect large populations of target resources so the development would not preclude connectivity. Implementation of the above avoidance, minimization, and compensatory mitigation measures will ensure that the block of land to be impacted by this project will not preclude or prevent the preparation of the subregional NCCP. (Ex. 200, p. 4.2-28.)

Finding 1.d: The habitat loss has been minimized and mitigated to the maximum extent practicable in accordance with Section 4.3 of the NCCP Process Guidelines.

To minimize impacts to coastal sage scrub, the alignment of the gas pipeline was placed within disturbed areas as much as possible, mostly in existing unpaved roads or areas disturbed by agricultural operations. Avoidance and compensation measures described in the Conditions of Certification will offset the cumulative loss of coastal sage scrub, and will avoid direct and indirect impacts to special-status species inhabiting native habitats at the project site. The project-related loss of coastal sage scrub and impacts to special status species inhabiting this habitat type has therefore been minimized to the maximum extent practicable. (Ex. 200, p. 4.2-28.)

Finding 2: The habitat loss will not appreciably reduce the likelihood of survival and recovery of listed species in the wild.

Four listed species (coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and arroyo toad) have high potential to occur near the proposed gas pipeline alignment for the project. With implementation of Conditions of Certification, the project will not reduce the likelihood of survival and recovery of these listed species. (Ex. 200, pp 4.2-28 to 4.2-29.)

Finding 3: The habitat loss is incidental to otherwise lawful activities.

Prior to clearing any coastal sage scrub or non-native grassland for grading, the Applicant must meet the mitigation requirements of the Conditions of Certification, which are based on concurrence with findings from the Department

of Fish and Game and U.S. Fish and Wildlife Service, as well as the County of San Diego. The project will satisfy Fish and Game Code section 1602 and has been found to be in conformance with Section 86.104 of the San Diego County Code. As such, the anticipated loss will be incidental to "otherwise lawful activities." (Ex. 200, p. 4.2-29.)

We adopt Staff's findings vis a vis the HLP. In addition to integrating the County of San Diego's recommended HLP conditions to mitigate habitat loss, the record discloses that recommendations from the CDFG and USFWS regarding protection of sensitive biological resources have been incorporated into the Conditions of Certification.

The evidence establishes that Clean Water Act (CWA) section 404 permits for the Orange Grove Project were not required from the U.S. Army Corps of Engineers; therefore, no CWA section 401 Water Quality Certification will be required. In addition, the record indicates that the San Diego Regional Water Quality Control Board confirmed that Waste Discharge Requirements would not be required for drilling beneath drainages. Therefore, with the implementation of the Conditions of Certification, *infra*, construction and operation of the Orange Grove Project will be in compliance with all federal, state, and local LORS related to biological resources as identified in the pertinent portions of **Appendix A** of this Decision.

PUBLIC COMMENT

At the hearing, **Cyndy Day-Wilson**, representing **DFI** referred to a comment letter submitted in advance of the evidentiary hearing (12/19/08 RT 207:18-209:22.). The comment letter alleges that the project's impacts on coastal sage scrub due to the proposed gas line have not been adequately mitigated and an alternative pipe line route was inadequately considered. She also claims that construction of the pipeline in the proposed path will result in the permanent destruction of 9.3 acres of coastal sage scrub habitat.

In considering **DFI's** comment, we note first that only 7.5 acres will be impacted by the pipe line, not 9.3 acres (Ex. 200, p. 4.2-17.). Second, as discussed above, the portion of the coastal sage scrub impacted by the gas line represents a temporary impact which is to be revegetated and not a permanent destruction. Regardless of the temporary nature of the destruction, Condition of Certification **Bio 10 and Bio 13** require the Applicant to offset land impacts by acquiring 18.6 acres of Diegan coastal sage scrub, 6.8 acres of nonnative annual grassland and

4.4 acres of oak woodland for permanent preservation. These mitigation measures will reduce project impacts to coastal sage scrub habitat and other sensitive biological resources to less than significant levels.

Finally, the evidence established that routing the pipeline to the south of SR 76 instead of through the coastal sage scrub habitat would have resulted in even greater impacts to biological resources compared to the selected alignment because of potential impacts to riparian habitat and sensitive species occurring along the San Luis Rey River. (Ex. 200, pp. 6-9, 6-10.)

FINDINGS

Based on the uncontroverted evidence, we make the following findings:

1. Habitat adjacent to the northern and western boundaries of the site consists of coastal sage scrub.

2. Ephemeral drainages that run in a generally north to south direction are located to the west and east of the site.

3. Construction of the OGP will result in temporary and permanent loses of 9.3 acres of coastal sage scrub and 3.4 acres of non-native grassland.

4. Of the 9.3 acres of coastal sage scrub impacted by the OGP, 7.5 acres would be the result of disturbance from gas pipeline construction. The majority of this coastal sage scrub impact would result from construction on the steep hillside west of the existing SDG&E substation (Segment B).

5. Segment A would be located entirely within developed areas (i.e., roads and road shoulder) except for a short segment of Diegan coastal sage scrub that would be temporarily disturbed for construction.

6. Segment B, follows existing unpaved roads throughout the upland terrain, except for the easternmost approximately 400 feet where the route crosses Diegan coastal sage scrub.

7. Approximately 700 feet of Segment C is surrounded by southern riparian forest associated with the San Luis Rey River.
8. Segment D adjoins agricultural land and SR 76 with no natural habitat in areas to be disturbed.

9. The impacts to coastal sage scrub habitat along the pipeline alignment will be temporary because disturbed soils within the work area will be seeded with an erosion control mix of native species, and allowed to revegetate naturally.

10. Construction activities within or near coastal sage scrub habitat and riparian forest along the San Luis Rey River could directly or indirectly impact eleven species of special-status plants and animals, including some listed as threatened or endangered under state and federal endangered species acts.

11. To compensate for these losses, avoid take of listed species, and to achieve consistency with the draft North County Multiple Species Conservation Program, the Applicant must implement the impact avoidance, minimization, and compensation measures of Conditions of Certification **BIO-1** through **BIO-12**.

12. Conditions of Certification **BIO-1** through **BIO-5** include specific measures to protect sensitive species and habitats, and general conditions to ensure implementation of a worker training program, presence of a qualified biologist to monitor construction, and development of a detailed mitigation and monitoring program.

13. Conditions of Certification **BIO-6** through **BIO-14** ensure that all protections and mitigation that would have been found in other county and state permits are included in the Energy Commission's license.

14. No waters of the United Sta**tes w**ill be im**pacted**; therefore no permits are needed from the U.S. Army Corps of Engineers.

15. The westernmost portion of the Segment C of the gas pipeline passes through an abandoned dairy farm which is designated as mitigation lands for impacts resulting from the Gregory Canyon Landfill.

16. Condition of Certification **BIO-13** requires the project owner to offset potential impacts to the 2.2 acres of disturbed mitigation land at a 2:1 ratio, with acquisition of 4.4 acres of oak woodland credits in a suitable off-site mitigation bank.

17. The project owner will mitigate for impacts to Diegan coastal sage scrub at a 2:1 ratio, and non-native grassland at a 0.5:1 ratio.

18. Impacts to sensitive habitat types such as coastal sage scrub resulting from transmission system upgrades will be mitigated under the terms and conditions of Chapter 7 and 7.4 (Mitigation and Mitigation Credits) of SDG&E's Natural Community Conservation Plan.

19. The gas pipeline alignment crosses six drainages or their tributaries, but the crossings will be accomplished by boring beneath the drainages by means of horizontal drilling.

20. With establishment of appropriate setbacks for the drilling described in Condition of Certification **BIO-9**, and implementation of BMPs described in Condition of Certification **BIO-6**, drilling and other surface-disturbing activities are not likely to result in increased sedimentation or other water quality impacts in these drainages.

21. With establishment of appropriate setbacks for the drilling described in Conditions of Certification **BIO-9 and BIO-10,** and implementation of BMPs, drilling and other surface-disturbing activities are not likely to result in increased sedimentation or other water quality impacts in these drainages.

22. Operational noise from the Orange Grove Project will have no significant impacts to special status wildlife and other species in the vicinity of the site.

23. Criteria air pollutants and airborne particulates from the Orange Grove Project are not likely to have significant impacts to special status plants, animals, or other biological resources in the San Luis Rey River or coastal sage scrub habitat.

24. Project lighting will have no significant impacts to nearby sensitive wildlife and their habitat.

25. Implementation of Condition of Certification **BIO-9**, which requires setbacks from Parry's tetracoccus during construction or fuel reduction clearing, and Condition of Certification BIO-11, which requires an on-site revegetation plan to replace the Parry's tetracoccus lost during construction or clearing, will reduce this cumulative impact to less than significant levels.

26. Loss of 23 individual Parry's tetracoccus plants contributes to the regional cumulative loss of this and other rare plants associated with coastal sage scrub habitat.

27. Conditions of Certification **BIO-9 and BIO-11** require an on-site revegetation plan to replace the Parry's tetracoccus lost during construction or fuel reduction clearing which will reduce this cumulative impact to less than significant levels.

CONCLUSIONS

We conclude, therefore, that with implementation of the mitigation measures described in the evidentiary record and incorporated into the Conditions of

Certification below, the Orange Grove Project will not result in cumulative impacts to biological resources. Further, implementation of the Conditions of Certification, below, will ensure the Orange Grove Project conforms with all applicable laws, ordinances, regulations, and standards relating to biological resources as identified in the pertinent portions of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

DESIGNATED BIOLOGIST SELECTION

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

1. A Bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field;

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

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

4. An ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation.

Verification: The project owner shall submit the specified information at least 60 days before the start of any site (or related facilities) mobilization. Site and related facility activities shall not begin until an approved designated biologist is available on site.

If the CPM considers the proposed Designated Biologist unacceptable, the project owner shall submit another individual's name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new biologist is on site.

DESIGNATED BIOLOGIST DUTIES

BIO-2 The CPM-approved Designated Biologist shall perform the following during project construction and operation:

1. Advise the project owner's Construction Manager on the implementation of the Biological Resource Conditions of Certification;

2. Supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special status species nesting areas; and

3. Notify the project owner and the CPM of non-compliance with any Biological Resources Condition of Certification.

Verification: During project construction, the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.

DESIGNATED BIOLOGIST AUTHORITY

BIO-3 The project owner's Construction Manager shall act on the advice of the Designated Biologist to ensure conformance with all Biological Resources Conditions of Certification. The project owner's Construction Manager shall halt, if necessary, all construction activities in areas specifically identified by the Designated Biologist as sensitive to assure that potential significant biological resource impacts are avoided. The Designated Biologist shall:

1 Inform the project owner and the Construction Manager when to resume construction, and

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

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

WORKER ENVIRONMENTAL AWARENESS PROGRAM

BIO-4 The project owner shall develop and implement a CPM-approved Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or related facilities during construction and operation are informed about the sensitive biological resources associated with the project area. The Worker Environmental Awareness Program must:

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

1. Discuss the locations and types of sensitive biological resources in coastal sage scrub and riparian habitat along the San Luis Rey River, the meaning of various temporary and permanent habitat protection measures, Best Management Practices described in BIO 6, and the reasons for protecting these resources; and

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

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist. Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement.

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

RESOURCES MITIGATON IMPLIMENTATION AND MONITORING PLAN

BIO-5 The project owner shall submit to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and shall implement the measures identified in the plan. Any changes made to the adopted BRMIMP must be made in consultation

with the Energy Commission staff as well as with the USFWS, CDFG, and County of San Diego Department of Public Works. The final BRMIMP shall identify:

1. All biological resources mitigation, monitoring, and compliance conditions included in the Energy Commission's Final Decision;

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

3. All required mitigation measures/avoidance strategies for each sensitive biological resource, including pre-construction flagging of non-disturbance areas to protect Parry's tetracoccus, drainages, riparian habitat of the San Luis Rey River, and coastal sage scrub;

4. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction, including drainages, riparian habitat of the San Luis Rey River, and coastal sage scrub;

5. Duration for each type of monitoring and a description of monitoring methodologies and frequency;

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

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

8. A discussion of biological resource-related facility closure measures; and

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

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

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 construction phase, and which mitigation and monitoring plan items are still outstanding.

BEST MANAGEMENT PRACTICES

BIO-6 Construction workers should implement Best Management Practices during all construction activities to avoid impacts to protected species and their habitat during construction. Employees working on the OGP shall:

1. Confine their activities and storage of vehicles, equipment, and construction materials to the fenced project footprint;

2. Enclose all food related trash items in sealed containers and remove them regularly from the project site to avoid attracting predators of sensitive wildlife;

3. Refrain from bringing dogs or other pets to the project site;

4. Avoid disposal or temporary placement of excess fill, brush, or other debris within drainages and riparian habitat;

5. Install escape ramps within open trenches and bore pits to provide egress for animals that may fall into these cavities and become trapped;

6. Minimize ingress and egress of construction equipment and personnel to riparian habitat along the San Luis Rey River;

7. Conduct all equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities within the fenced project limits. Areas for equipment maintenance should be designated only in previously compacted and disturbed sites and shown on construction plans;

8. Check equipment for leaks prior to operation and repair as necessary.

Verification: All Best Management Practices and their implementation methods shall be included in the BRMIMP. Implementation of the measures will be described in the Monthly Compliance Reports and provided to the CPM. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how BMPs have been completed.

LIMITED CONSTRUCTION PERIODS/CONSTRUCTION METHODS

BIO-7 To prevent direct impacts to sensitive species inhabiting coastal sage scrub and riparian habitat along the San Luis Rey River, the following measures shall be implemented in riparian and coastal sage scrub habitat areas**:**

1. To avoid impacts to arroyo toad no vegetation removal or surface-disturbing activities shall occur within 100 feet of riparian habitat on the San Luis Rey River from March 1 through August 31. This prohibited construction window encompasses the breeding/active season for arroyo toads (March 1 through August 31). A toad exclusion fence shall be installed to prevent arroyo toad access to areas subject to traffic activities within 100 feet of riparian habitat on the San Luis Rey River between March 1 and August 31 (see Condition of Certification **BIO-12**);

2. To avoid impacts to least Bell's vireo, southwestern willow flycatcher, and other sensitive species inhabiting the riparian habitat on the San Luis Rey River, no construction activities shall occur within 100 feet of riparian habitat from March 1 through September 15. This prohibited construction window encompasses the breeding/active season for arroyo toads (March 1 through August 31) and least Bell's vireo and other bird species inhabiting riparian habitat (March 15 through September 15);

3. Pre-construction nest surveys shall be conducted if construction activities will occur within 300 feet of riparian habitat on the San Luis Rey River from March 15 through September 15 (see Condition of Certification **BIO-8**). If an active nest of a least Bell's vireo, southwestern willow flycatcher, or other sensitive riparian bird species is located within 300 feet of a construction area, a temporary visual screen and sound curtain (TRC 2008) shall be used during construction. The final design and installation procedures for the visual/noise barrier shall be developed in consultation with the Designated Biologist, CDFG, USFWS and the County of San Diego Department of Public Works. Field monitoring by a qualified acoustics monitor shall demonstrate to the satisfaction of the Designated Biologist that the noise/visual barrier will attenuate construction noise levels to 60 dB or less at active least Bell's vireo or southwestern willow flycatcher nest sites. If field monitoring indicates noise levels exceed 60 dB at the nest site, then work within 300 feet of the nest shall cease until conditions are deemed acceptable to the Designated Biologist, CDFG, USFWS and the County of San Diego Department of Public Works. If no active nests are identified within 300 feet of a construction area, the noise/visual barrier shall not be required;

4. The Designated Biologist shall be present for all work occurring within 300 feet of riparian habitat from March 1 through September 15;

5. To avoid impacts to coastal California gnatcatcher and other sensitive birds nesting in coastal sage scrub, pre-construction nest

surveys shall be conducted if construction activities will occur within 500 feet of coastal sage scrub habitat from February 15 through August 31 (see Condition of Certification **BIO-8**). If active nests of coastal California gnatcatchers are identified within 500 feet of a construction area, construction shall not occur within the 500-foot non-disturbance buffer until the Designated Biologist determines that nestlings have fledged and dispersed. Alternative mitigation measures to allow construction within the 500-foot non-disturbance buffer may be submitted for consideration by the CPM if accompanied by written concurrence from the CDFG, USFWS, and County of San Diego Department of Public Works that such alternative measures are acceptable and pose no threat to nesting activities of coastal California gnatcatchers;

6. The Designated Biologist shall be present for all initial clearing and grubbing activities within coastal sage scrub to ensure compliance with all Conditions of Certification.

Verification: Prior to construction with 300 feet of a least Bell's vireo or southwestern willow flycatcher nest the project owner shall provide evidence to the CPM that the CDFG, USFWS, and the County of San Diego Department of Public Works has reviewed and approved the design and installation of the noise/visual barrier. Prior to construction within 500 feet of an active coastal California gnatcatcher nest the project owner shall provide evidence to the CPM that the CDFG, USFWS, and County of San Diego Department of Public Works has reviewed and approved alternative mitigation measures that would safeguard the nesting activities of coastal California gnatcatchers.

The construction periods and methods described above shall be included in the BRMIMP. Implementation of the measures will be described in the Monthly Compliance Reports and provided to the CPM. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how limited construction periods and methods have been completed.

PRE-CONSTRUCTION NEST SURVEYS

BIO-8 Pre-construction nest surveys shall be conducted if construction activities will occur within 500 feet of Diegan coastal sage scrub habitat from February 15 through August 31, or within 300 feet of riparian habitat from March 15 through September 15. The Designated Biologist shall perform surveys in accordance with the following guidelines:

1. Surveys shall cover all potential nesting habitat within 500 feet of the boundaries of the OGP site and linear facilities;

2. At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. One of the surveys needs to be conducted within the 14-day period preceding initiation of

construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks, an interval during which birds may establish a nesting territory and initiate egg laying and incubation;

3. If active nests of non-listed species are detected during the survey, a buffer zone (protected area surrounding the nest, the size of which is to be determined by the Designated Biologist in consultation with CDFG and USFWS) and monitoring plan shall be developed. Nest locations shall be mapped and submitted, along with a report stating the survey results, to the CPM and the County of San Diego Department of Public Works;

4. The Designated Biologist shall monitor the nest until he or she determines that nestlings have fledged and dispersed; activities that might, in the opinion of the Designated Biologist, disturb nesting activities, shall be prohibited within the buffer zone until such a determination is made; and

5. If active nests of least Bell's vireo or southwestern willow flycatcher are detected within 100 feet of proposed construction, or if active nests of coastal California gnatcatcher are detected within 500 feet, such construction shall cease until the Designated Biologist determines that the nestlings have fledged and dispersed, and

Verification: At least ten days prior to the start of any project-related ground disturbance activities, the project owner shall provide the CPM and the County of San Diego Department of Public Works a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor (s); and a list of species observed. If active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest and shall depict the boundaries of the no-disturbance buffer zone around the nest.

ENVIRONMENTALLY SENSITIVE AREAS

BIO-9 At least two weeks prior to construction activities and vegetation clearing, including clearing within fuel modification zones, the Designated Biologist shall identify and flag biologically sensitive areas that are to be protected as Environmentally Sensitive Areas (ESAs) during construction. Orange construction fencing shall be installed around these flagged ESAs wherever work is proposed within 50 feet of these sensitive features. Vegetation clearing and surface-disturbing activities shall not begin until the ESAs are delineated on the ground with the fencing, and the fencing shall remain in place for the duration of construction. No vehicles, heavy equipment, vegetation removal, storage of material, or surface disturbing activities or other construction shall be permitted within the ESAs. The ESA's shall be established as follows:

1. Around the drip line of all Parry's tetracoccus shrubs located within 50 feet of proposed fuel reduction activities, including Pala del Norte Road and around the site;

2. At the coastal sage scrub habitat bordering the proposed gas pipeline alignment (Segments A and B, Figure 3, Appendix 6.5-B, OGE 2008a). All coastal sage scrub habitat beyond the designated gas pipeline work area shall be fenced in this area;

3. Within coastal sage scrub habitat along Pala del Norte Road and around the power plant site, ESA fencings shall be established to limit fuel reduction zones to a 100-foot clearance around structures and 30-foot clearance from the road; and

4. At all riparian habitat within 50 feet of proposed laydown and staging areas, bore pit excavations, spoils piles, and any other areas subject to construction traffic, vegetation removal, or surface disturbing activities. This includes riparian habitat along the San Luis Rey River on both sides of the dirt road between East Dairy Farm Area and West Dairy Farm (depicted in Figure 3, OGE 2008a).

For horizontal directional drilling and other construction activities near drainages, ESAs shall be established as follows:

5. At all ephemeral drainages where bore pit excavations are dug into a soil or rock surface, the bore pit excavations shall be located at least 20 feet from boundary of jurisdictional waters of the State. The CDFG may establish a greater setback at certain drainages if site conditions warrant, which will be described in the Streambed Alteration Agreement that will be issued for this project. A lesser setback may be approved by the Designated Biologist and CDFG if it can be demonstrated that the bore pit will be excavated in competent ground with no material risk of caving that could disturb jurisdictional waters, and that other appropriate precautions are also in place to prevent surface disturbance to the drainage and to downstream water quality.

6. Where bore pit excavations are dug into Pala del Norte Road, the bore pit excavations shall be located either at least 20 feet from jurisdictional waters or three feet inside the edge of pavement.

7. Where grading or excavation work for the access road bridge over Drainage #1 occurs within 20 feet of jurisdictional waters of the State, grading and excavation work shall be monitored full-time to assure that there is no surface disturbance to jurisdictional waters or impacts to downstream water quality. The CDFG may establish additional conditions to protect waters of the state and water

quality, which will be described in the Streambed Alteration Agreement that will be issued for this project.

Verification: At least thirty days prior to start of any project-related ground disturbance activities, the project owner shall provide evidence to the CPM of having secured 18.6 acres of Diegan coastal sage scrub and 6.8 acres of non-native annual grassland has been secured in a mitigation bank approved by the California Department of Fish & Game and the U.S. Fish and Wildlife Service, and that the project owner has implemented all mitigation requirements based on compliance with the Natural Communities Conservation Program Plan and as incorporated into the BRMIMP.

HABITAT LOSS

BIO-10 Prior to approval of grading or improvement plans the project owner shall provide evidence to the CPM and the County of San Diego Director of Public Works that 18.6 acres of Diegan coastal sage scrub and 6.8 acres of non-native annual grassland have been secured in a mitigation bank approved by the California Department of Fish & Game and the U.S. Fish and Wildlife Service. The mitigation bank shall be within occupied habitat located in the North County Multiple Species Conservation Program Plan Area. Evidence of purchase shall include the following information, to be provided by the project owner and mitigation bank:

1. A copy of the purchase contract referencing the project name and numbers for which the habitat credits were purchased;

2. If not stated explicitly in the purchase contract, a separate letter must be provided identifying the entity responsible for the long-term management and monitoring of the preserved land;

3. To ensure the land will be protected in perpetuity, evidence must be provided that a dedicated conservation easement or similar land constraint has been placed over the mitigation land;

4. An accounting of the status of the mitigation bank. This shall include the total amount of credits available at the bank, the amount required by this project, and the amount remaining after utilization by this project.

The project owner shall also provide evidence to the CPM and the County of San Diego Director of Public Works that the project owner has consulted with the California Department of Fish and Game and the U.S. Fish and Wildlife Service regarding mitigation requirements for the project based on the Natural Communities Conservation Program Plan and has implemented all such requirements.

Verification: At least 30 days prior to start of any project-related ground disturbance activities, the project owner shall provide evidence to the CPM of having secured 18.6 acres of Diegan coastal sage scrub and 6.8 acres of non-native annual grassland has been secured in a mitigation bank approved by the California Department of Fish & Game and the U.S. Fish and Wildlife Service, and that the project owner has implemented all mitigation requirements based on compliance with the Natural Communities Conservation Program Plan and as incorporated into the BRMIMP.

PARRY'S TETRACOCCUS MITIGATION PLAN

BIO-11 The project owner shall implement the Parry's Tetracoccus Mitigation Plan described in OGE 2008g (Attachment 4 - Revised Exhibit 39-1, Response to Data Requests at September 11, 2008 Workshop (*Parry's Tetracoccus Conceptual Mitigation Plan, Orange Grove Project, San Diego County, California. August 2008, revised September 2008. Prepared for Orange Grove Energy, L.P. by TRC, Irvine, CA*)). The basic components of this mitigation plan include establishment of a 0.09-acre mitigation area in the northern corner of the 8.5 project site; collection of seeds/cuttings from Parry's tetracoccus at the project site in the fall prior to construction, site preparation; and planting of at least 26 Parry's tetracoccus plants propagated from the local plant material. The mitigation plan calls for five years of monitoring/maintenance, and protection of the mitigation site for the life of the project:

Verification: At least 60 days prior to the start of any project-related ground disturbance activities, the project owner shall provide written and photographic evidence to the CPM and the County of San Diego Department of Public Works that Parry's tetracoccus seeds or cuttings have been collected and that these plant materials are being propagated at a qualified nursery. No later than December 31 of the year during which construction begins, the project owner shall provide written and photographic documentation that plantings have occurred as described in the Parry's Tetracoccus Mitigation Plan. The Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report for a period until performance criteria described in the mitigation plan have been achieved (five years or more).

ARROYO TOAD EXCLUSION FENCING

BIO-12 If construction activities or construction-related vehicular traffic will occur within riparian habitat between March 1 and September 15, a toad exclusion fence shall be installed to prevent arroyo toad access to areas subject to traffic and construction activities. This fence shall be installed on the southwest side of the dirt road located between "East Dairy Farm Area" and "West Dairy Farm Area" (depicted in Figure 3,

OGE 2008a). Fencing shall consist of woven nylon netting approximately three feet in height attached to wooden stakes. Prior to installing the fencing, a narrow trench approximately 3-6 inches in depth would be excavated and the fence buried, to prevent burrowing beneath the fence. Toad exclusionary fencing shall be checked daily by the Designated Biologist before and after each day's construction activities for damage and all necessary repairs should be made immediately. All fencing shall be removed following completion of all project related activities.

Verification: At least 30 days prior to the initiation of any project-related ground disturbance activities south of SR 76, the project owner shall submit written and photographic verification that the toad exclusion fencing has been installed. Implementation of the arroyo toad exclusion fencing measures will be monitored by the Designated Biologist and described in the Monthly Compliance Reports and provided to the CPM. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how arroyo toad avoidance measures have been completed.

IMPACTS TO GREGORY CANYON MITIGATION LANDS

BIO-13 The project owner shall secure habitat compensation credits for 4.4 acres of oak woodland in a mitigation bank approved by the California Department of Fish & Game, the U.S. Fish and Wildlife Service, and the County of San Diego to compensate for impacts to future Gregory Canyon Landfill mitigation lands, and shall provide written verification that this proposed compensatory mitigation is satisfactory to CDFG and USFWS. Evidence of purchase shall include the following information, to be provided by the mitigation bank:

1. A copy of the purchase contract referencing the project name and numbers for which the habitat credits were purchased.

2. If not stated explicitly in the purchase contract, a separate letter must be provided identifying the entity responsible for the long-term management and monitoring of the preserved land.

3. To ensure the land will be protected in perpetuity, evidence must be provided that a dedicated conservation easement or similar land constraint has been placed over the mitigation land.

4. An accounting of the status of the mitigation bank. This shall include the total amount of credits available at the bank, the amount required by this project and the amount remaining after utilization by this project.

Verification: At least 30 days prior to the initiation of construction activities within gas pipeline Segments C and D (Figure 3, Appendix 6.5-B, OGE

2008a), the project owner shall submit written verification that habitat compensation credits for 4.4 acres of oak woodland have been secured in a mitigation bank approved by the CDFG and USFWS to compensate for impacts to future Gregory Canyon Landfill mitigation lands. The project owner shall also provide written verification that this proposed compensatory mitigation is satisfactory to CDFG and USFWS.

STREAMBED ALTERATION AGREEMENT

BIO–14 The project owner shall implement all terms and conditions described in the Streambed Alteration Agreement that will be issued for this project and shall incorporate these measures within the BRMIMP.

Verification: All terms and conditions described in the Streambed Alteration Agreement shall be included in the BRMIMP. Implementation of these terms and conditions will be described in the Monthly Compliance Reports and provided to the CPM. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report describing how Streambed Alteration Agreement conditions have been satisfied.

B. SOIL AND WATER RESOURCES

This section focuses on the soil and water resources associated with the project, including the project's potential to induce erosion and sedimentation, adversely affect water supplies, and degrade water quality. The analysis also considers site contamination and any potential cumulative impacts to water quality in the vicinity of the project. Mitigation measures are included in the Conditions of Certification to ensure that the project will have no significant impacts on the environment and that it will comply with all LORS.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Soil Resources

The main project site is located on a southward sloping (approximately 10 percent) alluvial fan at an elevation of 360 to 440 above sea level. Immediately north of the site the ground slopes up to about 1,700 feet to a ridge that surrounds the site to the north, northeast, and west. The site is located between two north-south seasonal, moderately incised drainages that drain storm water from the small watershed around and above the site. The San Luis Rey River is located to the south of the main project site and runs parallel to and south of SR 76. (Ex. 200, pp. 4.9-7 to 4.9-8.)

Surface soils at the main project site, along the gas and transmission linear, and at the water pick up stations generally consist of fine to coarse sandy loams, sand, and loams developed mainly from local plutonic igneous bedrock (i.e., granodiorite, tonalite, and gabbro). The Soil Conservation Service descriptions of the Las Posas sandy loam series indicate that the shrink-swell potential for this soil is high. However, results of geotechnical testing conducted for the site indicate that the site soils do not appear to have a high enough expansive clay content to require special engineering measures. (Ex. 1, p. 6.3-7.) Topsoil at the main project site is generally 12 to 18 inches deep and is underlain by weathered bedrock and alluvial fan deposits (fanglomerate). (Ex. 1, Appendix 6.3 A.2; Ex. 200, p. 4.9-8.)

After construction approximately one acre of the 5.2 acres within the fencing of the main facility site will be covered by concrete, buildings, or other impervious material; approximately 3.22 acres would be covered by gravel; and the rest would be landscaped. (Ex.1, Appendix 6.5-A.) The gravel and landscape

coverage would reduce any soil erosion impacts from operation of the facility to a less than significant level. (Ex. 200, p. 4.9-20.)

2. Surface Hydrology, Erosion, Storm Water Management, and Flooding

The main surface water body in the project area is the San Luis Rey River. The river is listed as a Clean Water Act (CWA) section 303(d) impaired water body for chloride and total dissolved solids. Near the project site, several large ponds developed in the old mining pits due to groundwater seepage where excavations reached below the water table. The project area includes several seasonal/ephemeral drainages that transport surface water flows during rain events in the area. While these drainages are usually dry during summer, they are considered to be both waters of the United States and waters of the State. (Ex. 200, p. 4.9-9.)

Site grading and construction activities can expose and disturb the soil, leaving soil particles vulnerable to erosion by wind and water. Construction of the Orange Grove Project will require disturbance of approximately 36 acres of land. The pre-construction gradient at the main project site is approximately 10 percent, sloping from north to south. Construction of the Orange Grove Project will require grading of the main facility site to establish a pad with a gently sloping 1percent grade. Cut/fill slopes surrounding the site would be established at a 3:1 horizontal to vertical slope. Excavation and fill requirements at the main site are expected to roughly balance out at 56,000 cubic yards each. (Ex. 200, p. 4.9-16.)

The pre-development Revised Universal Soil Loss Equation (RUSLE) value calculated for the main project site is approximately 1.43 tons of soil lost per acre per year. (Ex.1, Appendix 6.4-C.) The post-development value was calculated to be 0.40 tons of soil lost per acre per year. These values indicate that construction of the facility will decrease erosion at the site by lessening the site slope and controlling sediment discharge through storm water management features and Best Management Practices (BMPs). (Ex. 200, p. 4.9-16.)

The Preliminary Draft Drainage, Erosion, and Sediment Control Plan (DESCP) (Ex. 7, Ex. 57) provides information on the BMPs for mitigation of potential soil erosion and storm water runoff impacts associated with construction and operation of the Orange Grove Project. The BMPs agreed upon by the parties include use of the following: silt fences, fiber rolls, gravel bag berms, sand bag barriers, storm drain inlet protection, sediment basins, and preservation of existing vegetation. Wind erosion BMPs include stabilized construction entrance/exit,

water application, and stockpile management using silt fences and plastic covers to prevent wind dispersal of sediments from stockpiles. In addition, BMP controls would be implemented for activities such as equipment maintenance, waste management, and construction materials pollution control to prevent contamination of soil and storm water. (Ex. 200, p. 4.9-17)

Construction of the gas pipeline along existing roads and right-of-ways in the mountainous terrain west of the main site will require both rock trenching and additional post construction erosion control BMPs due to the shallow bedrock and steep terrain. A hydraulic excavator will be used to excavate solid rock and allow digging around and under boulders. Trench boxes and breakers (ditch plugs) would be used to stabilize the pipeline trench. Silt fences, sand bags, and gravel bag barriers would be used to control erosion during construction. Soil diversion berms would be used to control post-construction erosion in the mountainous areas after the pipeline trench is backfilled and compacted. Due to the steepness of the terrain, the berms will be approximately 2.5 feet high and will extend across the full width of the right-of-way to prevent water flow back onto the right-of-way. (Ex. 7, Data Response #64; Ex. 200, p. 4.9-17.)

Soil erosion control and water quality BMPs will also be employed during bridge construction and horizontal drilling activities associated with linear construction around drainages to prevent impacts to waters of the state. BMPs will include silt fencing, fiber rolls and check dams, along with stockpile management, dewatering operations, liquids management, and contingencies for management of drilling fluids in the event of a “frac-out” or release of drilling fluids from the bore hole to the surface through fractures or conduits in the rock or overlying materials. (Ex. 200, p. 4.9-17.)

We accept the Applicant’s proposed BMPs and the following Conditions of Certification to ensure compliance with project grading, storm water management and erosion control LORS.

- **SOIL & WATER-2** requires the project owner to comply with all of the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm Water Associated with Construction Activity, including the development and implementation of a construction Storm Water Pollution Prevention Plan (SWPPP).

- **SOIL & WATER-3** requires the project owner to develop and obtain Compliance Project Manager (CPM) approval for a site-specific final DESCP that addresses all project elements and ensures protection of

water and soil resources for both the construction and operational phases of the project.

- **SOIL & WATER-4** requires the project owner to comply with all applicable requirements associated with the county of San Diego's grading ordinance and permit. Required items include submittal of complete grading plans and drawings, drainage and soil reports, and a Storm Water Management Plan (SWMP) prepared in conformance with the San Diego County Excavation and Grading, Clearing and Watercourses ordinance requirements.

- **SOIL & WATER-5** requires the project owner to comply with all applicable requirements of San Diego County Watershed Protection, Storm Water Management and Discharge Control, and Grading Ordinance (No. 9926), also known as the Watershed Protection Ordinance.

We find that potential soil loss, erosion, and storm water impacts from project site grading and construction would be less than significant with implementation of all of the above Conditions of Certification.

The main project site and adjacent construction laydown area are located outside the 100-year flood plain on an old alluvial fan that lies between two drainages. These drainages collect storm water runoff from a small upstream watershed and discharge southward into culverts that drain to the south of SR-76 and ultimately discharge to the San Luis Rey River. The western portion of the gas pipeline route is located within the 100-year flood plain, but will not contain any structures that would impede or redirect flood flows. (Ex. 200, p. 4.9-9.)

Six drainages and drainage tributaries were identified as potential waters of the United States and waters of the state (Ex. 1, Appendix 6.5-B). To avoid potential impacts to these jurisdictional waters, the project will use a free-span bridge design for construction of the site entrance bridge over the drainage on the western edge of the main facility, and will also use horizontal drilling for construction of the transmission line and gas pipeline under the drainages. The U.S. Army Corp of Engineers (U.S. ACE) has determined that a CWA section 404 dredge and fill permit will not be required for the project. Since the federal CWA section 404 permit is not required, the project will also not require a CWA section 401 water quality certification. In addition, the San Diego RWQCB confirmed that Waste Discharge Requirements (WDRs) would also not be required for the horizontal drilling activities. (Ex. 200, p. 4.9-18.)

Site grading and construction would alter drainage patterns in the area by diverting storm water run-on from the north to flow around the site toward the existing drainage located to the west of the facility. Storm water on the facility site would be routed to a storm water detention basin to be constructed in the southeast portion of the project site that would then be discharged to culverts to the south, toward the San Luis Rey River. Because the site would discharge storm water runoff into a water of the United States, the project would be required to comply with the federal General NPDES Permit for Discharges of Storm Water Associated with Construction Activity, along with any local storm water management requirements established by San Diego County for compliance with the county's municipal storm water permit, (see **SOIL & WATER-2 and 5)**.

The NPDES permits establish storm water effluent limitations, specify sampling, monitoring and reporting requirements, and require preparation and implementation of a SWPPP for all construction activities, including bridge construction and use of horizontal drilling for pipeline construction under drainages. The draft DESCP submitted by the Applicant provides information on proposed BMPs to address potential storm water runoff impacts associated with project construction activities. (Ex. 1, Appendix 6.5-A; Ex. 200, p. 4.9-18 to 4.9-19.)

With implementation of Conditions of Certification **SOIL & WATER-2, 3, 4, and 5**, we find that the project construction activities will have a less than significant impact on surface waters and hydrology in the project area.

The Orange Grove Project facility will be located outside the 100-year floodplain and would not exacerbate flood conditions in the vicinity of the project. (Ex. 1, § 6.5.) The project would not be exposed to tsunami or seiches given its location and distance from any large water bodies. (Ex. 200, p. 4.9-20.)

Once operational, offsite storm water from the north would be routed around the facility using a diversion channel and would be directed to the existing drainage on the west side of the facility. Storm water from the facility site would be managed by use of storm drains and a storm water detention basin. All storm drains and the detention basin would be designed to manage flows from a 100-year storm event, in compliance with the San Diego Watershed Protection Ordinance requirement. The detention basin would be approximately eleven feet deep and cover 0.5 acres at the site. The detention basin is intended to reduce the project's post-development runoff to a rate that would not exceed pre-project

peak runoff/discharge rate, and therefore not increase flood risks downstream from the project site. (Ex. 200, p. 4.9-20.)

Condition of Certification **SOIL & WATER-7**, requires the project owner to comply with all requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity, including the development and implementation of an Industrial Facility SWPPP. We find that compliance with the NPDES industrial storm water permit conditions, implementation of the approved DESCP for both construction and operation phases (per **SOIL & WATER-3**), and compliance with the San Diego County watershed protection ordinance requirements, including requirements for a SWMP and for design and sizing of detention basins and diversion canals (per **SOIL & WATER-5**), will ensure that any project operation-related storm water impacts are less than significant.

3. Water Resources and Supply

The Orange Grove Project proposes to use both potable water and recycled water for plant industrial uses. While the Orange Grove Project is located within the boundaries of the Rainbow Municipal Water District (RMWD), the district does not offer recycled water and the nearest RMWD potable water distribution line is several miles from the main project site. The **Project Alternatives** section of this Decision explains in more detail why water for project operations will not be supplied by RMWD. Consequently, water supplies for project operations will be provided by the Fallbrook Public Utilities District (FPUD) and will be trucked to the site from pickup locations in Fallbrook.

Water for evaporative cooling of the inlet air chiller will come from tertiary-treated recycled water and will be stored onsite in a 414,000 gallon recycled water storage tank. Potable water for the water demineralizer system, fire protection water, sanitary system uses, and landscape watering will also be obtained from FPUD and transported to the facility by truck. This water will be stored onsite in the 535,000 gallon raw water/fire protection water storage tank. Bottled water will be provided for drinking water supplies. (Ex. 200, p. 4.9-9 to 4.9-10.)

Summaries of the Orange Grove Project water use are provided below in **Soil and Water Tables 1 and 2**.

Soil and Water Table 1
Orange Grove Project Operation Potable Water Use

Water Use	Average Use Rate[1] (gpm)	Instantaneous Use Rate[2] (gpm)	Annual Use[3] (AFY)
Maximum/Design Case[4]			
Demineralized Water for SPRINT and NOx control	41.6 (12.1 for SPRINT and 29.5 for NOx)	114.0	67.2
Sanitary Systems and Facility Wash Down (Intermittent)	0.15	--	0.24
Landscape	1.4	--	2.3
Recovered Cooling Tower Blowdown/Chiller Coils Condensation -- RO Concentrate Recycled to Raw Water Tank (shown as negative value)	-4.7	-13.0	-7.7
Total - Max Design Case	38.5 gpm	101 gpm	62.0 AFY (18 for SPRINT and 44 for NOx)
Expected Use Case[5]			
Demineralized Water for SPRINT and NOx control	13.0	114.0	21.0
Sanitary Systems and Facility Wash Down (Intermittent)	0.15	--	0.24
Landscape	1.4	--	2.3
Recovered Cooling Tower Blowdown/Chiller Coils Condensation – RO Concentrate Recycled to Raw Water Tank (shown as negative value)	-1.5	-13.0	-2.4
Total – Expected Use Case	--	101 gpm	21.1 AFY (6.1 for SPRINT and 15 for NOx)

[1] Annual use rate converted to gallons per minute (gpm) (Instantaneous rate x 3200 operating hours/ 8760 hours)
[2] Instantaneous use rates with ongoing operations at the summer design condition.
[3] Average annual use based on 3,200 hours of two CTGs operating at summer design conditions (6,400 total hours).
[4] Max design case based on both units operating at full load at summer design conditions.
[5] Expected use case based on both units operating at full load at summer design conditions for a total of 1,000 hours of annual plant operation.

Source: Ex. 1, section 2.0, Table 2.6-1a; Ex. 200, p. 4.9-11.)

Soil and Water Table 2
Orange Grove Project Operation Recycled Water Use

Water Use	Average Use Rate[1] (gpm)	Instantaneous Use Rate[2] (gpm)	Annual Use[3] (AFY)
Maximum/Design Case4			
Inlet Air Chiller Cooling System	38.0	104	61.3
Recovered Cooling Tower Blowdown/Chiller Coils Condensation -- RO Permeate Recycled to Recycled Water Tank (shown as negative value)	-14.0	-38.3	-22.6
Total - Max Design Case	24.5 gpm	65.7 gpm	38.7 AFY
Expected Use Case[5]			
Inlet Air Chiller Cooling System	11.8	104	19.3
Recovered Cooling Tower Blowdown/Chiller Coils Condensation -- RO Permeate Recycled to Recycled Water Tank (shown as negative value)	-4.4	-38.3	-7.1
Total – Expected Use Case	7.4 gpm	65.7 gpm	12.1 AFY

[1] Annual use rate converted to gallons per minute (Instantaneous rate x 3200 operating hours/ 8760 hours)
[2] Instantaneous use rates with ongoing operations at the summer design condition.
[3] Average annual use based on 3,200 hours of two CTGs operating at summer design conditions (6,400 total hours).
[4] Max design case based on both units operating at full load at summer design conditions.
[5] Expected use case based on both units operating at full load at summer design conditions for a total of 1,000 hours of annual plant operation.

Source: Ex. 1, section 2.0, Table 2.6-1b.; Ex. 200, p. 4.9-12.

The peak daily construction water use will be about 15,000 gallons, and the project's total construction water use would be approximately 4.8 acre-feet (AF) over the 6-month construction period. (Ex. 7, Data Response #58.) The Applicant identified RMWD as the likely source of water for project construction needs. An email confirmation was received from RMWD stating that the district is willing to provide construction water to the project consistent with district rules and regulations (Ex. 200, p. 4.9-19).

Given the relatively small volume of water needed during project construction, the availability of a sufficient supply of water from RMWD, and the water quality protection requirements that would be applied during project construction as part of the erosion control and storm water management requirements, the evidence demonstrates that there will be no significant adverse impacts to area water supplies or surface or groundwater resources from project construction water use.

To allay concerns that construction water obtained from sources other than the identified RMWD source may result in adverse impacts (if the water is not obtained legally from an appropriate, uncontaminated water source), Condition of

Certification **SOIL & WATER-6** requires the project owner to report to the Energy Commission the source(s), volume, and providers of water procured for use during construction of the Orange Grove Project. (Ex. 200, p. 4.9-19.)

Recycled Water Use

The Orange Grove Project proposes to use tertiary-treated recycled water for evaporative cooling of the CTG inlet air chiller system. Under maximum design conditions the total volume of recycled water to be used by the project would be 38.7 AFY. This assumes the facility operates both CTGs for 3,200 hours annually under summer conditions. However, the facility is expected to operate at less than half (23-46 percent) of the facility maximum annual capacity, probably only 2-8 hours per day on the days that the facility operates. (Ex. 1, p. 2-7.) Expected water use was therefore calculated based on requirements for two CTGs operating at summer conditions for a total of only 1,000 hours annually. Under expected use conditions, project recycled water use would be 12.1 AFY (see **Soil and Water Table 2** for projected recycled water use volumes). (Ex. 200, p. 4.9-21.)

The project has an agreement with FPUD for the supply of no less than 45 AFY of recycled water for the project for approximately twenty-five years (Ex. 1, Appendix 6.5-G.1), which would be more than adequate for the project's chiller system evaporative cooling supply needs. In addition, the 45 AFY recycled water agreement could also provide a sufficient volume of recycled water to accommodate the 6.1 AFY of water needed to operate the turbine's SPRINT intercooling element under expected use conditions. (Ex. 200, p. 4.9-21.)

Intervenor Archie McPhee testified at length in opposition to the Orange Grove Project's use of recycled water (referred to at times in Staff and Applicant's testimony as "reclaimed" water). (12/19/08 RT 95:20-132:25.) Most of his testimony related to health issues and so it is discussed in much more detail in the **Public Health** section of this Decision. It is also addressed in the **Project Alternatives** and **Traffic and Transportation** sections.

Regarding the matters raised by Mr. McPhee relevant to **Soil and Water Resources**, Mr. McPhee contends that the California Water Code requires recycled water to be delivered only by a separate purple pipeline; not by truck. (12/19/08 RT 105:15 to 106:1-13.) However, we are not aware of any law limiting recycled water to be transported to its destination by pipeline. The California Water Code only requires recycled water to be delivered by a separate pipeline if

both potable and recycled water are to be delivered by pipeline, in order to ensure that non-potable recycled water is not mixed with the potable water supply. The requirement regarding "purple pipes" comes from the California Health and Safety Code, which requires that "[a]ll pipes *installed above or below the ground…that are designed to carry recycled water*, shall be colored purple or distinctively wrapped with purple tape" (Cal. Health and Safety Code § 116815 [emphasis added].)

This section contemplates the installation of a pipeline system as a precondition to requiring purple pipes for recycled water. In other words, the need to distinguish the potable from non-potable water pipes does not arise unless there are actually pipes to distinguish. We do not interpret the Health and Safety Code to require recycled water to be transported by pipe in all cases. The use of purple pipe serves only as an indicator that the water flowing through the pipe is not meant for drinking. In this case, none of the water brought to the site by the water trucks will be used for drinking. The Project's drinking water will come from water bottles. (Ex. 200 p. 4.9-10.) Therefore, the purpose of transporting recycled water by separate purple pipe, which is to prevent people from drinking it, does not apply.

Mr. McPhee also claims that according to state law, recycled water must be labeled "Contaminated: Do not drink." (12/19/08 RT 118:2-5.) However, this requirement only applies to "areas where recycled water is used that are accessible to the public" (22 C.C.R. § 60310(g).) If recycled water is accessible to the public, a sign must be posted including the wording: "Recycled water – do not drink." (*Id.*) The Project facilities will not be accessible to the public. (12/19/08 RT 85:1-10.) Therefore, these signage requirements are not applicable to the Project. However, Condition of Certification **TRANS 4** requires delivery trucks to contain the prescribed language (see the **Traffic and Transportation** section of this Decision). As described above, the Project's drinking water will come exclusively from bottles delivered to the site.

Mr. McPhee argues that part (c) of Section 13555.3 of the California Water Code precludes the transportation of recycled water by truck (12/19/08 RT 105:24-106:18.) California Water Code Section 13555.3(c) does not address recycled water transportation by truck. No law prohibits trucking of recycled water. Recycled water may safely and legally be transported by truck (see the **Traffic and Transportation** section of this Decision).

We also note that California Water Code Section 13555.3 does not direct which water district should serve a particular property. Mr. McPhee asserts that instead

of receiving water by truck delivery, the Project should be served by a pipeline connecting to existing RMWD infrastructure (12/19/08 RT 11:18 to 112:10.) As explained in more detail in the **Project Alternatives** section of this Decision, transportation of water to the site via pipeline was actively pursued but determined not to be feasible at this time because of land access issues. (Ex. 1, §§ 5.3 and 5.8.) Furthermore, RMWD, has policies that prohibit the issuance of will-serve letters or any guarantee to any user for delivery of water for an extended period of time. (*see* Ex. 1, Table 5.3-2 and Section 5.8.) The Energy Commission requires such a will-serve letter (*see* 20 Cal. Code Regs., Appendix A(g)(14)(c)(v).) Furthermore, as described above, RMWD is unable to provide recycled water to the Project.

As the Committee noted during the evidentiary hearing, state water policy strongly discourages the use of potable water for power plant cooling. (12/19/08 RT 124:21-125:10.) SWRCB Policy 75-58 states that 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. Indeed, the Energy Commission's established water source and use policy will only approve the use of fresh water for cooling purposes by power plants when alternative water supply sources are shown to be environmentally undesirable or economically unsound (see the **Compliance with LORS** section, *infra*). FPUD is able to meet both the potable and recycled water needs of the Project. For these reasons, we have found that a pipeline is not feasible at this time.

To ensure compliance with recycled water use LORS, Condition of Certification **SOIL & WATER-8**, requires compliance with the Title 17 and 22 California Code of Regulations provisions for use of recycled water and submittal of designs and reports to both California Department of Public Health (CDPH) and the CPM. Given the adequacy and availability of recycled water supplies, the evidence shows that with the implementation of Condition of Certification **SOIL & WATER-8,** use of recycled water by the project will not cause a significant adverse impact on water resources or water quality. (Ex. 200, p. 4.9-21.)

Potable Water Use

Groundwater beneath the main project site is expected to occur between 50 and 100 feet below the ground surface, depending on the location. (Ex. 1, Appendix 6.3-A.2.) Groundwater quality in the area is characterized by relatively high total dissolved solids (TDS), chloride, and sulfate concentrations. However, the project will not use groundwater. (Ex.1, § 6.5; Ex. 200, p. 4.9-9.)

The Orange Grove Project proposes to use potable water for the facility demineralizer system (supplying demineralized water for turbine NOx, SPRINT injection, and water wash), as well as the non-turbine water requirements for fire protection water, sanitary system uses, and landscape watering. Under maximum design conditions the total volume of potable water to be used by project would be 62 AFY. As noted in the recycled water discussion above, this maximum case assumes full capacity facility operation. However, the facility is expected to operate at less than half (23-46 percent) of the facility maximum annual capacity. (Ex. 200, p. 4.9-22.)

Under expected use conditions, project potable water use would only be 21.1 AFY (see **Soil and Water Table 1** for projected potable water use volumes). The project has an agreement with FPUD for the supply of up to 62 AFY of potable water for approximately 25 years. This volume of potable water would be more than adequate for the project's expected potable water needs. However, while the 21.1 AFY of potable water expected to be used by Orange Grove Project is a reasonably small volume and will not likely create a significant adverse impact on water resources, Energy Commission staff expressed concerns about operation and management of the non-turbine potable water use facility elements in the event that potable water supplies are not available. (Ex. 200, p. 4.9-22.)

The project's potable water agreement with FPUD contains a clause that allows the FPUD to provide recycled water in lieu of potable water in the event of a drought, water supply shortage, or water emergency. On June 4, 2008, California Governor Schwarzenegger proclaimed a condition of statewide drought and encouraged local water districts to take actions to reduce water consumption locally. On July 2, 2008, the FPUD issued a press release notifying the Fallbrook community and FPUD customers that the district is currently in a level-one conservation alert, known as a "drought watch." At this drought plan level, the district is asking for a voluntary 10 percent cut back in water use by its customers and states that it will not consider any new annexations into the district's service area. Higher levels of the drought plan would require increasingly more rigorous water use restrictions and limitations. (Ex. 200, p. 4.9-22.)

Accordingly, the evidence establishes that there is a reasonable possibility that, at some point during its operational life, the Orange Grove Project will not have access to potable water and will instead have to use recycled water for all project water needs, including the non-turbine potable water uses identified for fire protection, safety washes, sanitary uses, and irrigation, possibly for an extended period of time. The evidence is clear that FPUD has sufficient recycled water to

replace all of the potable water needed for the Orange Grove Project and has agreed to increase the project's recycled water reservation as necessary. The evidence also shows that the project can operate the facility on recycled water for a limited time (see Water Supply Backup section below). (Ex. 200, p. 4.9-23.)

Mr. McPhee expressed concern that the injection of recycled water into the Project's turbines has potential to damage the turbines. (12/19/08 RT 132:10-14.) The inlet air cooling system for the combustion turbine generators (CTGs) will indeed use recycled water. (Ex. 200, p. 4.9-21.) However, under normal operating circumstances, potable (non-recycled) water will be used for injection into the Project's CTGs. (Ex. 1, p. 2-18.) This water will come from the Project's potable (non-recycled) water supply and storage. (Ex. 200, p. 4.9-22.)

The Project would potentially use recycled water for injection into the CTGs at times when potable water is not available due to drought conditions. (Ex. 23, A6.) Mr. McPhee contends that recycled water may not legally be used for this purpose. (12/19/08 RT 109:21-110:2.) However, state law expressly allows recycled water to be used for industrial processes, and the disinfected tertiary recycled water that will be used by the Project surpasses water quality specifications required by state law for industrial processes where the water will not come into contact with workers, such as injection into the CTGs (22 Cal. Code Regs., § 60307[a][3]; 22 Cal. Code Regs., § 60307[b][8].) Furthermore, the recycled water will undergo further treatment before being injected into the CTGs.

Neither potable nor recycled water is suitable for direct, untreated injection into the turbines; direct injection of water from either of these sources would rapidly ruin a turbine. (Ex. 23, A6.) Therefore, before injection into the CTGs, both potable and recycled water will be treated by the Project's demineralization system. (Ex. 1 pp. 2-18 and 19.) This water will be stored in a separate demineralized water storage tank. (Ex. 1 pp. 2-18 and 19.) Moreover, on-line water condition monitors will be installed and the plant operators will conduct frequent tests to ensure that water purity remains within manufacturer specifications. (Ex. 1 at 2-19.) These procedures will ensure that the water coming into contact with the CTGs will not damage the turbine blades.

On the other hand, it is not clear whether or not the use of recycled water in lieu of potable water for non-turbine potable water uses (i.e., fire protection water, safety showers and eye wash, sanitary system uses, and landscape watering) would be consistent with existing LORS under the existing project design parameters. Therefore, we will impose Condition of Certification **SOIL & WATER-9** which will

require the Applicant to ensure that project use of recycled water in lieu of potable water for landscaping, fire protection, facility wash down, safety showers/eye wash, and sanitary systems will comply with all applicable LORS, and identify any operational changes that would be necessary if recycled water is used in the raw water storage tank in the event of an interruption in potable water availability. Implementation of **SOIL & WATER-9** will ensure that all non-turbine potable water use systems are capable of operating with recycled water in compliance with LORS in the event that potable water supplies are interrupted and recycled water is used in lieu of potable water. (Ex. 200, p. 4.9-23.)

Condition of Certification **SOIL & WATER-10**, requires metering and reporting of project water use. This condition will track project water use, to ensure that project water use will not exceed volumes evaluated by the Energy Commission, and help identify, in advance, potential water use concerns (such as water supply interruptions or facility equipment considerations) that may require evaluation and/or changes to project certification. (Ex. 200, p. 4.9-23.)

Accordingly, with the implementation of Conditions of Certification **SOIL & WATER- 8, 9, and 10**, as described above, we find that project operation water use will have less than a significant impact on water resources and water quality.

Water Supply Back Up

Back up for the project's potable water supply would initially be provided by water stored onsite. If potable water deliveries were temporarily interrupted, the facility could still continue to operate at full load for approximately four 12-hour operating days using water stored in the raw water and demineralized water storage tanks (assuming the tanks are full and excluding water reserved for fire protection). In addition, water from the recycled water tank could be pumped into the raw water tank to provide an additional 39 hours of operation from the recycled water stored onsite. The project could then continue to operate on recycled water, if necessary, but only for a limited time. (Ex. 200, pp. 4.9-23 to 4.9-24.)

If only the recycled water supply is temporarily interrupted and potable water deliveries are still available, water stored in the recycled water tank would allow for operation of the chiller cooling towers at full load for five 12-hour operating days. In the event that the recycled water supply is not available at all (in response to plant upset or delivery disruption), the facility could still operate indefinitely at 87.5 percent of full load (approximately 84 MW) without using water for the inlet air chiller cooling element. (Ex. 200, p. 4.9-24.)

In the event that both potable and recycled water supplies are interrupted, onsite water storage would allow for 51 hours of facility operation under summer design conditions, assuming the water tanks are full (and excluding water reserved in the tanks for fire protection). At 60 percent tank capacity, the facility would still be able to operate at full load for 30 hours under summer design conditions. According to SDG&E experience, most peaking plants in the service area only run between two and eight hours on the days they operate. Therefore, the Orange Grove Project could potentially operate without offsite water deliveries for between four and 15 days, assuming both on-site water tanks are at least 60 percent full. (Ex. 200, p. 4.9-24.)

We find that the backup water supply scenarios presented above would adequately address short-term interruptions in water deliveries without causing any significant impacts on water resources. Condition of Certification **SOIL & WATER-9** will address potential replacement of potable water supplies with recycled water for non-turbine facility operation uses, we find .

4. Wastewater

During project construction, sanitary wastes and wastewaters would be managed and collected in portable, self-contained chemical toilets. The portable toilets would be emptied at least weekly and the waste would be transported by a licensed hauler to an authorized sanitary sewer location or wastewater treatment facility for disposal (Ex. 7, Data Response #57; Ex. 200, p. 4.9-19.)

Other wastewaters generated during construction may include equipment wash down waters, groundwater from excavation dewatering, drilling muds/fluids, and storm water. Equipment wash down water would be contained and collected in designated areas, and then properly disposed of off-site. Excavation dewatering fluids would be contained in portable tanks and tested prior to offsite disposal.

Conditions of Certification **SOIL & WATER-2, 3, 4, and 5** require all project construction wastewaters and storm water runoff to be managed to protect surface and groundwater in accordance with the requirements established by the NPDES General Construction Storm Water Permit and SWPPP, the DESCP, and the provisions of the San Diego County watershed protection and grading ordinances. We conclude that compliance with LORS and the above Conditions of Certification will ensure project construction wastewaters will result in a less than significant impact on soil and water resources and supplies. (Ex. 200, p. 4.9-20.)

During Operation, Orange Grove Project sanitary wastes/wastewater would be generated from domestic drains and two restrooms located in the facility's Service Building. A public sewer system is currently not available in the project area, so these wastes would be discharged to an onsite sanitary waste septic system comprised of a septic tank and leach field. (Ex. 1, Appendix 6.5-H.) The on-site septic system would be sized to accommodate site employees and would be designed in accordance with San Diego County Onsite Wastewater Treatment System (OWTS) Ordinance requirements (Ex. 1, Appendix 6.5-H). The county OWTS requirements address system sizing, design, and layout according to site characteristics, and include provisions for inspection of the system prior to backfilling. To ensure that all project septic system elements are constructed and operated in compliance with the San Diego County OWTS Ordinance, **SOIL & WATER-11** will require the project owner to submit to the San Diego County Department of Environmental Health all documents, reports, and fees necessary for compliance with the county OWTS ordinance. (Ex. 200, p. 4.9-24.)

Plant process wastewater (such as blowdown from the chiller system and chiller coil condensate) will be collected and recycled onsite using an RO system. The clean water produced by the RO system (RO permeate) will be piped into the recycled water storage tank and the RO concentrate would be piped into the raw water storage tank. Without use of the RO system, the project would generate about 8.3 gpm or 133,000 gallons per month of process wastewater.

Use of the RO system to recycle process wastewater will reduce facility wastewater generation to only about 320 gallons per month of oily wastewater from drains in the turbine and gas compressor areas and service building floor. This wastewater would be collected, temporarily stored on-site, and then transported off-site for appropriate treatment, reuse and/or disposal. To ensure proper management, transport and disposal of the oily wastewater, Condition of Certification **SOIL & WATER-12** requires the project owner to properly classify the wastewater to determine proper management and disposal requirements and provide documentation that the wastewater was transported and disposed of in compliance with all applicable LORS. (Ex. 200, p. 4.9-24 to 4.9-25.)

With the implementation of Conditions of Certification **SOIL & WATER-11** and **12**, we conclude that the generation, management and disposal of Orange Grove Project operation wastewaters would have a less than significant impact on the environment.

5. Cumulative Impacts and Mitigation

A project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (14 Cal. Code Regs., § 15065(A)(3).) Cumulative impacts can result from actions taking place over time in the same area that are minor when taken individually, but are collectively significant. (Ex. 200, p. 4.9-25.)

In addition to the Orange Grove Project, the most closely related existing or planned projects in the area are the Gregory Canyon Landfill expansion and Rosemary’s Mountain Quarry. The landfill expansion will use reclaimed water obtained from the Olivenhain Municipal Water District and ground water pumped onsite. The quarry project will also use ground water. Since the Orange Grove Project will not use groundwater and will obtain its recycled water from the FPUD, we find that there will be no water resource cumulative impacts are anticipated from Orange Grove Project construction and operation. (Ex. 200, p. 4.9-25.)

Construction and operation of the Orange Grove Project will result in both temporary and permanent changes at the project site. These changes could incrementally increase local soil erosion and storm water runoff. However, potential project-related soil or storm water impacts would be reduced to a level of insignificance through implementation of mitigation measures/BMPs in the Conditions of Certification, project DESCP and storm water management plan; implementation of the SWPPPs for the Construction and Industrial Activities NPDES permits; and compliance with all applicable erosion and storm water management LORS.

The supply of recycled water from FPUD is sufficient to meet the needs of the Orange Grove Project and other existing or potential users. In addition, the existing potable water supply would be adequate to meet both the potable water needs of the Orange Grove Project and other uses in the area. As noted above, if necessary, FPUD will replace project potable water supplies with reclaimed water in the event of potable water shortages (Ex. 200, p. 4.9-25) Therefore, we find that construction and operation of the Orange Grove Project will not result in any significant cumulative impact to soil and water resources.

6. Compliance with LORS

CLEAN WATER ACT

The Orange Grove Project would satisfy the requirements of the Clean Water Act with the implementation of Conditions of Certification **SOIL & WATER-2** and **7**, which require compliance with the requirements of the NPDES permits and the development and implementation of a SWPPP for both construction and industrial activities. (Ex. 200, p. 4.9-26.)

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Orange Grove Project would satisfy the applicable requirements of the Porter-Cologne Water Quality Control Act and adequately protect the beneficial uses of waters of the state through all of the following: implementation of federal, state, and local requirements for management of storm water discharges and pollution prevention; adherence with state recycled water use requirements; compliance with local grading and erosion control requirements; and compliance with local onsite wastewater treatment system (septic system) requirements. (Ex. 200, p. 4.9-26.)

SWRCB POLICY 75-58 AND ENERGY COMMISSION—*INTEGRATED ENERGY POLICY REPORT (IEPR)* - POWER PLANT WATER USE AND WASTEWATER DISCHARGE POLICY

SWRCB Policy 75-58 states that 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. In accordance with the water conservation provisions established in the California State Constitution and SWRCB Resolution 75-58, the Energy Commission established a water source and use policy in its *2003 Integrated Energy Policy Report (IEPR)*, stating that "the Energy Commission will approve the use of fresh water for cooling purposes by power plants which it licenses only where alternative water supply sources and alternative cooling technologies are shown to be 'environmentally undesirable' or 'economically unsound.'" (Ex. 200, p. 4.9-26.)

The Orange Grove Project proposes to use recycled water for the project's cooling tower evaporative cooling needs. The use of recycled water in the cooling tower is fully consistent with the Energy Commission water policy. The project will

also provide conservation measures for 6.1 AFY as provided in Condition of Certification **Soil and Water 13** (Ex. 200, p. 4.9-26.)

In addition, the Energy Commission's water policy also seeks to protect water resources from power plant wastewater discharges. To that end, the water policy specifies that the Energy Commission will require zero liquid discharge technologies (for management of power plant wastewaters) unless such technologies are shown to be environmentally undesirable or economically unsound.

The Orange Grove Project proposes to use an RO system to recycle process wastewater for reuse onsite. This treatment and reuse of the process wastewaters onsite will eliminate more than 99 percent of the facility's industrial wastewater, leaving only a little over 300 gallons of wastewater that would require offsite disposal. Therefore, we find that the RO treatment and reuse onsite of facility process wastewaters will be in substantial compliance with the intent of the water policy because it eliminates the major portion of process wastewater discharge from the facility. (Ex. 200, p. 4.9-27.)

AGENCY AND PUBLIC COMMENTS

Prior to publishing the Staff Assessment, comments related to water use and water quality impacts associated with the Orange Grove project were received from the San Diego RWQCB (Ex.51), and the Rainbow Municipal Water District (Ex.52). These comments were expressly addressed and considered in the Staff Assessment.

At the hearing, **Cyndy Day-Wilson** referred to a comment letter submitted by her on behalf of DFI Funding, Inc. (12/19/08 RT 207:18-209:22.) Her comment letter addresses several concerns. First, she alleges runoff at the Project site may have significant environmental impacts. She notes that the San Diego Regional Water Quality Control Board ("SDRWQCB") "requested that approval of the Project be conditioned on the preservation of pre-project hydrograph conditions on the completed Project site," but Staff refers only to controlling the Project's post-development runoff to a rate that would not exceed pre-project peak runoff or discharge rates.

In reviewing the evidence, we find the SDRWQCB comments have been incorporated into the Project's design. (See Ex. 200, p. 4.9-28.) This includes, but is not limited to, low impact design as required by the San Diego County

Watershed Protection, Storm Water Management and Discharge Control Ordinance, maintaining natural drainages by returning storm water runoff to the same areas where runoff would flow under pre-project conditions, and providing a storm water detention basis to reduce the project's post-development runoff rate so as not to exceed the pre-project hydrograph peak discharge. (See Ex. 200, pp. 4.9-18, 4.9-19, 4.9-20, 4.9-21, 4.9-32 and 4.9-34; *see* also, Ex. 1, pp. 2-21, 2-22, 6.5-11, 6.5-12, 6.5-14, 6.5-15; 6.5-18 and 6.5-19.)

In addition to these specific measures that will minimize changes to site and downstream hydrograph characteristics, the project additionally incorporates implementation of other BMPs and compliance with requirements of other aspects of the San Diego County Watershed Protection, Storm Water Management and Discharge Control Ordinance and the NPDES permit for discharge of storm water associated with construction activity. (*Id*.) We are satisfied that DFI's concern is addressed in the record, as changes to pre-project hydrograph conditions are limited and other additional measures are included to further assure that any project storm water impacts are less than significant. (*See* Ex. 200, p. 4.9-20.)

Ms. **Day-Wilson's** comment letter also contends that Best Management Practices ("BMPs") often fail during difficult projects, and suggests limiting construction to the dry season. In fact, the project construction schedule provided in the Staff Assessment **Project Description** section (Ex. 200, p. 3-4) indicates that construction of the project would be initiated sometime in April 2009 and be completed in October 2009. This construction schedule is consistent with the suggested mitigation, because it generally coincides with the regional "dry" season. The San Diego Storm Water Ordinance defines "rainy season" as November 11 through April 30.

The record shows that the Project would potentially decrease erosion at the site by lessening the site slope and controlling sediment discharge thorough storm water management features and BMPs. (Ex. 200, p. 4.9-16.) Furthermore, the Conditions of Certification require the project owner to comply with the requirements of the general NPDES permit for discharge of storm water associated with construction activity (Ex. 200 p. 4.9-31.) Orange Grove Energy must comply with all applicable requirements of the San Diego County Watershed Protection, Storm Water Management and Discharge Control Ordinance (Ex. 200 p. 4.9-34.) The Conditions of Certification also require the Project to comply with the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity unless the project does not require such a permit (Ex. 200 p. 4.9-35.) Contrary to Ms. **Day-Wilson's** contention that the

Conditions of Certification fail to address runoff water quality issues, these Conditions would ensure that runoff from the Project site will not unnecessarily degrade the water resources surrounding the Project site. The AFC also indicates that the Project will maintain or reduce pre-development downstream erosion (Ex.1, p. 6.5-17.) The Project has been designed to minimize impervious surfaces. (Ex. 1, p. 6.5-14.) Runoff from the site will be diverted to a detention basin designed to detain runoff even from a 100-year storm. (Ex. 1, p. 6.5-17.) Areas around lubricated equipment and areas around hazardous material storage and use will be constructed with contained drainage. (Ex. 200, pp. 4.4-8 – 4.4-10.) We are satisfied that Project construction and operations impacts to surface water drainage patterns and surface water quality will be less than significant.

Ms. **Day-Wilson's** comment letter further contends that the Project as proposed violates State law because it fails to make efficient use of water. She cites the California Water Code's requirement that "water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented" (Cal. Water Code § 100.) Other state laws, applicable specifically to power plant operations, reflect this policy by limiting the consumption of fresh water for power plant cooling to that minimally essential for the welfare of the citizens of the state. (See SWRCB Resolution No. 75-58, *supra*.) The Commission's own energy policy and the Warren-Alquist Act echo SWRCB Resolution 75-58's concern with limiting the use of fresh water for power plant cooling purposes (*see* California Energy Commission, *2003 Integrated Energy Policy Report* at 41; Pub. Res. Code § 25008.) The Commission has adopted a policy of approving the use of fresh water for power plant cooling purposes only where alternative water supply sources and alternative cooling technologies are shown to be "environmentally undesirable" or "economically unsound" (California Energy Commission, *2003 Integrated Energy Policy Report* at 41.)

The comment letter incorrectly asserts that the Project will use potable water for its cooling needs. In fact, the Project will use non-potable recycled water for its cooling needs, a practice that the California Legislature has strongly encouraged in order to avoid the waste or unreasonable use of water (Cal. Water Code § 13550(a); Ex. 200 at 4.9-10 and 26.) If not used by the Project, this recycled water would otherwise be discharged via a pipeline to the Pacific Ocean. (Ex.1 p. 6.5-7.) With regard to the potable water used by other aspects of the Project, the Project would not impact the water supply to other users. FPUD has indicated that it has the excess capacity within existing infrastructure to supply the Project.

(Ex. 1 p. 6.5-13.) The record reflects that the Project's use of potable and recycled water is efficient and complies with state law and policy.

Ms. **Day-Wilson** comments that the Project is inefficient because it proposes to import bottled potable water by truck rather than by pipeline, but, as described above in the Recycled Water Use section, a water pipeline was extensively pursued for this project but is not feasible at this time.

Ms. **Day-Wilson** suggests that sections of the natural gas pipeline that will service the Project are within a 100-year floodplain, and that the Assessment fails to discuss the potential for damage to the pipeline during a 100-year flood. However, the AFC addresses this very issue, stating that where the gas pipeline occurs within the 100-year flood zone, it will be below the ground surface. (Ex. 1, p. 6.5-14.) Therefore, the pipeline will not be affected by flooding. (Ex. 1, pp. 6.3-8 and 9.) Furthermore, isolation valves exposed on the ground surface will be designed such that they would not be adversely impacted in the event that they are inundated by flooding. (*Id.*) The gas pipeline is located at the edge of the flood plain, far from the active river channel where flood plain sediments are most stable against reclamation by flood flows. (*See* Ex. 1, p. 6.3-10.) At the only location where the pipeline will be close to the active river channel there is an engineered riprap embankment stabilizing the channel bank and protecting the pipeline from flooding. (*Id.*)

Finally, Ms. **Day-Wilson** correctly points out a discrepancy in the water usage figures between the **Soil and Water Resources** and **Project Alternatives** sections. (Ex. 200 p. 6-9.) As explained in Exhibit 204 (supplemental testimony of Suzanne Phinney), the figure of 87.3 acre feet of water trucked per year to the site, as identified in the **Alternatives** section of the Staff Assessment, is incorrect. The maximum amount of water to be trucked for use at the site would be 62 acre-feet per year (AFY) of potable water and 38.7 AFY of reclaimed water. Expected use requirements would be 21.1 AFY of potable water and 12.1 AFY of reclaimed water. These amounts are correctly identified in the **Project Description** (Ex. 200 pp. 3-2 to 3-3) and the **Soils and Water Section** of the Staff Assessment (Ex. 200 p. 4.9-7).

FINDINGS

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

1. Construction of the Orange Grove Project would require disturbance of approximately 36 acres of land.

2. The main project site and adjacent construction laydown area are located outside the 100-year flood plain, on an old alluvial fan that lies between two drainages.

3. The two onsite drainages collect storm water runoff from a small upstream watershed and discharge southward into culverts that drain to the south of SR-76 and ultimately discharge to the San Luis Rey River.

4. The western portion of the underground gas pipeline route is located within the 100-year flood plain, but will not contain any structures that would impede or redirect flood flows.

5. Condition of Certification **SOIL & WATER-2** requires the project owner to comply with all of the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm Water Associated with Construction Activity, including the development and implementation of a construction Storm Water Pollution Prevention Plan (SWPPP).
6. Condition of Certification **SOIL & WATER-3** requires the project owner to develop and obtain Compliance Project Manager (CPM) approval for a site-specific final DESCP that addresses all project elements and ensures protection of water and soil resources for both the construction and operational phases of the project.
7. Condition of Certification **SOIL & WATER-4** requires the project owner to comply with all applicable requirements associated with the county of San Diego's grading ordinance and permit. Required items include submittal of complete grading plans and drawings, drainage and soil reports, and a Storm Water Management Plan (SWMP) prepared in conformance with the San Diego County Excavation and Grading, Clearing and Watercourses ordinance requirements.

8. **SOIL & WATER-5** requires the project owner to comply with all applicable requirements of San Diego County Watershed Protection, Storm Water Management and Discharge Control, and the Watershed Protection Ordinance.
9. With implementation of Conditions of Certification **SOIL & WATER-2, 3, 4, and 5, p**otential soil loss, erosion, and storm water impacts from project site

grading and construction would be less than significant with implementation of all of the above conditions of certification.

10. With implementation of Conditions of Certification **SOIL & WATER-2, 3, 4, and 5**, the project construction activities will have a less than significant impact on surface waters and hydrology in the project area

11. With implementation of Condition of Certification **SOIL & WATER-7**, any project operation-related storm water impacts will be less than significant.

12. All water supplies for project operations will be provided by the Fallbrook Public Utilities District (FPUD) and will be trucked to the site from pickup locations in Fallbrook.

13. FPUD is able to meet both the potable and recycled water needs of the Project.

14. Water for evaporative cooling of the inlet air chiller will come from tertiary-treated recycled water to be stored onsite in a 414,000 gallon recycled water storage tank.

15. Potable water for the water demineralizer system, fire protection water, sanitary system uses, and landscape watering will be stored onsite in the 535,000 gallon raw water/fire protection water storage tank.

16. Bottled water will be provided for drinking water supplies.

17. Construction water may be provided by Rainbow Municipal Water District.

18. **SOIL & WATER-6** requires the project owner to report to the Energy Commission the source(s), volume, and providers of water procured for use during construction of the Orange Grove Project.

19. There is no law requiring recycled water to be transported to its destination exclusively by pipeline.

20. Project facilities will not be accessible to the public, so the requirements of 22 C.C.R. § 60310(g) signage regarding public access to recycled water does not apply to this project site.

21. **Conditions of Certification SOIL & WATER-8** requires compliance with Title 17 and Title 22 of the California Code of Regulations provisions for use of recycled water and the project owner must submit designs and reports to both the California Department of Public Health (CDPH) and the CPM.

22. With the implementation of Condition of Certification **SOIL & WATER-8,** use of recycled water by the project will not cause a significant adverse impact on water resources or water quality

23. Before injection into the CTGs, both potable and recycled water will be treated by the Project's demineralization system and stored in a separate demineralized water storage tank.

24. On-line water condition monitors and frequent tests will ensure that water coming into contact with the CTGs will not damage the turbine blades.

25. **SOIL & WATER-9** will ensure that all non-turbine potable water use systems are capable of operating with recycled water in compliance with LORS in the event that potable water supplies are interrupted and recycled water is used in lieu of potable water.

26. **SOIL & WATER-10**, requires metering and reporting of project water use to track project water use, ensure that project water use will not exceed volumes evaluated by the Energy Commission, and help identify in advance potential water use concerns (such as water supply interruptions or facility equipment considerations) that may require evaluation and/or changes to project certification.

27. With the implementation of Conditions of Certification **SOIL & WATER- 8, 9, and 10**, as described above, project operation water use will have a less than significant impact on water resources and water quality.

28. Backup water supply will adequately suffice during short-term interruptions in water deliveries and will have less than significant impact on water resources.

29. Condition of Certification **SOIL & WATER-9** which addresses potential replacement of potable water supplies with recycled water for non-turbine facility operation uses will ensure that recycled water use by the project will not cause a significant adverse impact on water resources or water quality.

30. All project construction wastewaters and storm water runoff will be managed to protect surface and groundwater in accordance with the requirements established by the NPDES General Construction Storm Water Permit and SWPPP, the DESCP, and the provisions of the San Diego County watershed protection and grading ordinances, therefore, project construction wastewaters will result in a less than significant impact on soil and water resources and supplies.

31. With the implementation of Conditions of Certification **SOIL & WATER-11** and **12**, generation, management and disposal of Orange Grove Project operation wastewaters would have a less than significant impact on the environment.

32. Since the Orange Grove Project will not use groundwater and will obtain its recycled water from the FPUD, there will be no cumulative impacts to soil and water resources from Orange Grove Project construction and operation.

33. The Orange Grove Project's use of an RO system to recycle process wastewater for reuse onsite will eliminate more than 99 percent of the facility's industrial wastewater, leaving only a little over 300 gallons of wastewater that would require offsite disposal.

34. The RO treatment and reuse onsite of facility process wastewaters will be in substantial compliance with the intent of the Energy Commission's zero liquid discharge policy because it eliminates the major portion of process wastewater discharge from the facility.

CONCLUSIONS

Based on these findings, we find that the Orange Grove Project will not result in any unmitigated, significant project-specific or cumulative adverse impacts to Soil or Water Resources and will comply with all applicable LORS with implementation of the Conditions of Certification set forth herein.

CONDITIONS OF CERTIFICATION

SOIL & WATER-1: Prior to the start of project site mobilization and construction, the project owner shall submit documentation confirming that 1) all elements of the San Diego Gas and Electric Company (SDG&E) storage area septic system have been identified and clearly located; 2) that the storage area septic tank has been properly abandoned by SDG&E if it will no longer be used; and 3) that all areas overlying the storage area septic system are flagged and blocked off where construction activities may present safety issues or damage septic system elements. Project construction shall not proceed until the required septic system documentation is provided and the Compliance Project Manager (CPM) gives approval to start construction.

Verification: Not later than 10 days prior to the start of site construction, the project owner shall submit to the CPM all of the following: 1) maps and diagrams clearly showing the location of the SDG&E storage area septic system; 2) documentation from SDG&E that the storage area septic system has been properly abandoned in accordance with county requirements if SDG&E no longer plans to use the system; and 3) pictures and diagrams clearly showing the areas to be flagged and blocked off from construction activities for safety reasons or to prevent damage to septic system elements. Project construction shall not proceed

until the required septic system documentation is provided and the CPM gives approval to start construction.

SOIL & WATER-2: The project owner shall comply with the requirements of the general National Pollutant Discharge Elimination System (NPDES) permit for discharge of storm water associated with construction activity. The project owner shall submit copies of all correspondence between the project owner and the State Water Resources Control Board (SWRCB) or the San Diego Regional Water Quality Control Board (RWQCB) regarding this permit to the CPM. The project owner shall also develop and implement a construction Storm Water Pollution Prevention Plan (SWPPP) for construction on the main Orange Grove Project (OGP) site, the transmission and gas pipeline routes, and all lay-down areas.

Verification: The project owner shall submit a copy of the construction SWPPP to the CPM at least 10 days prior to site mobilization for review and approval, and retain a copy of the approved SWPPP on site throughout construction. The project owner shall submit copies of all correspondence between the project owner and the SWRCB or the San Diego RWQCB regarding the NPDES permit for the discharge of storm water associated with construction activity to the CPM within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent to the SWRCB, the confirmation letter indicating receipt and acceptance of the Notice of Intent, any permit modifications or changes, and completion/permit Notice of Termination.

SOIL & WATER-3: Prior to the start of site mobilization activities for project construction, the project owner shall obtain CPM approval for a site-specific Drainage, Erosion, and Sediment Control Plan (DESCP). The DESCP must ensure proper protection of water quality and soil resources; demonstrate no increase in off-site flooding potential; include provisions for sediment and storm water retention as necessary to meet San Diego County and RWCQB requirements; and identify all appropriate monitoring and maintenance activities. The DESCP shall contain elements 1 through 9 below, outlining site management activities and erosion- and sediment-control Best Management Practices (BMPs) to be implemented during site mobilization, excavation, construction, and post-construction (operating) activities.

1. Vicinity Map – A map(s) at a minimum scale 1”=100’ shall be provided and shall indicate the location of all project elements (construction site, lay-down area, pipelines) with depictions of all significant geographic features including storm drains and sensitive areas.

2. Site Delineation – All areas subject to soil disturbance for the OGP (project site, lay-down areas, linear facilities, landscaping areas, and any other project elements) shall be delineated showing boundary

lines of all construction areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.

3. Watercourses and Critical Areas Map – The DESCP shall show the location of all nearby watercourses including intermittent drainages and drainage ditches. It shall indicate the proximity of those features to the main OGP site and construction lay-down areas, and proposed landscape areas.

4. Drainage Map – The DESCP shall provide a topographic site map(s) at a minimum scale 1”=100’ showing existing, interim, and proposed drainage swales and drainage systems and drainage-area boundaries. On the map, spot elevations are required where relatively flat conditions exist. The spot elevations and contours shall be extended off-site for a minimum distance of 100 feet.

5. Drainage of Project Site Narrative – The DESCP shall include a narrative of the drainage measures, including BMPs, that would be used to protect the site and downstream facilities. The narrative shall include the summary pages from the hydraulic analysis prepared by a professional engineer and erosion control specialist. The narrative shall state in acres the watershed size(s) that was used in the calculation of drainage features. The hydraulic analysis shall be used to support the selection of BMPs and structural controls to divert off-site and on-site drainage around or through the OGP site, and lay-down area(s).

6. Clearing and Grading Graphics/Plans – The DESCP shall provide a delineation of all areas to be cleared of vegetation as well as areas where existing vegetation will be retained. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections, or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Existing and proposed topography shall be illustrated tying in proposed contours with existing topography.

7. Clearing and Grading Narrative – The DESCP shall include a table indicating the quantities of material to be excavated or filled on the OGP facility site and all off-site locations (lay-down areas, transmission and pipeline corridors, roadways, and bridges) whether such excavation or fill is temporary or permanent; and the amount of material, if any, to be imported or exported. Identify the location of disposal or source for cut or fill material if quantities would not be balanced on-site.

8. Best Management Practices Plot Map – The DESCP shall identify the location of the site-specific BMPs to be employed during each

phase of construction (initial grading, project element excavation and construction, and final grading/stabilization) on the topographic site map(s). BMPs shall include measures designed to prevent wind and water erosion.

9. Best Management Practices Narrative – The DESCP shall describe the location, timing, and maintenance schedule of all erosion- and sediment-control BMPs to be used prior to initial grading and during all project element excavations and construction, final grading/stabilization, and post-construction. Separate BMP implementation schedules shall be provided for each project element for each phase of construction. The maintenance schedule shall also include a draft post-construction maintenance schedule for structural-control BMPs, with a final post-construction schedule for structural-control BMPs provided to the CPM prior to the start of operations.

Verification: At least 90 days prior to start of site mobilization for project construction activities, the project owner shall submit a copy of the DESCP to the county of San Diego and the San Diego RWQCB for review and comment. At least 60 days prior to start of site mobilization, the project owner shall submit the DESCP, along with any comments received from the county and the San Diego RWQCB, to the CPM for review and approval. The CPM shall consider all comments by the county and RWQCB prior to approving the DESCP. The DESCP shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL-1**, and relevant portions of the DESCP shall clearly show approval by the chief building official. The project owner shall provide a narrative on the effectiveness of the drainage, erosion, and sediment-control measures and the results of monitoring and maintenance activities in the monthly compliance report. Once operational, the project owner shall update and maintain the DESCP for the life of the project and shall provide information on the results of monitoring and maintenance activities in the annual compliance report and updates on compliance with the San Diego County Watershed Protection Ordinance as required by **SOIL & WATER-5** and the Industrial NPDES storm water permit as required by **SOIL & WATER-7**. The DESCP may be jointly developed with the SWPPPs required for compliance with NPDES storm water management permit requirements, but must be clearly identified as the project DESCP and contain all elements as specified in this condition.

SOIL & WATER -4 Prior to site mobilization and construction, the project owner shall submit grading plans containing all documentation and plans as normally required for the county's grading permit to the CBO for approval and to San Diego County for review and comment. The CBO shall consider County input, if provided, before deciding whether to approve the grading plans. All grading plans and documentation shall be consistent with the project DESCP and the SWPPPS developed in

compliance with the project conditions of certification and the NPDES permit for construction and industrial activities.

Verification: At least 90 days prior to the start of site mobilization, the project owner shall submit grading plans containing all documentation and plans as normally required for the county's grading permit to the CBO and to San Diego County. Project mobilization and construction shall not proceed until the CBO has reviewed and approved the grading plans.

SOIL & WATER-5: The project owner shall comply with all applicable requirements of the San Diego County Watershed Protection, Storm Water Management and Discharge Control Ordinance, including development, submittal, and implementation of a Storm Water Management Plan (SWMP), as necessary. The project owner shall provide a copy of the required SWMP to the CPM and notify the CPM in writing of any reported non-compliance with the county requirements, including documentation of any measures taken to correct the non-compliance and the results of those corrective measures.

Verification: At least 60 days prior to the start of project construction, the project owner shall submit evidence of compliance with the San Diego County storm water management requirements to the CPM, including development, submittal, and implementation of a SWMP as necessary. A copy of the SWMP, and any plan updates, shall be provided to the CPM within 10 days of submittal of the plan or plan updates to San Diego County. The CPM shall be notified by the project owner, in writing, of any reported non-compliance with the county requirements within 10 days of the event. The written notification shall include documentation of any measures taken to correct the non-compliance and the results of those corrective measures. The project owner shall submit copies of all correspondence between the project owner and the county regarding the SWMP to the CPM within 10 days of receipt or submittal.

SOIL & WATER-6: The project owner shall identify the source(s), volumes, and provider(s) of water used for all aspects of project construction activities (except water used for drinking water purposes). The information submitted for each water provider and source of water shall document that the water source(s) and means of procurement are consistent with all applicable water supply and water use LORS. The required documentation shall include copies of water agreements and verification that water providers and haulers are licensed or otherwise authorized to supply the water to be used for project construction purposes.

Verification: At least 30 days prior to the start of project construction, the project owner shall provide to the CPM an initial list of water providers and sources of water to be used for project construction activities, along with documentation that the volumes, sources, and methods of water procurement are consistent with all applicable water supply and water use LORS. The required

documentation shall also include copies of water agreements and verification that the water providers and haulers used are licensed or otherwise authorized to supply the water to be used for project construction purposes. The project owner shall update this list monthly as necessary and submit the updates with the project monthly compliance reports.

SOIL & WATER-7: The project owner shall comply with the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity, including development of an Industrial Facility SWPPP. If the Regional or State Board finds the project does not require a General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity, written confirmation from either board confirming this permit is not required would satisfy this condition.

Verification: The project owner shall submit a copy of the Industrial Facility SWPPP for operation of the OGP to the CPM at least 60 days prior to the start of commercial operation and shall retain a copy of the approved SWPPP on site throughout the life of the project. The project owner shall submit copies of all correspondence between the project owner and the San Diego RWQCB regarding the general NPDES permit for discharge of storm water associated with industrial activity to the CPM within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent by the project owner to the SWRCB, the confirmation letter indicating receipt and acceptance of the Notice of Intent, and any permit modifications or changes.

SOIL & WATER-8: The OGP shall comply with all recycled water use requirements established in Title 22 and Title 17 of the California Code of Regulations (CCR) and any applicable local recycled water use ordinances. Prior to delivery of recycled water to the OGP for any purpose, the project owner shall submit a Title 22 Engineer's Report, along with copies of any review comments on the report from the California Department of Public Health (CDPH) and the San Diego RWQCB, for review and approval by the CPM.

Verification: Prior to the start of project construction, the project owner shall submit to the CPM a water supply and distribution system design, an Engineer's Report for the Production, Distribution and Use of Recycled Water (Engineer's Report), and copies of any comments on the documents from CDPH and the San Diego RWQCB for review and approval by the CPM. The water supply and distribution system design shall also be included in the final project design drawings submitted to the CPM.

The Engineer's Report shall be prepared in accordance with Title 22 and Title 17 of the California Code of Regulations, the California Health and Safety Code, and the California Water Code. The project owner shall comply with any reporting and inspection requirements set forth by the CDPH and the San Diego RWQCB to fulfill statutory requirements. The project owner shall submit copies to the CPM of all correspondence between the project owner and CDPH or the San Diego

RQWCB regarding project use of recycled water within 10 days of receipt or submittal.

SOIL & WATER-9: Prior to the start of project construction, the project owner shall ensure that project use of recycled water in lieu of potable water for landscaping, fire protection, facility wash down, safety showers/eye wash, sanitary systems, and any other non-turbine water uses will comply with all applicable LORS, and identify what operational changes would be necessary if recycled water is used in the raw water storage tank during interruptions of potable water supplies.

Verification: At least 30 days prior to the start of project operation, the project owner shall submit to the CPM documentation identifying which of the water use elements listed above could use recycled water in lieu of potable water without changes to project systems. For those elements that cannot use recycled water without changes to project systems or project operations, the project owner shall submit a plan to the CPM detailing how project system configurations or operations will be changed to accommodate recycled water use in the raw water storage tank, or how the project owner will provide adequate potable quality water during short-term potable water interruptions. The CPM shall review and approve the plan and the project owner shall implement the plan during short-term use of recycled water in the raw water storage tank.

SOIL & WATER-10: The project owner shall obtain project water supplies from FPUD in volumes not to exceed 62 AFY of potable water and 38.7 AFY of recycled water, unless other use volumes are approved by the CPM. Prior to the use of potable and recycled water for commercial operation, the project owner shall install and maintain metering devices, as part of the project water supply and distribution system, to monitor and record in gallons per day the total volumes of potable and recycled water supplied to the OGP by the FPUD. The metering devices shall be operational for the life of the project and must be able to record the volumes of water used from each type of water separately.

Verification: At least 60 days prior to commercial operation of the OGP, the project owner shall submit documentation to the CPM that metering devices for both the potable water supply system and the recycled water supply system have been installed and are operational. The project owner shall prepare an annual potable water and recycled water use summary giving the monthly range and monthly average of daily potable water usage and recycled water usage in gallons per day and total potable water and total recycled water used on a monthly and annual basis in acre-feet. The annual summary shall be included in the Annual Compliance Report. For years subsequent to the initial year of operation, the annual summary will also include the yearly range and yearly average for potable water used and recycled water used. For calculating the total water use, the term *year* will correspond to the date established for the annual compliance report submittal. If the amount of potable water and/or recycled water to be used by OGP is expected to exceed 62 and 38.7 AFY respectively, during any annual

reporting period, the project owner shall provide a written request and explanation for the anticipated water use increase to the CPM at least 60 days prior to the date when the water use limit is expected to be exceeded.

SOIL & WATER-11: The project owner shall comply with all San Diego County Onsite Wastewater Treatment System (OWTS) Ordinance requirements for construction and operation of the project's sanitary waste septic system and leach field. Project construction shall not proceed until documentation equivalent to the county's required onsite wastewater treatment system permit is issued by the county and approved by the CPM. The project owner shall remain in compliance with the county OWTS requirements for the life of the project.

Verification: At least 90 days prior to the start of project construction, the project owner shall submit a sanitary waste management information packet to the San Diego County Department of Environmental Health containing all necessary documentation, plans, and fees required for the county's onsite wastewater treatment system (septic system) construction and operation permits and authorizations. Copies of all documents and information submitted by the project owner to the county, and any documentation equivalent to the county's septic system permit issued to the project owner shall be provided to the CPM within 10 days of submittal or receipt by the project owner. Project mobilization and construction shall not proceed until the required septic system permit equivalent document is issued by the county and the CPM provides written concurrence. The project owner shall remain in compliance with the county OWTS requirements for the life of the project and provide a status report on OWTS compliance in each annual compliance report.

SOIL & WATER-12: Prior to transport and disposal of any facility operation wastewaters that are not suitable for treatment and reuse onsite, the project owner shall test and classify the stored wastewater to determine proper management and disposal requirements. The project owner shall ensure that the wastewater is transported and disposed of in accordance with the wastewater's characteristics and classification and all applicable LORS (including any CCR Title 22 Hazardous Waste and Title 23 Waste Discharges to Land requirements).

Verification: Prior to initial offsite transport and disposal of facility wastewaters, the project owner shall test and classify the stored wastewater to determine proper management and disposal requirements. At least 10 days prior to offsite transport, the project owner shall submit to the CPM for review and approval a report documenting the results of the wastewater testing and classification, and identifying the volume of wastewater to be disposed, the methods of transport, and the disposal facility to be used for offsite disposal of the wastewater. After CPM approval of the initial testing and management report, and absent changes in waste stream characteristics or in the transport and disposal practices identified, the project owner shall report annually in the Annual Compliance Report the volume of facility wastewater transported and disposed of offsite and

provide documentation that the wastewater was transported and disposed of in compliance with all applicable LORS.

SOIL & WATER-13: The project owner shall: 1) submit a facility water conservation plan to the CPM for review and approval; 2) implement water conservation measures to the extent practicable for all facility operation water uses in compliance with applicable FPUD water conservation programs and requirements; and 3) shall provide offsetting potable water conservation measures for 6.1 AFY.

Verification: At least 30 days prior to the start of facility operation, the project owner shall submit to the CPM a facility water conservation plan for offset of 6.1 AFY of potable water. The plan shall identify all water conservation measures to be implemented by the facility, including a schedule for implementation and maintenance of the measures and a narrative description of how the project will modify measures as necessary to accommodate local water conditions. The plan shall identify what measures will be implemented to fully offset the 6.1 AFY. After review and approval by the CPM, the project owner shall implement the water conservation plan for the life of the project. The project owner shall report annually on the status of facility conservation, revise the conservation plan as necessary to address local conditions, and submit plan revisions to the CPM for review and approval.

C. CULTURAL RESOURCES

The potential for impacts to cultural resources depends upon whether such resources are present and whether they would actually be encountered during project development and construction activities. Cultural resource materials such as artifacts, structures, or land modifications reflect the history of human development. Certain places that are important to Native Americans or local national/ethnic groups are also considered valuable cultural resources. Analysis in this topic area pertains to the structural and cultural evidence of human development in the project vicinity, as well as appropriate mitigation measures should cultural resources be disturbed by project excavation and construction.

The term "cultural resource" is used broadly to include the following categories of resources: buildings, sites, structures, objects, and historic districts. When a cultural resource is determined to be significant, it is eligible for inclusion in the California Register of Historic Resources (CRHR). (Pub. Res. Code, § 5024.1; Cal. Code Regs., tit. 14 § 4850 et seq.) In addition, an archaeological resource that does not qualify as an historic resource may be considered a "unique" archaeological resource under CEQA. (*See* Pub. Res. Code, § 21083.2.) Furthermore, structures older than 50 years (or less if the resource is deemed exceptional) can be considered for listing as significant historic structures. Since there is often a five year lag between resource evaluation and the date that eligibility is decided, cultural resources specialists may use 45 years as a criterion for considering potential eligibility.

The CEQA Guidelines provide a definition of a historical resource as a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR", or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code," or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record." [Cal. Code Regs., title 14, §15064.5(a)]. Historical resources that are automatically listed in the CRHR include California historical resources listed in or formally determined eligible for the National Register of Historic Places (NRHP) and California Registered Historical Landmarks from No. 770 onward. [Pub. Res. Code, § 5024.1(d).]

Under the CEQA Guidelines, a resource is generally considered to be historically significant if it meets the criteria for listing in the CRHR. These criteria are essentially the same as the eligibility criteria for the NRHP. In addition to being at least 50 years old, a resource must meet at least one of the following four criteria: is associated with events that have made a significant contribution to the broad patterns of our history (Criterion 1); or, is associated with the lives of persons significant in our past (Criterion 2); or, that embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values (Criterion 3); or, that has yielded, or may be likely to yield, information important to history or prehistory (Criterion 4). [Pub. Res. Code §5024.1.] In addition, historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. [Cal. Code Regs., title 14, § 4852(c); Pub. Res. Code §§ 5020.1(j) or 5024.1.] Even if a resource is not listed or determined to be eligible for listing in the CRHR, CEQA allows the lead agency to make a determination as to whether the resource is a historical resource.

An inclusive list of all LORS which apply to this project were presented in the Applicant's AFC (Ex. 1, pp. 6.7-40 to 43, Table 6.7-2) and in the Staff FSA. (Ex. 200, p. 4.3-3.) These and other relevant Exhibits pertaining to cultural resources were introduced into evidence on December 19, 2008 (12/19/08 RT 44:11 – 45:17.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Setting

a. Prehistoric

The earliest generally accepted evidence for the human occupation of the North American continent dates to the geological epoch known as the Late Pleistocene, about 10,000 years BC. Evidence of cultural resources from this period occurs primarily in the form of large, very skillfully made stone spear points, sometimes found in association with the bones of large game animals. After approximately 1,500 BC, native inhabitants developed increasing social complexity in adaptation to a stable, resource-rich California environment. This lead to assimilation and adoption of more advanced technology and practices by Northern and Central California Native American groups and immigration to the coastal area by Native American groups from the eastern interior of the

continent. New practices included the technology of processing acorns for food using ground-stone mortars and pestles. Another new practice introduced in this period was cremation of the dead, probably adapted from Native American groups to the east. The use of the bow and arrow and of pottery emerged during this period, as well. (Ex. 200, p. 4.3-6.)

b. Ethnographic

The descendants of the pre-historic migrants include Native American groups known as the Luiseños, Gabrielinos, and Nicoleños. (*Id*., p. 4.3-7.) The proposed project area is in territory thought to be formerly occupied by the Luiseño. Later, at the time of European settlement, a group known as the Cupa were also relocated to the Pala Valley. The Luiseño maintained a hunter-and-gatherer economy based around autonomous semi-sedentary village groups, each with hunting and gathering areas.

The variety in the ecological zones allowed for regional variations in subsistence strategies, but plant foods were the dominant source of dietary calories, with the acorn making up the largest portion of the diet. Fire was used to manage and enhance plant growth, and some researchers have argued that crop management was part of Luiseño food gathering. Game animals such as rabbit, deer, jackrabbit, and number of other medium-to-small size animals provided a large amount of dietary protein. Marine fish and shellfish were a mainstay for some groups that were based on the coast. (*Id*. p. 4.3-7.) The Luiseño had developed a varied material culture. An array of tools made from stone, wood, bone, and shell, were used to gather and process food, and because of the mild climate, needs for shelter and clothing were minimal. Great attention was paid to personal adornment despite the minimal need for clothing. (Ex. 1, pp. 6.7-4–6.7-5.)

c. Historic

In 1796, the Spanish were the first Europeans to come into contact with the Luiseño. As with the rest of California, the arrival of Europeans brought disease and colonization to the Native Americans. The people of Pala region were brought into the Spanish political system with the establishment of Mission San Luis Rey. Once Europeans began to travel to the Warner Springs area to take advantage of the mineral springs, the United States Indian Bureau evicted the Cupa from their territorial land near Warner Springs, and they were relocated to

the present day Pala Valley on a 10,000-acre reservation in 1903. Today both the Luiseño and Cupeño descendants live on the Pala Reservation and call themselves the Pala Band of Mission Indians. (Ex. 200, p. 4.3-7.)

European American settlement began with the establishment of the Mission San Luis Rey de Francia in 1798 under the supervision of Padre Presidente Fermin Francisco de Lausen. The mission was established approximately four miles east of Interstate 5 and State Route 76, also called Mission Road. Continued disruption to the native peoples in western San Diego County occurred in the early nineteenth century from the rising number of private land grants, Mexico's separation from the Spanish Empire in 1821, and the secularization of the Mission system in the 1830s. Mission lands were broken up and granted to Mexican citizens for use as cattle ranches called ranchos.

During the Mexican-American War, 1846-1848, the Mormon Battalion opened the first wagon road through San Diego from the east, passing through the area west of Interstate-15 (I-15) and Mission San Luis Rey. The Gold Rush in the northern part of the state, together with the annexation of California by the United States in 1850, brought more outsiders into the region. During the 1860s and 1870s, settlers began moving into the San Luis Rey River valley and acquired land through homesteading or purchase and established farmsteads. (*Id*., p.4.3-8.)

During the late 1800s, the San Luis Rey River valley was the center of a dairy industry and supported larger ranches and small farms that pursued a diversified agricultural economy. Crops cultivated in the valley included corn, barley, wheat, alfalfa, sweet potatoes, watermelons, and onions. Land in the Pala Valley within the area of analysis was largely undeveloped during the early part of the nineteenth century through the turn of the twentieth century.

Portions of Section 29 and 32 (the location of the proposed power plant site) were deeded to six different individuals at the end of the nineteenth century, then were consolidated into three larger parcels at the beginning of the twentieth century, and continued to be split in varying sizes of parcels during the subsequent years. It does not appear that any residences or structures were constructed on the project site during the late nineteenth and early twentieth centuries. (Ex. 1., pp. 6.7-18 to 6.7-19.)

The largest changes in San Diego County came during World War II and in the post-war period. World War II military establishments, war industries, and war housing projects accounted for over 50 percent of water consumption in San

Diego at that time, and preventing an impending water shortage was deemed of national importance. As a result, the San Diego Aqueduct was constructed. It was comprised of two separate aqueducts that were 70 miles long and made up the backbone of the San Diego County Water Authority system, carrying water from the Los Angeles Metropolitan Water District's (MWD) Colorado Aqueduct near San Jacinto to the City of San Diego's San Vicente Reservoir, located approximately 15 miles north of San Diego. (Ex. 200, p. 4.3-9.)

With the progressive urbanization of San Diego County's coastal plain during the postwar period, agriculture became a diminishing part of the County's economy. Only scattered areas of undeveloped land between Camp Pendleton and the Mexican border remained. Population pressures and high property taxes forced farmers to sell their land. The Pala Valley became more accessible with the construction of I-15 and the Golden State Freeway (I-5), and small-scale, commercial roadside development occurred in the area of analysis.

The land at the project site was cultivated as a citrus orchard during the 1960s and 1970s. In addition, several dairy operations were established and several of the dairies' structures still remain along the route of the project gas line. At the proposed power plant site, SDG&E constructed a small substation in 1964. The existing structures on the project site were constructed by the California Institute of Technology for use in passive solar technology tests. During the 1990s, these buildings were converted to residential use when a caretaker lived on site. (Ex. 200, p. 4.3-10.)

d. Resources Inventory

Applicant and Staff experts each conducted an inventory of resources based on the identified area of analysis related to the Project and its associated linear facilities. These areas of analysis would vary depending on whether the potential resources were archaeological, built-environment, or ethnographic. For example areas around the project site footprint would include a 200-foot buffer for archaeological resources, while areas for analysis of built-environment resources are confined to a distance of one parcel deep from the project site.

Once the area of analysis was established, the inventory began with research to gather information on previously known and identified historical resources through literature and records searches as well as through contact with the Native American Heritage Commission and appropriate tribes. After this, fieldwork was undertaken. After an inventory of all cultural resources had been

compiled, the resources were evaluated for CRHR eligibility. (Exs 1, Table 6.7, pp. 6.7-9 to 6.7-16; 7; 10; 200, p. 4.3-11.)

The complete resources inventory for the Project included three primary elements: 1) a literature and records search, 2) Native American coordination and, 3) field surveys for archaeological, built-environment and geoarchaeological resources. (Ex. 200, pp. 4.3-10 to 18.) The results of the research surveys are contained in the Applicant and Staff analyses of record. (Ex. 1, Table 6.7, pp. 6.7-9 to 27; Ex. 200, pp. 4.3-18 to 25.)

2. Project Impacts

a. Construction Impacts and Mitigation

Construction usually entails surface and subsurface disturbance of the ground, and direct impacts to archaeological resources may result from the immediate disturbance of the deposits, whether from vegetation removal, vehicle travel over the surface, earth-moving activities, excavation, or demolition of overlying structures. Construction can have direct impacts on historic standing structures when those structures must be removed to make way for new structures or when the vibrations of construction impair the stability of historic structures nearby.

New structures can have direct impacts on historic structures when the new structures are stylistically incompatible with neighboring structures and the setting, and when the new structures produce something harmful to the materials or structural integrity of the historic structures, such as emissions or vibrations.

Generally speaking, indirect impacts to archaeological resources are those which may result from changed circumstances that result from project activities, such as increased erosion due to site clearance and preparation, or inadvertent damage or outright vandalism to exposed cultural resources due to improved accessibility. Similarly, historic structures can suffer indirect impacts when project construction causes obsolescence and demolition or creates improved accessibility with consequent vandalism and/or greater weather exposure.

The proposed Orange Grove Project construction activities involve grading with a maximum cut of 20 feet to provide pads for project facilities, clearing of agricultural vegetation, hauling and lay down of equipment, materials and supplies, and facility construction on the plant site, at the fresh-water and reclaim water pick-up stations, and along the natural gas pipeline route. The gas line

would require open trenching to a maximum depth of approximately five to ten feet, depending on location. This ground disturbance could impact subsurface extensions of the 14 previously known, potentially CRHR-eligible archaeological sites located on or adjacent to the plant site, the fresh-water pick-up station, and the gas line. Consequently, we are requiring archaeological monitoring of construction-related ground disturbance on the project components near these 14 resources. This is addressed in Condition of Certification **CUL-6.** (Ex. 200, p. 4.3-28.)

Additionally, the Project could potentially impact two other resources, Gregory Mountain and a portion of the San Diego Aqueduct (SDA). Orange Grove Energy determined that the pipe depths of the SDA, a built-environment resource, were 12.40 and 12.35 feet below the surface (Ex. 7, Data Response 45, 12/19/08 RT 44:2-5), so the proposed gas pipeline would not directly impact the SDA.

The Project would also not significantly affect the integrity of the setting of Gregory Mountain, an ethnographic resource. A combination of modern industrial and commercial development in the vicinity has already altered the setting of the resource, and the addition of the proposed Orange Grove Project would not further diminish the integrity of the setting of Gregory Mountain to the level that would significantly impair it. (Ex. 200, p. 4.3-28.) Because the Orange Grove Project would not have significant impacts, no mitigation would be required for known historical resources. Proposed Conditions of Certification listed below would provide steps to guard against effects on as-yet-unidentified historical resources.

Both Applicant and Staff have recognized the possibility that intact prehistoric and historic-period archaeological deposits could be present in undisturbed native soils on the proposed Orange Grove Project site. (Ex. 1, p. 6.7-33 to 35; Ex. 200, p. 4.3-29.) Because of the moderate probability that prehistoric and historic-period archaeological deposits could be encountered during construction, we have required procedures for identifying, evaluating, and possibly mitigating impacts to newly discovered archaeological resources be put in place through Conditions of Certification to reduce those impacts to a less than significant level.

Applicant proposed a number of measures intended to mitigate potential impacts to archaeological resources that could be discovered during the construction of the proposed Orange Grove Project. These include:

- Designated Cultural Resource Specialist.
- Worker Education Training.
- Preparation and Implementation a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan.
- Archaeological Monitoring.
- Provisions to deal with Inadvertent Discovery of Human Remains.
- Provisions for the Protection and Preservation of Remains.
- Avoidance of the San Diego Aqueduct.
- Protection of Historical Resources During Project Operation, Maintenance, and Upgrade. (Ex. 1, pp. 6.7-35 to 6.7-38.)

Applicant has concluded that the likelihood of archaeological deposits existing along the natural gas pipeline route is low. Staff, however, testified that it holds additional information, such as the presence of known prehistoric archaeological sites on the surface of landforms adjacent to and partially buried beneath the floor of the San Luis Rey River Valley, which would justify its concern that there exists a potential for buried archaeological deposits along the gas pipeline route. (Ex. 200. p. 4.3-30.)

Staff proposed additional mitigation measures to ensure that all impacts to potentially CRHR-eligible cultural resources discovered during construction-related excavations are mitigated to below a significant level. One such measure would require having an archaeologist and a Native American representative jointly monitor construction excavation at the project site. This would respect the desire of the Pala Band of Mission Indians to be informed and involved during Project construction. (*Id*.)

b. Operation Impacts and Mitigation

Surface disturbance during the operation phase of the Project is likely to be limited to excavations related to maintenance and repair of the facility. The measures proposed for mitigating impacts to previously unknown archaeological resources during the construction of the plant and linear facilities found in Conditions of Certification **CUL-1** through **CUL-7** would also serve to mitigate impacts from repairs occurring during operation of the plant. So long as these conditions are implemented, the Project will have no significant impacts to cultural resources during operation.

c. Cumulative Impacts and Mitigation

A cumulative impact refers to a proposed project's incremental effects, considered over time and together with those of other, nearby, past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project. (Pub. Res. Code, § 21083; Cal. Code Regs., tit. 14, §§ 15064(h), 15065(a)(3), 15130, and 15355.)

Applicant's analysis pointed out that the potential to encounter previously unknown archaeological resources is regarded as greatest along the proposed linear facilities route across the flood plain of the San Luis Rey River. (Ex. 1, p. 6.7-33.) In addition, Staff identified two projects within one mile of the proposed Orange Grove Project site, with the potential to involve cumulative impacts: the Gregory Landfill Project and the highway improvements along Highway 76 between I-15 and Rice Canyon Road. (Ex. 200, p. 4.3-31.)

Staff assessed potential project impacts related to these cultural resources, and determined that construction of the proposed Project would not result in any significant impacts to known cultural resources. Additionally, the Project would not contribute to any significant impacts to either the San Diego Aqueduct or Gregory Mountain. To protect unknown resources, we have adopted conditions of certification to mitigate any significant impacts to CRHR-eligible archaeological resources discovered during Project-related ground disturbance.

Since any impacts from the proposed project to CRHR-eligible cultural resources discovered during Project-related ground disturbance would be mitigated to a less-than-significant level by the Project's compliance with Conditions of Certification **CUL-1** through **CUL-7**, and since similar protocols can be applied to other current and future projects in the area, we do not expect any incremental effects of the proposed Orange Grove Project to be cumulatively considerable, when viewed in conjunction with other projects.

PUBLIC COMMENT

The Energy Commission received written comment submitted on December 18, 2008, from Ms. **Cyndy Day-Wilson** of the law firm Best, Best & Krieger, representing **DFI Funding, Inc.** **DFI** argues that the Assessment generally underestimates the probability of encountering archaeological resources during construction. First, DFI argues that the Project will be built "directly over a

historical site known to contain artifacts." However, Staff has demonstrated that the Project will avoid all of the identified cultural resources and archaeological sites. (Ex. 200, p. 4.3-23; *see also* **Cultural Resources Tables 1-3**.)

Next, **DFI** argues that the Assessment "improperly relies on" a 2005 study that encompasses the entire San Luis Rey River floodplain without distinguishing the Project area from this floodplain. We find nothing improper in Staff's reference to this study. This study was merely a part of Staff's analysis of impacts to cultural resources, and the assessment in this study is relevant to evaluating the likelihood of the existence of buried cultural resources in the Project area. (Ex. 200, p. 4.3-12.)

Orange Grove conducted other studies, such as the multiple project-specific archaeological field surveys and geo-archaeological field investigations, focused specifically on the Project site and linear facilities. (*See* Ex. 200, p. 4.3-13 to 18; Ex. 1, pp. 6.7-22 to 26 and at Appendix 6.7-B; Ex. 7, Response to CEC Staff Data Requests #41-47; Ex. 10, p. 5-6.)

DFI argues that the Assessment "also improperly relies on data from four borings" taken along the natural gas pipeline. **DFI** contends that because these borings were conducted along the pipeline, their results are not applicable to the remainder of the Project area. However, the evidence indicates that these borings alone were not intended to conclusively establish the lack of cultural resources for the entire Project site.

Indeed, on October 16, 2008, Orange Grove's consultant conducted a second set of four geotechnical borings. (*See* Ex. 15.) These borings were made along a completely different segment of the natural gas pipeline route. (*Id.*) This set of borings yielded Holocene alluvium deposited by the San Luis Rey River, which consists of fine to coarse sand, along with some sandy silt and some silt with sand. (*Id.* At p. 2.) The investigation of these borings found a low likelihood of cultural resources in the Holocene alluvium San Luis Rey River deposits along the pipeline route. (*Id.*)

The findings of this geo-archaeological investigation are consistent with the other geo-archaeological assessments provided to the Commission. (*Id.*) We find nothing improper in the assessments use of data from these borings. Moreover, Condition of Certification **CUL-6** ensures that, as the Applicant digs the gas line trench, boring samples are pulled up every 100 meters so that soil can be

sampled and evaluated for cultural resource information. We find nothing improper in the assessments use of data from these borings.

DFI claims that the Assessment states that "[a]pplicant was unable to re-locate and re-identify by field survey eighteen previously recorded archaeological sites." However, the Assessment lists only four, not eighteen, sites which Orange Grove was unable to locate. (Ex. 200, p. 4.3-15.) **DFI** contends that the Assessment "conveniently suggests" that these sites no longer exist or were misidentified in the first place. However, the Assessment notes that the area had been considerably altered by bulldozing around 1994 to create terraces, and it is possible that these sites were destroyed during this activity. (Ex. 200, p. 4.3-15.)

The purpose of CEQA is for agencies to identify and make available information relevant to the significant effects of a project, alternatives, and potential mitigation measures. (Pub. Res. Code § 21002.1[b].) The relevant inquiry for this Project's analysis is whether the archaeological sites exist, not how they were destroyed if they cannot be located.

DFI comments that the San Luis Rey Band of Mission Indians requested Orange Grove to execute a "Pre-Excavation Agreement" with the Band in order to ensure protection of cultural resources, and points out that the Staff Assessment neither agrees to comply with this request nor explains its reason for not complying with this request. The record indicates that Staff included in Condition of Certification **CUL-6** the requirement that a Native American monitor shall be obtained to monitor the Project's ground disturbance activity, and that preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that shall be monitored. (*See* Ex. 200, p. 4.3-41.)

Therefore, we are satisfied that the appropriate Native American community representatives will participate during the part of the process most critical to cultural resource preservation. Furthermore, Staff has required that prior to the start of ground disturbance, a Cultural Resource Monitoring and Mitigation Plan ("CRMMP") be submitted to the Commission's Compliance Project Manager ("CPM"), including a description of the manner in which Native American observers or monitors will be included, the procedures to be used to select them, and their roles and responsibilities. (Ex. 200, pp. 4.3-36 and 4.3-37.)

DFI's comments claim that the Assessment improperly concluded that the orchard on the Project site is not a historical resource, and that Orange Grove should formally apply for listing in the California Register of Historic Resources

("CRHR") before making this conclusion. However, the record indicates that both Staff and Applicant concluded that the orchard does not appear to be eligible for listing in the CRHR. (Ex. 200, p. 4.3-22.)

The orchard was abandoned after it was used for field testing by the California Institute of Technology. (Ex. 200, p. 4.3-4.) It was a small-scale agricultural operation in the later part of the 1940s and 1950s, and its uses do not represent an important trend that would support listing in the CRHR. (Ex. 200, p. 4.3-24.) A qualified historian evaluated the orchard, as described in the technical report submitted in response to Staff Data Request Number 43. (Ex. 7, p. 5; Ex. 41-1; and Attachment 2.) The qualified historian who conducted this evaluation concluded that the orchard probably is not eligible for listing in the CRHR because the orchard does not appear to be a significant example of the citrus industry in Pala or the greater San Diego region. (*Id.*) The report further noted that the trees do not appear to have constituted a major agricultural operation. (*Id.*) There is substantial evidence to support a finding that the orchard does not appear to be eligible for listing in the CRHR.

DFI's comment letter expresses concern that archaeological monitoring will be insufficient to protect the destruction of surface and subsurface extensions of the fourteen previously known archaeological sites located on or adjacent to the Project site. However, the analysis of record found such monitoring of ground-disturbing activities to be sufficient to mitigate impacts to as yet undiscovered CRHR-eligible subsurface archaeological resources. (Ex. 200, p. 4.3-32.)

The evidence establishes that this monitoring will reduce the Project's impact to such potential resources to less-than-significant levels. (*Id.*) In addition to monitoring requirements at the Project site, the Conditions of Certification also contain detailed requirements for full-time monitoring of all ground disturbances along the portions of the proposed natural gas pipeline route that crosses the floor of the San Luis Rey River Valley. (Ex. 200, pp. 4.3-39 to 4.3-40.)

DFI contends that the Assessment improperly cites existing development in the vicinity of the Project as a reason why the Project will not significantly impact the integrity of Gregory Mountain. However, we note that CEQA requires that impacts be examined against an existing setting, or "baseline." (Cal. Code Regs., tit. 14, 15125(a).) "Without a determination and description of the existing physical conditions on the property at the start of the environmental review process, the [CEQA document] cannot provide a meaningful assessment of the environmental impacts of the project." (*Save Our Peninsula Committee v.*

Monterey County Board of Supervisors, (2001) 87 Cal.App.4th 99, 119.) We find that Staff appropriately took existing development into consideration when analyzing the Project's impacts to Gregory Mountain.

DFI comments that the cumulative impacts analysis for cultural resources is "meaningless" because Staff did not review the cultural resources studies for the two additional projects within one mile of the proposed Project site. However, the evidence indicates that Staff's Assessment assumed that resources were found at the other project sites and that avoidance or mitigation occurred in accordance with CEQA. (Ex. 200, pp. 4.3-31 to 4.3-32) Staff determined that construction of the proposed project would not result in any significant impacts to known cultural resources and, therefore, the uncontroverted evidence concludes that the impacts of the Project and neighboring projects are not cumulatively considerable. (*Id*. p. 4.3-32.) Therefore, the record discloses that these field surveys were considered in the analysis of existing cultural resources conditions. (*See* Ex. 200, p. 4.3-11; *see also* Ex. 1, pp. 6.7-10 to 6.7-16.)

Finally, **DFI** comments that the Worker Environmental Awareness Program (WEAP) required by Condition of Certification **CUL-5** should be provided before commencement of work at the Project site, and this training should be conducted separately from other Project-related safety trainings. However, the evidence indicates that training will be provided prior to and for the duration of ground disturbance and new workers will receive the training within their first week of employment at the Project site, laydown area, and along the linear facilities routes. (Ex. 200, pp. 4.3-38 to 4.3-39.) There is no indication that this schedule for WEAP training is in any way inadequate.

FINDINGS

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

1. Research involving literary records, field surveys and interviews, have revealed cultural resources known to exist within and adjacent to the Orange Grove Project site and its linear routes.
2. A reasonable possibility exists that undiscovered intact prehistoric and historic-period archaeological deposits could be present in undisturbed native soils on the proposed Orange Grove Project site.

3. Construction activities associated with the Orange Grove Project and related linear facilities present a potential for adverse impacts to known and to as yet unidentified archaeological resources.
4. The potential for impacts to unknown cultural resources may not be discovered until subsurface soils are exposed during excavation and construction.
5. The Project owner will take numerous preventative measures to reduce or avoid potential impacts to cultural resources including employment of a qualified Cultural Resource Specialist (CRS) to oversee worker training, monitoring, and materials management during construction.
6. Prior to ground disturbance the Project owner will submit a Cultural Resource Monitoring and Mitigation Plan (CRMMP) detailing the monitoring for cultural resources during construction and the management of any resources found.
7. Project owner will report on all monitoring activities through a Cultural Resources Report (CRR).
8. Prior to ground disturbance the Project owner will provide a Worker Environmental Awareness Program (WEAP), instructing construction personnel on recognition, avoidance and handling of any discovered cultural resources.
9. The project owner will obtain the services of a Native American monitor to observe ground disturbance activities in areas where Native American artifacts are discovered.
10. The project owner will provide a cultural resources monitor with authority to halt construction if unknown resources are discovered at the Project site or along any related linear construction routes.
11. The potential for cumulative impacts to cultural resources is insignificant.
12. The parties have identified relevant state and local laws, ordinances, regulations, and standards (LORS) that apply to potential project impacts on cultural resources. These are identified in **Appendix A** of this Decision.

CONCLUSIONS

1. The Orange Grove Project will have no significant impacts on known significant archaeological resources, historical standing structures, ethnographic resources, historic districts, or cultural landscapes.
2. The mitigation measures contained in the Conditions of Certification **CUL-1** through **CUL-7** below ensure that any direct, indirect, or cumulative

adverse impacts to as yet unidentified cultural resources resulting from project-related activities will be insignificant.

3. The record establishes that implementation of the Conditions of Certification **CUL-1** through **CUL-7**, below will ensure that the Orange Grove Project will comply with all applicable LORS relating to cultural resources as set forth in the pertinent portion of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of ground disturbance (includes "preconstruction site mobilization"; "construction ground disturbance"; and "construction grading, boring, and trenching," as defined in the General Conditions for this project), the project owner shall obtain the services of a Cultural Resources Specialist (CRS), and one or more alternate CRSs, if alternates are needed. The CRS shall manage all monitoring, mitigation, curation and reporting activities required in accordance with the Conditions of Certification (Conditions). The CRS may elect to obtain the services of Cultural Resources Monitors (CRMs) and other technical specialists, if needed, to assist in monitoring, mitigation, and curation activities. The project owner shall ensure that the CRS makes recommendations regarding the eligibility for listing in the California Register of Historical Resources (CRHR) of any cultural resources that are newly discovered or that may be affected in an unanticipated manner. No ground disturbance shall occur prior to CPM approval of the CRS and alternates, unless such activities are specifically approved by the CPM. Approval of a CRS may be denied or revoked for non-compliance on this or other projects.

CULTURAL RESOURCES SPECIALIST

The resumes for the CRS and alternate(s) shall include information demonstrating to the satisfaction of the CPM that their training and backgrounds conform to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61). In addition, the CRS shall have the following qualifications:

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

3. At least one year of experience in a decision-making capacity on cultural resources projects in California and the appropriate training and experience to knowledgably make recommendations regarding the significance of cultural resources.

The resumes of the CRS and alternate CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS/alternate CRS on referenced projects and demonstrate to the satisfaction of the CPM that the CRS/alternate CRS has the appropriate training and experience to implement effectively the Conditions.

CULTURAL RESOURCES MONITORS

CRMs shall have the following qualifications:

1. A B.S. or B.A. degree in anthropology, archaeology, historical archaeology or a related field and one year experience monitoring in California; or
2. An AS or AA degree in anthropology, archaeology, historical 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, historical archaeology or a related field, and two years of monitoring experience in California.

CULTURAL RESOURCES TECHNICAL SPECIALISTS

The resume(s) of any additional technical specialist(s), e.g., historical archaeologist, historian, architectural historian, and/or physical anthropologist, shall be submitted to the CPM for approval.

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

At least 10 days prior to a termination or release of the CRS, or within 10 days after the resignation of a CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval. At the same time, the project owner shall also provide to the proposed new CRS the AFC and all cultural resources documents, field notes, photographs, and other cultural resources materials generated by the project. If there is no alternate CRS in place to conduct the duties of the CRS, a previously approved monitor may serve in place of a CRS so that construction may continue up to a maximum of three days without a CRS. If cultural resources are discovered then construction will remain halted until there is a CRS or alternate CRS to make a recommendation regarding significance.

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 CRMs, at least five days prior to the CRMs beginning on-site duties.

At least 10 days prior to any technical specialists beginning tasks, the resume(s) of the 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.

CUL-2 Prior to the start of ground disturbance, if the CRS has not previously worked on the project, the project owner shall provide the CRS with copies of the AFC, data responses, and confidential cultural resources reports for the project. The project owner shall also provide the CRS and the CPM with maps and drawings showing the footprints of the power plant, all linear facilities, all access roads, and all laydown areas. Maps shall include the appropriate USGS quadrangles and a map at an appropriate scale (*e.g.*, 1:2000 or 1" = 200') for plotting cultural features or materials. 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. No ground disturbance shall occur prior to CPM approval of maps and drawings, unless such activities are specifically approved by the CPM.

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.

Verification: At least 40 days prior to the start of ground disturbance, the project owner shall provide the AFC, data responses, and confidential cultural resources documents to the CRS, if needed, and the subject maps and drawings to the CRS and CPM. 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. On a weekly basis during ground disturbance, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax. Within five days of identifying changes, the project owner shall provide written notice of any changes to scheduling of construction phase.

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 or under the direction of the CRS, to the CPM for review and approval. The CRMMP shall be provided in the Archaeological Resource Management Report (ARMR) format, and, per ARMR guidelines, the author's name shall appear on the title page of the CRMMP. The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, each CRM, and the project owner's on-site construction manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless such activities are 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 archaeological research questions and testable hypotheses specifically applicable to the project area, and a discussion of artifact collection, retention/disposal, and curation policies as related to the research questions formulated in the research design. A prescriptive treatment plan may be included in the CRMMP for limited resource types. A refined research design will be prepared for any resource where data recovery is required.

2. The following statement included in the Introduction: "Any discussion, summary, or paraphrasing of the Conditions of Certification in this CRMMP is intended as general guidance and as an aid to the user in understanding the conditions and their implementation. The conditions, as written in the Commission Decision, shall supersede any summarization, description, or interpretation of the conditions in the CRMMP. The Cultural Resources Conditions of Certification from the Commission Decision are contained in Appendix A of this CRMMP ."

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

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

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

6. A description of all impact-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 description 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 statement that all cultural resources encountered shall be recorded on Department of Parks and Recreation (DPR) 523 forms and mapped and photographed. In addition, all archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery) shall be curated in accordance with the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, into a retrievable storage collection in a public repository or museum.

8. A statement that the project owner will pay all curation fees for artifacts recovered and for related documentation produced during cultural resources investigations conducted for the project. The project owner shall identify three possible curation facilities that could accept cultural resources materials resulting from project activities.

9. A statement that the CRS has access to equipment and supplies necessary for site mapping, photography, and recovery of any cultural resource materials that are encountered during ground disturbance and cannot be treated prescriptively.

10. A description of the contents and format of the Cultural Resource Report (CRR), which shall be prepared according to ARMR guidelines.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall submit the subject CRMMP to the CPM for review and approval. At least 30 days prior to the start of ground disturbance, a letter shall be provided to the CPM indicating that the project owner agrees to 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 or under the direction of 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 analyses. All survey reports, DPR 523 forms, and additional research reports not previously submitted to the California Historical Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as an appendix to the CRR.

If the project owner requests a suspension of construction activities, then a draft CRR that covers all cultural resources activities associated with the project shall be prepared by the CRS and submitted to the CPM for review and approval on the same day as the suspension/extension request. The draft CRR shall be retained at the project site in a secure facility until construction resumes or the project is withdrawn. If the project is withdrawn, then a final CRR shall be submitted to the CPM for review and approval at the same time as the withdrawal request.

Verification: Within 90 days after completion of ground disturbance (including landscaping), the project owner shall submit the CRR to the CPM for review and approval. If any reports have previously been sent to the CHRIS, then receipt letters from the CHRIS or other verification of receipt shall be included in an appendix.

Within 90 days after completion of ground disturbance (including landscaping), the project owner shall provide to the CPM a copy of an agreement with, or other written commitment from, a curation facility that meets the standards stated in the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, to accept cultural materials, if any, from this project. Any agreements concerning curation will be retained and available for audit for the life of the project.

Within 10 days after CPM approval, the project owner shall provide documentation to the CPM confirming that copies of the CRR have been provided to the SHPO, the CHRIS, and the curating institution, if archaeological materials were collected.

Within 30 days after requesting a suspension of construction activities, the project owner shall submit a draft CRR to the CPM for review and approval.

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 at the project site, laydown area, and along the linear facilities routes. The training shall be prepared by the CRS, may be conducted by any member of the archaeological team, may be conducted in conjunction with other project-related environmental/safety training, and may be presented in the form of a video. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must be resumed when ground disturbance, such as landscaping, resumes. 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. Instruction that the CRS, alternate CRS, and CRMs have the authority to halt construction in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS;
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 such activities are specifically approved by the CPM.

Verification: At least 30 days prior to the beginning of ground disturbance, the CRS shall provide the training program draft text and graphics and the informational brochure to the CPM for review and approval, and the CPM will provide to the project owner a WEAP Training Acknowledgement form for each WEAP-trained worker to sign.

On a monthly basis, until ground disturbance is completed, the project owner shall provide in the Monthly Compliance Report (MCR) the WEAP Training Acknowledgement forms of workers at the project site and on the linear facilities 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 monitor, full time, all ground disturbance along the portions of the proposed natural gas pipeline route that cross the floor of the San Luis Rey River Valley to ensure there are no impacts to presently unknown cultural resources and to ensure that known cultural resources are not impacted in an unanticipated manner. The floor of the valley includes the active floodplain of the San Luis Rey River and the alluvial terraces that rise above and flank the floodplain up to the physical contact between the alluvial deposits of the valley floor and the adjacent bedrock hills that define the valley margins.

Prior to trenching in the floodplain, the project owner shall ensure that the CRS, alternate CRS, or CRMs test a 400 cm^2-sediment column every 100 meters along the route of the natural gas pipeline trench where it is located in Holocene alluvium on the San Luis Rey River flood plain using a screw auger or similar machine to assess whether buried archaeological deposits are present. The sediment column at each testing locale shall represent the complete complement of the sedimentary layers that the excavation of the pipeline trench will cut through, in at least two discreet vertical samples representing the upper and lower portion of the trench. The project owner shall ensure that all of the sediments of the column, representing strata from the ground surface to the bottom of the pipeline trench at each locale, are sifted through -1/8 inch mesh screen. If cultural materials are identified in any sediment column, the project owner shall notify the CPM. If any of the sifting results in the identification of cultural materials, artifacts and ecofacts as commonly defined in the discipline of archaeology, the project owner shall notify the CPM and obtain the services of a qualified geoarchaeologist, who meets the U.S. Secretary of Interior's Professional Qualifications Standards for prehistoric archaeology and can demonstrate the completion of graduate-level coursework in geoarchaeology or Quaternary Science, to record a stratigraphic profile that captures the complete complement of the sedimentary layers that the excavation of the pipeline construction trench will cut through, at the location of the identified cultural materials, including the strata above and below the identified cultural materials. The stratagraphic profile shall be recorded from direct observation by excavation employing mechanical (e.g., backhoe) or hand excavation methods depending on the depth at which cultural materials are encountered, taking into account all necessary safety considerations, and according to a plan prepared by the CRS or alternate CRS to be included in the

CRMMP and submitted to the CPM for approval. One purpose of completing the profile will be to ascertain if cultural remains occur in situ (i.e., in a culturally created context primarily representing human behavior) or if they have been redeposited by geological processes (and no longer maintain culturally meaningful spatial and temporal relationships reflecting human behavior). The Applicant's geoarchaeologist will analyze each profile containing cultural materials and make a determination regarding the depositional context of any cultural material find. Isolated, individual artifacts found in any profile will not be considered to be archaeologically or culturally significant. If the cultural materials are determined to be in situ, and in the absence of other locally viable chronometric techniques, the project owner shall ensure that soil humate samples from each such profile are submitted for radiocarbon assay to ascertain the approximate age of the sedimentary deposits in which found cultural materials are embedded. The results of this sampling and any stratigraphic recordation done by the geoarchaeologist, as a component of the cultural resource monitoring for the construction of the project, shall be completely and thoroughly reported in the CRR required under **CUL-4**. The project owner shall further ensure that the geoarchaeologist and the CRS collaborate on the treatment of any discovery of cultural materials that result from this sampling per the provisions of **CUL-7**.

Full-time archaeological monitoring for this project shall be the archaeological monitoring of all ground disturbance along the portions of the proposed natural gas pipeline route that cross the floor of the San Luis Rey River Valley for as long as ground disturbance is ongoing. Once earth from a project area has been removed to final construction grade or final depth of the pipeline trench, no further archaeological monitoring will be required in that area. Monitoring the removal of stockpiled earth or fill will not be required unless such activity will penetrate natural ground. Full-time archaeological monitoring shall require at least one monitor per excavation area where machines are actively disturbing the ground. If an excavation area is too large for one monitor to effectively observe ground disturbance, one or more additional monitors shall be retained to observe the area.

In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

The research design in the CRMMP shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered.

On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities, including records of all sediment column sampling, and any instances of non-compliance with the Conditions and/or applicable LORS. Copies of the daily monitoring logs shall be provided by the CRS to the CPM, if requested by the CPM. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the MCR. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended. The CRS or alternate CRS shall report daily to the CPM on the status of cultural resources-related activities at the construction site, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM.

The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff (Staff).

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.

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

A Native American monitor shall be obtained to monitor ground disturbance, along with the CRS, alternate CRS, or CRMs. Informational [contact] 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. 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.

Verification: At least 30 days prior to the start of ground disturbance, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log. While monitoring is on-going, the project owner shall include in

each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS.

Daily, as long as no cultural resources are found, the CRS shall provide a statement that “no cultural resources over 50 years of age were discovered” to the CPM as an e-mail, or in some other form acceptable to the CPM. If the CRS concludes that daily reporting is no longer necessary, a letter or e-mail providing a detailed justification for the decision to reduce or end daily reporting shall be provided to the CPM for review and approval at least 24 hours prior to reducing or ending daily reporting.

At least 24 hours prior to implementing a proposed change in monitoring level, documentation justifying the change shall be submitted to the CPM for review and approval.

No later than 30 days following the discovery of any Native American cultural materials, the project owner shall submit to the CPM copies of the information transmittal letters sent to the Chairperson of the Native American tribes or groups who requested the information. Additionally, the project owner shall submit to the CPM copies of letters of transmittal for all subsequent responses to Native American requests for notification, consultation, and reports and records and any comments or information provided in response by the Native Americans.

CUL-7 The project owner shall grant authority to halt construction to the CRS, alternate CRS, and the CRMs in the event of a 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 over 50 years of age or, if younger, considered exceptionally significant are found, or impacts to such resources can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from further impacts. Monitoring and daily reporting as provided in these conditions shall continue during all ground-disturbing activities wherever project construction is not halted. The halting or redirection of construction shall remain in effect until the CRS has visited the discovery, and 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 has completed field notes, measurements, and photography for a DPR 523 “Primary” form. The “Description” entry of the DPR 523 “Primary” form shall include a recommendation on the significance of the find. The project owner shall submit completed forms to the CPM.

3. The CRS, the project owner, and the CPM have conferred, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS’s proposed data recovery, if any, including the curation of the artifacts, or other appropriate mitigation; and any necessary data recovery and mitigation have 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 resources 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.

Completed DPR 523 forms for resources newly discovered during construction shall be submitted to the CPM for review and approval no later than 24 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever the CRS decides is more appropriate for the subject cultural resource.

Cultural Resources Acronym Glossary

AD	Common Era
AFC	Application for Certification
Area of Analysis	The area within and around a project site that Staff considers when compiling an inventory of cultural resources and when assessing potential impacts. This will vary with the kind of cultural resources under consideration.
ARMR	Archaeological Resource Management Report
BC	Before Common Era
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
Conditions	Conditions of Certification
CRHR	California Register of Historical Resources
CRM	Cultural Resources Monitor
CRMMP	Cultural Resources Monitoring and Mitigation Plan
CRR	Cultural Resource Report
CRS	Cultural Resources Specialist
DPR 523	Department of Parks and Recreation cultural resource inventory form
FSA	Final Staff Assessment
LORS	laws, ordinances, regulations, and standards
MCR	Monthly Compliance Report
MLD	Most Likely Descendent
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
OGE	Orange Grove Energy, the Applicant
OGP	Orange Grove Project, the proposed power plant
OHP	Office of Historic Preservation
Project Area	The bounded area(s) identified by the Applicant as the area within which they propose to build all the components of their project.
SA	Staff Assessment
SHPO	State Historic Preservation Officer
Staff	Energy Commission cultural resources technical staff
WEAP	Worker Environmental Awareness Program

D. GEOLOGY AND PALEONTOLOGY

This section summarizes the record concerning the project's potential impacts on significant geological and paleontological resources. The evidence evaluates whether project-related activities could result in exposure to geological hazards, as well as whether the facility can be designed and constructed to avoid any such hazard which could affect its proper functioning. These include faulting and seismicity, liquefaction, dynamic compaction, hydrocompaction, subsidence, expansive soils, landslides, and tsunamis and seiches. Finally, the analysis of record examines whether fossilized remains or trace remnants of prehistoric plants or animals are present at the site and, if so, whether the project's potential impacts to these resources are adequately mitigated. The parties did not dispute any matters in this discipline. (12/19/08 RT 50-51, 182; Exs. 1, 18, 200, § 5.2.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Geologic Hazards

The Orange Grove Project is located in the Peninsular Ranges Geomorphic Province which extends approximately 900 miles from the Los Angeles Basin in the north to the tip of Mexico's Baja California in the south. This Geomorphic Province, which varies from 30 to 100 miles in width, is characterized by Mesozoic volcanic and metamorphic highlands and mountains on the east. These slope steeply downward to alluvial, colluvial, and uplifted marine deposits along the Pacific Coast to the west.

The project will be situated on poorly to moderately indurated, Quaternary age, alluvial fan deposits which slope moderately to the southeast at a gradient of approximately 10 percent. The site is surrounded on the north, west, and east by relatively steeply sloping hillsides of Cretaceous gabbro (medium to coarse grained rock) associated with the Sierra Nevada Batholith. The shallow subsurface beneath the site is composed of a surficial layer of 12 to 18 inches of fine to coarse grained sand and silty sand with cobbles and boulders. This overlies firm to hard sandy lean clay with gravel, cobbles, and boulders. (Ex. 200, pp. 5.2-3 to 5.2-4.)

The Orange Grove Project will be located in an active geologic area; ground shaking represents the main geologic hazard at the site. (Ex. 200, pp. 5.2-3, 5.2-5.) The record contains site-specific subsurface information, as well as Staff's

independent research and review of geologic information from sources such as the California Geological Survey and the U.S. Geological Survey, concerning the location, recency, and type of faulting in the project area. (Ex. 200, pp. 5.2-6, 5.2-8.) This evidence shows:

- Published maps indicate that no active faults cross the boundary of new construction on the proposed site. The closest mapped faults are the Temecula and Julian Segments of the Elsinore Fault Zone, approximately 4.7 and 5.7 miles to the northeast, respectively. These faults are considered active Type A faults because they show Holocene movement of 5.0mm or greater per year. Other major regional faults and fault systems are present both onshore and offshore at distances of 23 miles or more from the project site and include the San Jacinto Fault System. This is considered to be the most active fault system within the southern Sierra Nevada Batholith.

- The potential for liquefaction is negligible as is, consequently, the potential for lateral spreading of the site surface during seismic events.

- Alluvial deposits underlying the site are generally too dense to allow dynamic compaction or to experience significant hydrocompation.

- Subsidence, landslides, flooding, tsunamis, and sieches similarly pose insignificant risks.

- Expansive soils are present beneath portions of the site; these areas will require appropriate mitigation. (Ex. 200, pp. 5.2-8 to 5.2-10.)

Thus, the potential geological risks relevant to the Orange Grove Project involve ground-shaking and expansive soils. The evidence establishes that these risks will be adequately mitigated through standard engineering design measures as specified in **FACILITY DESIGN** Conditions of Certification **GEN-1, GEN-5,** and **CIVIL-1.** (Ex. 200, pp. 5.2-5, 5.2-11.)

2. Mineralogic and Paleontologic Impacts

The evidence further shows that the site lies outside the designated mineral resources zone which encompasses the bed of the San Luis Rey River. Sand and gravel have been identified and historically mined in the vicinity of the site. However, site geotechonical boring indicates there is no potential for substantial deposits of aggregate at the site, nor have any other geological or mineralogical resources been identified. (Ex. 200, pp. 5.2-5, 5.2-10.)

Quaternary alluvial deposits like those which underlie the project site are known to contain a wide variety of vertebrate fossils. Accordingly, the evidentiary record contains site specific information (Ex. 1, § 6.8), including a field survey, as well as information gleaned from records searches conducted by the San Diego Natural History Museum and the Natural History Museum of Los Angeles County. (Ex. 200, pp. 5.2-5, 5.2-10.) None of this evidence indicates the presence of paleontological resources at the project site. Moreover, even if on-site construction, including that for the associated natural gas line, includes significant earth disturbance, the likelihood of encountering paleontological resources remains low. (Ex. 200, pp. 5.2-10 to 5.2-11.) The evidence further establishes that Conditions of Certification **PAL-1** to **PAL-7** below, provide protection to any resources present as the Conditions will mitigate any construction impacts to less than significant levels. This mitigation will occur through a worker education program in conjunction with the monitoring of earthworks activities by a professional paleontologist. (Ex. 200, pp. 5.2-11 to 5.2-12.)

FINDINGS

Based on the uncontroverted evidence, we make the following findings:

1. The project is located in an active geologic area.

2. Ground shaking is the main geologic hazard to the Orange Grove Project.

3. Expansive soils are beneath portions of the project site.

4. Potential hazards to the project resulting from ground shaking and expansive soils are effectively mitigated by standard engineering design measures as specified in Conditions **GEN-1, GEN-5,** and **CIVIL-1** of the **Facility Design** section of this Decision.

5. Liquefaction, lateral spreading, dynamic compaction, hydrocompaction, ground subsidence, landslides, flooding, tsunamis, and seiches pose low or negligible project risks.

6. There is no evidence of existing or potential geological or mineralogical resources at the project site or along the linear alignments.

7. The project owner will implement several mitigation measures to avoid impacts to paleontological resources including worker education, preparing a Paleontological Monitoring and Mitigation Plan, and having a Paleontologic Resource Specialist on-site.

CONCLUSIONS

The Commission therefore concludes that the Conditions listed below ensure that project activities will not cause adverse impacts to geological, mineralogical, or paleontological resources. Moreover, compliance with the Conditions of Certification specified below will ensure that the Orange Grove Project conforms to all applicable laws, ordinances, regulations, and standards related to geological, mineralogical, and paleontological resources as indentified in **Appendix A** of this Decision. We further conclude that, with the implementation of the Conditions of Certification in the **Facility Design** section of this Decision, the project will be designed and constructed in a manner sufficient to withstand reasonably foreseeable geologic hazards.

CONDITIONS OF CERTIFICATION

PAL-1 The project owner shall provide the Compliance Project Manager (CPM) with the resume and qualifications of its 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 keep resumes on file for 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 (SVP) guidelines of 1995. The experience of the PRS shall include the following:

1. Institutional affiliations, 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:

- BS or BA degree in geology or paleontology and one year of experience monitoring in California; or
- AS or AA in geology, paleontology, or biology and four years' experience monitoring in California; or
- 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, stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the Condition. If additional monitors are obtained during project construction, 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's 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 lay-down 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 plan and profile drawings for the utility lines are acceptable for this purpose. The plan drawings shall show the location, depth, and extent of all ground disturbances and be at a scale between 1 inch = 40 feet and 1 inch = 100 feet. If the footprint of the project or its linear facilities changes, the project owner shall provide maps and drawings reflecting those changes to the PRS and CPM.

If construction of the project proceeds 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. Before work commences 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 the following week and 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 five days of identifying the changes.

PAL-3 The project owner shall ensure that the PRS prepares, and the project owner submits 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 the basis of discussion when 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 (SVP 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, fieldwork, 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 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 units;
5. A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed plan for monitoring and sampling;
6. A discussion of procedures to be followed in the event of a significant fossil discovery, 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 into a retrievable storage collection in a public repository or museum which meets the Society of Vertebrate Paleontology's standards and requirements for the curation of paleontological resources;
9. Identification of the institution that has agreed to receive 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 activities involving ground disturbance, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for the following workers: project managers; construction supervisors; and foremen and general workers involved with or who 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 a CPM-approved video or in-person presentation. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or other areas of interest or concern. No ground disturbance shall occur prior to CPM approval of the Worker Environmental Awareness Program (WEAP), unless specifically approved by the CPM.

The WEAP shall address the possibility of encountering paleontological resources in the field, the sensitivity and importance of these resources, and legal obligations to preserve and protect such resources.

The training shall include:

1. A discussion of applicable laws and penalties;

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 or 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 WEAP certification of completion form signed by each worker indicating that he/she has 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 for workers 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 to use a video for interim training.

If the owner requests an alternate paleontological trainer, the resume and qualifications of the trainer shall be submitted to the CPM for review and approval prior to installation of an alternate trainer. 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 (in-person or video) 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) monitor, consistent with the PRMMP, all construction-related grading,

excavation, trenching, and augering in areas where potential for important fossil-bearing materials has been identified, both at the site and along any linear facilities constructed in association with the project. In the event that the PRS determines monitoring is not necessary in locations or at levels that were identified for monitoring 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 from the accepted schedule 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 and will be included in the Monthly Compliance Report. 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) keep a daily monitoring log 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 notifies the CPM within 24 hours of the occurrence 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 within 24 hours, or Monday morning in the case of a weekend event, where construction has been halted because of a paleontological find.

The project owner shall ensure that the PRS prepares a summary of monitoring and other paleontological activities and that the summary is placed in the Monthly Compliance Reports. The summary shall 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, and other activities. A section of the report shall include the geologic units or subunits encountered, descriptions of samplings within each unit, and a list of identified fossils. A final section of the report shall address any issues or concerns about the project relating to paleontologic monitoring, including any incidents of non-compliance or any changes to the

monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the report 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 any unforeseen 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 its 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 project completion and approval of the CPM-approved paleontological resource report (see Condition of Certification **PAL-7**). The project owner shall be responsible for paying 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 submit it 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 below the level of significance.

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

VII. LOCAL IMPACT ASSESSMENT

In general, a power plant may be incompatible with existing or planned land uses resulting in significant impacts such as public health or safety hazards, adverse traffic or visual effects, unmitigated noise, or an excessive burden on local community services. The following sections of this Decision discuss local impacts under the technical topics of land use, traffic and transportation, socioeconomics, noise, and visual resources.

A. LAND USE

To determine whether the Orange Grove Project will result in a significant impact on land use, our analysis focuses on two main issues: 1) whether the project is consistent with local land use plans, ordinances, and policies; and 2) whether the project is compatible with existing and planned land uses.

SUMMARY AND DISCUSSION OF THE EVIDENCE

According to CEQA Guidelines[16] a project results in significant land use impacts if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;

- Conflict with existing zoning for agricultural use or a Williamson Act contract;

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural uses;

- Physically disrupt or divide an established community;

- Conflict with any applicable habitat conservation plan or natural community conservation plan;

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction, or that would normally have jurisdiction, over the project. This includes, but is not limited to, a General Plan, community or specific

[16] Title 14, Cal. Code Regs., § 15000 et seq., Appendix G, §§ II, IX, XVI.

plan, local coastal program, airport land use compatibility plan, or zoning ordinance; and

- Create individual environmental effects which, when considered with other impacts from the same project or in conjunction with impacts from other closely related past, present, and reasonably foreseeable future projects, are considerable, compound, or increase other environmental impacts.

Land use ordinances and policies applicable to the Orange Grove Project include the San Diego County General Plan, the County Zoning Ordinance, and the California Land Conservation Act (CLCA) of 1965 (aka the Williamson Act).[17]

1. The Site

The site covers an 8.5 acre area, formerly cultivated as a citrus grove, which is situated on two parcels identified by parcel number (APN) 110-072-26 (41 acres) and APN 110-370-01 (14 acres). Project facilities will be constructed entirely on APN 110-072-26 and ancillary uses such as lay down and parking will occur on APN 110-370-01 adjacent to the existing Pala Substation and a fenced SDG&E storage area located on that parcel. With the exception of linear facilities and site access, ancillary uses on APN 110-370-01 such as lay down and parking will occur only during construction. The site is zoned General Agricultural (A72) with a minimum lot size of 10/40 acres (split zone). It is not subject to a Williamson Act contract. Also, Orange Grove Energy's lease of the project site from SDG&E is exempt from the requirements of the Subdivision Map Act under California Government Code Section 66428(a)(2) and does not require the filing of a parcel map. (Ex. 200, pp. 4.5-4, 4.5-16; Ex 1, pp. 6.9-1, 6.9-17; Ex. 63.)

The 2.4-mile natural gas pipeline corridor is zoned General Agriculture (A72) and Solid Waste Facility and designated for Public/Semi-Public Lands and Multiple Use Rural. The 0.3-mile transmission line is also zoned for General Agriculture (A72). The location for the Fallbrook Public Utility District (FPUD) fresh water pickup facility, 4.9 air miles northwest of the site, is zoned Limited Agriculture (A70). (Ex. 1, p. 6.9-2.)

[17] *See* Government Code Section 51200 et seq. The Williamson Act allows private landowners to contract with counties or cities to voluntarily restrict land use to agricultural and open-space uses. The contracts are based on a rolling 10-year term and automatically renewed annually unless either party files a notice of nonrenewal. In return, property taxes on the restricted parcels are assessed at reduced rates consistent with actual use rather than potential market value.

The region is primarily rural, including agriculture, dairy farms, large plot residential, small communities, open space, and large-scale commercial/industrial such as hotel/casino and mining operations. The SDG&E property surrounding the project site is not planned for development and lands adjacent to the SDG&E property have limited potential for development due to the steep terrain. (Ex. 200, pp. 4.5-4 and 4.5-6.)

There are several sparsely spaced rural single family residences and farm houses located within one mile of the project site, including three residences on the ridgeline above the site to the northeast. Two former dairy farms, located one-half mile and one mile southwest of the site, are included in the proposed Gregory Canyon Landfill area zoned Solid Waste Facility. (Ex. 1, p. 6.9-3.)

There is one farmhouse within 0.25 mile of the gas pipeline near the intersection Rice Canyon Road and SR 76. There are approximately 25 single family residences within 0.25 mile of the FPUD fresh water pickup site and 100 single and multiple family residences within 0.25 mile of the reclaimed water pickup station. The Pala Rey Camp, a commercial-recreational property, is about 0.75 mile southeast from the project site. Palomar Community College plans to build a campus about 2.75 miles west of the site. There are also tentative plans to build an 11-acre elementary school about 2.7 air miles from the site near the intersection of I-15 and SR 76. (Ex. 1, pp. 6.9-3 to 6.9-4.)

2. Potential Impacts

Conversion of Farmland. The evidentiary record, described below, indicates that construction of the project will not result in the conversion of valuable farmland to non-agricultural uses.

A portion of the 8.5-acre site is included as “Farmland of Local Importance” by the California Department of Conservation (CDC) Farmland Mapping and Monitoring Program. Staff reviewed the project’s potential environmental impacts on agricultural resources using the Land Evaluation and Site Assessment (LESA) model and determined that because the agricultural value of the site is minimal, the conversion of 8.5 acres will not result in a significant environmental impact on agricultural resources.[18] (Ex. 200, pp. 4.5-14 to 4.5-15.)

[18] Lead agencies use the LESA Model in addition to the CDC Mapping Program to ensure that potentially significant effects of agricultural land conversions are quantitatively and consistently considered in the environmental review process. (Pub. Res. Code, § 21095.)

There are no anticipated impacts to agricultural resources along the transmission line corridor, which traverses the paved Pala Del Norte Road from the power plant to the Pala Substation. The natural gas pipeline from the project site to the existing natural gas line at Rice Canyon Road traverses Pala Del Norte Road, vacant hillsides, the two former dairy sites, and the existing SR 76 right-of-way (ROW). This vacant hillside area is not mapped as agricultural lands of importance by the CDC except for approximately 0.25-mile of the pipeline route, which is adjacent to lands mapped as Prime Farmland and under Williamson Act contracts. However, the pipeline will be underground in an existing ROW that has no present agricultural value. The areas disturbed by pipeline construction will be reseeded with native grasses and coastal sage scrubs. (Ex. 200, p. 4.5-17; Ex. 1, p. 6.4-8.)

The reclaimed water pick-up station is located on an existing wastewater treatment facility and has no significant agricultural qualities. The fresh water pick up station is located between two roadways and the area is not mapped as important farmlands by the CDC. Surrounding land use patterns and existing roadways reduce the feasibility for significant agricultural value since a waterline easement and an unpaved roadway transect the site. (Ex. 200, p. 4.5-17.)

Division of Existing Community. There is no evidence that the project will physically divide or disrupt an established community since the nearest community of Pala is two miles east of the site. (Ex. 200, p. 4.5-10.)

Conflict with Habitat or Conservation Plan. The San Luis Rey River, which runs through the SDG&E property south of the site, is designated as a Resource Conservation Area (RCA) under the County General Plan Conservation Element. The Indian Mountain Leucogranodiorite, located about one mile from the site across the San Luis Rey River Valley, is listed as a unique geological feature. However, there is no evidence that the project will adversely affect either the San Luis Rey River or the Leucogranodiorite. (Ex. 200, pp. 4.5-20 to 4.5-21; Ex. 1, p. 6.9-3.) Conditions of Certification in the **Biological Resources** section of this decision require the project owner to implement specific mitigation measures consistent with the North County Community Conservation Plan and the Multiple Species Conservation Program. (Ex. 200, p. 4.5-32.)

Compatibility. The site is zoned according to the County's General Plan Regional Category 20 (General Agriculture), Regional Land Use Element 1.6 Environmentally Constrained Areas (ECA) with an "A" Agricultural Designator for lands recognized under CLCA. (Ex. 1, p. 6.9-1 et seq.)

Section 5100 of the San Diego County Zoning Ordinance incorporates a special Agricultural Preserve Area (APA) overlay for CLCA parcels. CLCA defines "agricultural preserve" as an area devoted to agricultural use, recreational use, or open-space use, or any combination of those uses compatible with the parcel under a Williamson Act contract. [Govt. Code, § 51201 (d).] "Compatible use" is any use as determined by the County that would be compatible with the agricultural, recreational, or open-space use of land within the preserve and subject to contract. [*Id*. at § 51201 (e).]

CLCA specifically allows the construction and maintenance of electric facilities as a compatible use within an agricultural preserve. (Govt. Code, § 51238.) CLCA also allows the County to impose conditions on land uses within preserves to encourage compatible uses. (*Id*.)

Since the site is a CLCA-designated property, the project must comply with the County's APA Zoning Ordinance.[19] (Ex. 200, p. 4.5-11.) Section 5110 of the Zoning Ordinance lists the specific findings necessary to determine compatible uses within an APA as follows:

A. The proposed use must comply with all provisions of the CLCA; and

B. The proposed use would not be incompatible with the continued agricultural use of any land within the agricultural preserve, including a consideration of the following:

   1. Possible increase in vandalism;

   2. Possible damage from pets;

   3. Possibility that use will lead to restrictions on agricultural spraying, noise or smell; and

   4. Possible Interference with the movement of farm machinery or agricultural products.

Uncontested evidence establishes that the Orange Grove Project complies with the Findings and meets the requirements for compatible use under the Zoning Ordinance. For ***Finding A,*** a power plant is an allowed use in an agricultural preserve. For ***Finding B***, the site and contiguous parcels are not currently used

[19] All lands within a designated APA *not* under a Williamson contract are still restricted by zoning to prevent uses that would be incompatible with agricultural uses. (Ex. 1, p. 6.9-17; Ex. 200, p. 4.5-11.) The County's APA overlay requires specific findings for uses within an APA to determine whether a proposed project would qualify as a compatible use. (Ex. 200, p. 4.5-10.)

for agricultural purposes,[20] an increase in vandalism is unlikely in the rural setting, damage from pets is unlikely as the area is non-residential, agricultural spraying is not proposed, and the project does not interfere with the movement of farm machinery or agricultural products. (Ex. 200, p. 4.5-13.)

Consistency with Land Use LORS. Section 2725 of the County Zoning Ordinance allows "Major Impact Services and Utilities" in the General Agricultural (A72) zone with approval of a Major Use Permit (MUP). Section 7358 of the Zoning Ordinance lists the specific findings required for MUP approval. The County would have been responsible for making the necessary MUP findings but for the Energy Commission's exclusive jurisdiction as lead agency.[21] Since the County did not submit recommendations on the required MUP findings, the evidentiary record is limited to Applicant's analysis and Energy Commission staff's recommendations for the MUP findings. (Ex. 1, p. 6.9-18 et seq., Table 6.9-7; Ex. 200, p. 4.5-22 et seq.)

The following findings are required for a Major Use Permit:

A. The location, size, design, and operating characteristics of the proposed use will be compatible with adjacent uses, residents, buildings, or structures, with consideration given to:

   1. Harmony in scale, bulk, coverage and density;

   2. The availability of public facilities, services and utilities;

   3. The harmful effect, if any, upon desirable neighborhood character;

   4. The generation of traffic and the capacity and physical character of surrounding streets;

   5. The suitability of the site for the type and intensity of use or development which is proposed; and

   6. Any other relevant impact of the proposed use.

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[20] According to Staff's uncontested testimony, continued agricultural use within this APA is not likely because the County's General Plan Update (proposed but not adopted as of the date of this Decision) depicts the property as Public/Semi-Public Facilities on the Update Maps. In addition, the Gregory Canyon Landfill is proposed on a large parcel in the project vicinity. (Ex. 200, p. 4.5-13.)

[21] The San Diego County Department of Planning and Land Use submitted a scoping letter to the Applicant, dated December 13, 2007, which states that "the proposed project is compatible with the Agricultural Preserve (Pala #15)." (Ex. 200, p. 4.5-23.)

B. The impacts, as described in paragraph "A" of this section, and the location of the proposed use will be consistent with the General Plan,

C. The requirements of CEQA have been complied with.

Finding A:

The California Land Conservation Act specifically allows the construction and maintenance of electric facilities as a compatible use within an agricultural preserve. In addition, Staff's **Land Use Table 2**, replicated below, identifies adjacent land uses, which are primarily vacant and no longer used for agricultural purposes. The surrounding region is characterized by various operations such as the former sand mine, former dairy farms, existing electric substation, nursery, paved roads, transmission line, gas pipeline, and other existing disturbances. According to the evidence, the site is a suitable location for a power plant based on physical conditions, land use designations, zoning vicinity of proposed uses (Solid Waste Facility zoning and plans for the Gregory Canyon Landfill), and the steep terrain in the area limiting potential development.

Finding B:

The project is consistent with the County General Plan as indicated in the General Plan Regional Land Use Element Compatibility Matrix. (Ex. 200, p. 4.5-23.) See Staff's **Land Use Table 3**, replicated at the end of this section, which summarizes project consistency with the General Plan.

Finding C:

Conditions of Certification in the **Air Quality**, **Public Health**, **Noise**, **Visual Resources**, and **Traffic and Transportation** sections of this Decision ensure that any potential harmful effects on adjacent uses or "neighborhood character" will be reduced to insignificant levels as required by CEQA.

Accordingly, we find that the Orange Grove Project is eligible and suitable for approval for a Major Use Permit.

Land Use Table 2
Vicinity Land Use and Zoning

Parcel[1]	Distance/ Direction	Acres	General Plan Land Use	Zoning	Existing Use
110-072-26	Includes Subject Site and adjacent areas to the north and east	41	General Agriculture	A72[2]	vacant and former orchard
110-370-01	Adjacent to South of Site	14	General Agriculture	A72	storage and substation (SDG&E Property)
110-072-17	600+ feet North of Site	109	Multiple Rural Use	A70[3]	vacant with three residences approximately 1/2 mile north
110-072-28&30	550+ feet East of Site	11/4	General Agriculture	A72	Vacant (SDG&E Property)
110-072-31&27	400+ feet East of Site	7/.5	Impact sensitive	A72	Former sand mine)
110-370-02,03,04&05	300+ feet South of Site	.7/.9/2/4	Impact sensitive	A72	former sand mine
110-150-25	800+ feet South of Site	187	Public/ Semi-Public Lands	SWF[4]	Proposed Landfill
110-150-02	Adjacent to Southwest of Site	89	Multiple Rural Use	A70	Vacant (SDG&E Property)
110-072-06	Adjacent to West of Site	43	Multiple Rural Use	A70	Vacant (SDG&E property)
Transmission Interconnection & Gas Pipeline	Subject Site & Surrounding		General Agriculture, Public/ Semi-Public Lands, Multiple Rural Use	A70, A72 & SWF	vacant, ROW, former dairy, former farming
Reclaimed Water Pickup	Subject Site & Surrounding	43	Public/ Semi-Public Lands	A70	wastewater treatment plant- residential subdivisions
Fresh Water Pickup	Subject Site & Surrounding	9	Estate Residential	A70	vacant- rural residential

1. Parcels listed clockwise around subject parcels and if same assessors book and page, multiple lot numbers listed in row
2. General Agricultural, preserve areas for crops and animal raising - production and processing
3. Limited Agricultural, preserve areas for crops - minor processing
4. Solid Waste Facility

Source: Ex. 200, p. 4.5-8:
1. Acres were obtained from assessor maps contained in Appendix 1-A, Orange Grove Project AFC.
2. Parcel, land use and zoning was obtained from the County of San Diego GIS mapping application.
3. Existing use information was obtained from the ORANGE GROVE PROJECT AFC, Figures 6.9-4A, 6.9-4B and 6.9-4C.

Height Limitations. Sections 4600-4699 ("Height Regulations") of the County's Zoning Ordinance require an MUP for any new project that exceeds 60 feet in height. (Section 4610, Schedule B.) Section 4620 states that certain "structures shall be exempt from the maximum height provisions of an applicable height designator" including "any structure for which a Major Use Permit is granted pursuant to other provisions of this ordinance, when the Major Use Permit authorizes an exemption to the height regulations." [Section 4620 (g).]

There is no evidence that San Diego County recommended height limitations for the Orange Grove Project. The tallest project structures will be the two exhaust stacks which are 80 feet in height. No other structures exceed 60 feet in height. (Ex. 200 p. 4.12-4). Since the record indicates that the project would meet the requirements for an MUP, we find that it is exempt from the County's height limitations.

Flood Plain Area. A portion of the project site has an "F" special regulation designator (Flood Plain Area). Under this designation, the project must be designed to minimize flooding and reduce the need for flood control facilities on properties within the 100-year flood plain. (Section 5500 et seq. of the Zoning Ordinance.) To ensure compliance with the flood zone requirements and other zoning regulations, we have adopted Conditions of Certification **LAND-1** and **LAND-2** to require the project owner to incorporate the design and engineering criteria described in the County Zoning Ordinance, Land Development Regulations and Standards, and other applicable public works regulations. (Ex. 200, pp. 4.5-26 and 4.5-27.)

4. Cumulative Impacts

Section 15130(a) of the CEQA Guidelines requires the lead agency to discuss potential cumulative impacts of a project when its incremental effect may be cumulatively considerable. [Cal. Code Regs., tit. 14, § 15130(a).] The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects developed over a period of time. (*Id*. at § 15355(b).)

In considering the Orange Grove Project's incremental effect together with existing and reasonably foreseeable projects in the vicinity, the major concern for planning purposes is development of the area along the project's natural gas

pipeline corridor and the San Luis Rey River valley from Rice Canyon Road to the Pala Indian reservation. Projects outside the Orange Grove Project's sphere of influence (1.0 mile of the site and 0.25-mile of the gas pipeline), such as the planned housing projects and the new community college campus, are not considered in the cumulative effects analysis. There are no planned projects or proposed General Plan, Specific Plan, or Zoning changes within the Orange Grove Project's sphere of influence except for revised land use designations in the General Plan 2020 Update and the Gregory Canyon Landfill. However, revised land use designations associated with the General Plan 2020 Update and the development of the Gregory Canyon Landfill will not result in cumulative land use impacts in conjunction with the Orange Grove Project because these changes are already planned and compatible with existing land uses. (Ex. 200, p. 4.5-18.)

5. Public Comment

The project site is within the service area of the Rainbow Municipal Water District (RMWD). In a comment letter to the Committee, Ms. Cyndy Day-Wilson raised concerns about the Orange Grove Project's water supply (12/19/08 RT 207:21 – 209:22.) She notes in the letter that the RMWD's regulations prohibit permanent use of water on a parcel other than where the water is purchased and there is no water supply pipeline to the site. She asserts that because utility services (water pipeline) are not available from the RMWD, the project would not be eligible for an MUP, which requires a finding of available utility services. As discussed in the **Soil and Water Resources** section of this Decision, the Orange Grove Project will purchase and deliver water by truck from the FPUD for project operations. We have no jurisdiction to settle the dispute between the RMWD and the FPUD regarding the permanent use of water on a parcel other than where the water is purchased. Based on the Applicant's plan to deliver water by truck to the site, we find that utility services are available and that the project complies with the necessary MUP findings.

FINDINGS

Based on the evidentiary record, we make the following findings and conclusions:

1. The project site and ancillary facilities are located in an unincorporated area of northern San Diego County in the Pala-Pauma Community

Planning Area, a rural setting with sparsely spaced residences, open spaces, and large-scale commercial and industrial operations.

2. Land use ordinances and policies applicable to the project include the San Diego County General Plan and Zoning Ordinance and the California Land Conservation Act (aka Williamson Act).

3. The site is zoned General Agricultural (A72) and designated an Agricultural Preserve Area under the County Zoning Ordinance but it is not subject to a Williamson Act contract.

4. The Williamson Act specifically allows the construction and maintenance of electric facilities in Agricultural Preserve Areas.

5. The project complies with the County Zoning Ordinance requirements for compatible use in an Agricultural Preserve Area.

6. There is no evidence that the project will result in the conversion of farmland to non-agricultural use or conflict with existing agricultural zoning or Williamson Act contracts.

7. There is no evidence that the project will physically divide or disrupt an established community.

8. There is no evidence that the project will conflict with habitat or natural community conservation plans identified in the County General Plan Conservation Element.

9. The project complies with the specific findings required for a Major Use Permit under the County Zoning Ordinance and is consistent with the County General Plan.

10. The project is eligible for an exemption to the County Zoning Ordinance Height Limitation Regulations under the Major Use Permit exception.

11. The project will comply with the County's flood zone requirements and other design and engineering criteria in the County Zoning Ordinance.

12. The project will not result in cumulative or incremental land use impacts in conjunction with the nearby Gregory Canyon Landfill, which is zoned Solid Waste facility, and deemed compatible with existing land uses in the project vicinity.

13. The Conditions of Certification ensure that the project will comply with all applicable local land use requirements.

CONCLUSIONS

We therefore conclude that construction and operation of the Orange Grove Project will not result in significant adverse direct, indirect, or cumulative impacts on land use and will comply with applicable laws, ordinances, regulations, and standards listed in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

LAND-1 The project owner shall design the project according to applicable San Diego County Design practices and policies and applicable County approved building codes.

Verification: At least sixty (60) days prior to the start of construction, the project owner shall submit to the Compliance Project Manager (CPM) applicable design standards and building codes and evidence of design review by the County of San Diego Environmental Health and Public Works Departments and Chief Building Official.

LAND-2 The project owner shall design and construct the project in accordance with the standards found in the San Diego County Zoning Ordinance regarding lot area, building type, building height, setbacks, lighting, fences, walls, screening, landscaping, enclosures and signs. The project owner shall provide a table of applicable Zoning Ordinance standards and criteria pertaining to lot area, building type, building height, setbacks, lighting, fences, walls, screening, landscaping, enclosures and signs and basis for compliance with each.

Verification: At least sixty (60) days prior to the start of construction the project owner shall submit the referenced table to the Compliance Project Manager and Chief Building Official (CBO). The CBO shall review the table and building design plans and certify compliance with the Zoning Ordinance standards and criteria. If the CBO cannot certify a particular standard or criteria because compliance cannot be determined, the project owner shall provide a reasonable timeframe of when such standard or criteria can be determined in compliance.

Land Use Table 3

Orange Grove Project's Consistency With LORS Applicable to Land Use and Agriculture Resources

LORS		Consistency Determination	Basis for Consistency
Source	**Policy and Strategy Descriptions**		
State	**California**		
California Land Conservation Act of 1965 SS 51200	Regulates Agricultural Preserve lands.	YES	Energy Commission staff considered the following two factors in determining "electrical facility", as cited in Section 51238 (a) (1), includes power plants making the proposed project compatible with adjacent uses: 1. The County of San Diego, Department of Planning and Land Use, prepared a letter dated December 13, 2007, in response to the Energy Commission's standard request for local government input. The County's letter states that the "the proposed project is compatible with the Agricultural Preserve (Pala #15)." 2. Major Impact Services and Utilities are permitted in the zoning district by Major Use Permit and are consistent with the County's General Plan The required APA and MUP findings are provided herein.
Local	San Diego County		
General Plan - Regional Land Use Element, Section 2.5	General Agriculture is the subject parcels' land use designation according to the Regional Land Use Element (RLUE) Section 2.5.	YES	The proposed project would not conflict with the San Diego County General Plan designation for the subject parcels. According to the General Plan Regional Land Use Element Compatibility Matrix, page II-50, A70 and A72 zoning is consistent with the (20) General Agriculture land use designation.
General Plan - Regional Land Use Element, Section 1.6	The proposed project site is designated as an Environmentally Constrained Area (ECA) in RLUE Section 1.6.	YES	The Conservation Element does not contain prohibitive land use planning policies with respect to an ECA.

LORS			
Source	Policy and Strategy Descriptions	Consistency Determination	Basis for Consistency
General Plan - Conservation Element	Policy 2 in Chapter 6 of the Conservation Plan states that, "the County will analyze, improve and promote methods for preserving agriculture".	YES	The Conservation Element does not contain prohibitive land use planning policies with respect to preserving agriculture.
General Plan - Conservation Element	The conservation Plan identifies the planning area where the subject site is located as Resource Conservation Area (RCA) and Unique Geologic Feature (UGF).	YES	The Conservation Element does not contain prohibitive land use planning policies with respect to an RCA or UGF.
General Plan - Pala/Pauma Subregional Plan	Policies in this Plan are primarily concerned with urban sprawl and leapfrog development.	YES	The project does not promote urban sprawl and leapfrog development.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Zoning for the proposed ORANGE GROVE PROJECT site is A72 General Agricultural. Section 2722 lists permitted uses in general agricultural zoning. Energy projects are permitted within this zoning with a Major Use Permit. Section 2725 lists types of uses that would be permitted upon approval of Major Use Permit findings and includes Major Impact Services and Utilities.	YES	Refer to the LORS COMPLIANCE, Land Use Planning Staff Analysis.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 4200 regulates minimum lot area.	YES	According to the County's GIS property profile for APN 110-072-026 the minimum lot area is 10,000 square feet and for APN 110-370-01 the minimum lot area is 40 acres. The total acreage for the legal parcels is 55-acres.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 4300 regulates building type.	YES	The building type for each parcel is attached and detached. The proposed project design conforms with these criteria.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 4600 regulates building height. The maximum permitted height of buildings for the two parcels is 35 feet and two stories.	YES	Section 4620 provides exemptions to height limit restrictions: San Diego County did not recommend height limitations for the proposed project. The County's Zoning Ordinance does not provide alternate height limitations. The proposed 80 feet high structures are exempt from height limitations.

LORS			
Source	Policy and Strategy Descriptions	Consistency Determination	Basis for Consistency
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series) The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series) (cont.)	Section 4800 regulates setbacks. The front-yard setback for the two parcels is 60 feet from any abutting public street or private thoroughfare. The interior side-yard setback for the two parcels is 15 feet as measured from the lot line. The exterior side-yard setback for the two parcels is 35 feet as measured from the centerline of the abutting street. The rear-yard setback for the two parcels is 25 as measured from the rear lot line. Where a rear yard opens onto an alley, public park, or other permanent open space, 1/2 of the width of such alley, public park, or other permanent open space, may be considered as applying to the rear yard setback to the extent of not more than 50% of the required rear yard setback.	YES	The site's plot plan shows the proposed project's building footprint covering portions of APN 110-072-26 and APN 110-370-01. According to the regulations, the front-yard setback for each of these two parcels is 60 feet from any abutting public street or private thoroughfare. Since the project is accessed from Pala Del Norte Road, the front-yard setback for parcel 110-072-26 is measured from Pala Del Norte Road to the nearest building or structure. The nearest structure to the abutting Pala Del Norte Road is more than 60 feet. Similarly, the front-yard setback for parcel 110-370-01 is measured from SR-76, Pala Road to the nearest building or structure, which is more than 60 feet. The interior side-yard setback for the two parcels is15 feet as measured from the lot-line. For parcel 110-072-26, the respective side-yard setbacks are measured from the parcel's lot lines to the north and south. For parcel 110-370-01, the respective side yards are measured from the east and west lot lines. The rear-yard setback is measured from the north property line. The parking lot to be located on parcel APN 110-370-01 and contiguous to the primary facilities is not in compliance with the established setback requirements. Section 4821 of the County's Zoning Ordinance supplants interior side-yard requirements, however. It states, "when the common lot line separating two or more contiguous lots is covered by a building or group of buildings, or when two or more such lots are used as a single building site, such lots shall constitute a single building site and the interior side yard setbacks required by an applicable setback designator shall then not apply to such common lot line." The proposed project meets side-yard setback requirements. For APN 110-072-26, the rear-yard is measured from the lot-line to the east. For APN 110-370-01, the rear-yard setback for the two parcels is 25 as measured from the rear lot line. The proposed project meets rear-yard setback requirements.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 5100 regulates Agricultural Preserve Area (APA).	YES	Refer to LORS Compliance of the Land Use Planning Staff Analysis.

LORS		Consistency Determination	Basis for Consistency
Source	Policy and Strategy Descriptions		
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 5500 regulates Flood Plain Area (FPA). The two parcels are partially designated as FPA. Buildings on such designated properties must be engineered to minimize impacts from flooding.	YES	Buildings on such designated properties must be engineered to minimize impacts from flooding.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 6300 regulates commercial and industrial outdoor lighting.	YES	All lighting must conform and comply with the zoning ordinance and Light Pollution Control Code. The Visual Resources section of the Staff Assessment provides the required findings.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 6700 regulates fences, walls, screening and landscaping.	YES	All fences, walls, screening and landscaping must conform and comply with the zoning ordinance.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 6750 regulates parking.	YES	All parking must conform and comply with the zoning ordinance.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 6800 regulates enclosures. Enclosure means the degree that the storage and display of goods may be open and/or visible from public rights-of-way.	YES	All enclosures must conform and comply with the zoning ordinance.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 6200 & 6250 regulates signs.	YES	All signs must conform and comply with the zoning ordinance.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Section 7350 provides use permit procedures.	YES	Findings for the Major Use Permit are found in the LORS COMPLIANCE of Land Use Planning Staff Analysis.

B. TRAFFIC AND TRANSPORTATION

This section of the Decision addresses the extent to which the Orange Grove Project may impact the transportation system in the local area. This section includes the identification of: 1) the roads and routings that are proposed to be used for construction and operation; 2) potential traffic-related problems associated with the use of those routes by construction workers and truck deliveries; 3) the anticipated encroachment upon public rights-of-way during the construction of the proposed project and associated facilities; 4) the frequency of trips and probable routes associated with the delivery of hazardous materials; and 5) the possible effect of project operations on local airport flight traffic. (Exs. 1, 4, 5, 8, 9, 18(k), 21, 61, 200, 202; 12/19/08 RT133:6 to 189:10.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

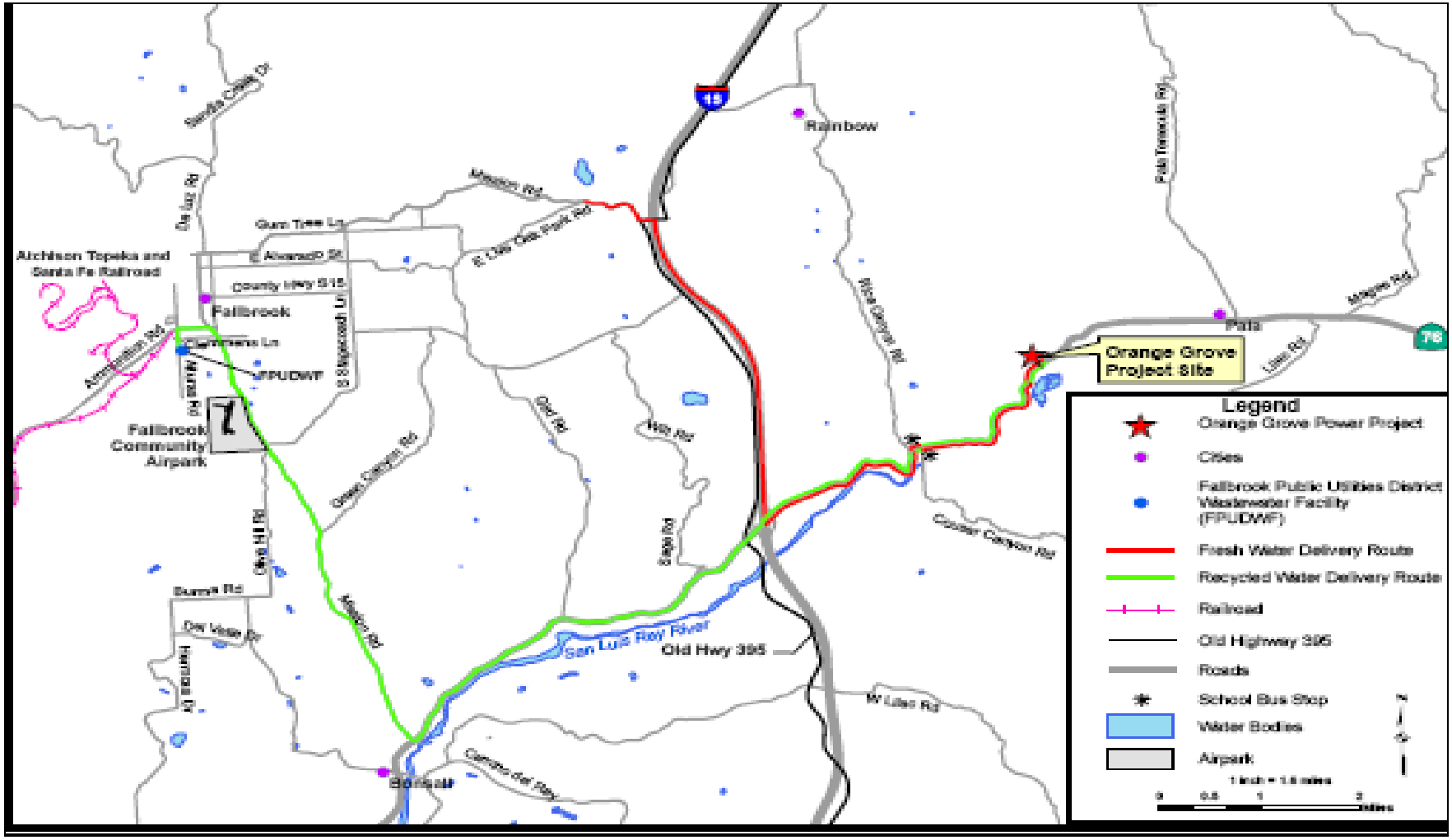
The Orange Grove Project (OGP) site is located on State Route 76 (SR-76) about four miles east of Interstate 15 (I-15) in western San Diego County. The facility would be located adjacent to the SDG&E Pala Substation and just north of the San Luis Rey River. **Traffic and Transportation Figure 1, Regional Transportation System** shows the region surrounding the project site. (Ex. 200, p. 4.10-2.)

Plant construction and operation traffic will use the existing roadways, which would include I-15, SR-76 and Pala Del Norte Road. Access to the site will be via SR-76 and Pala Del Norte Road, a local private road. The local roadways that could be affected by the OGP are shown in **Traffic and Transportation Figures 1 & 2.** (Ex. 200, p. 4.10-3.)

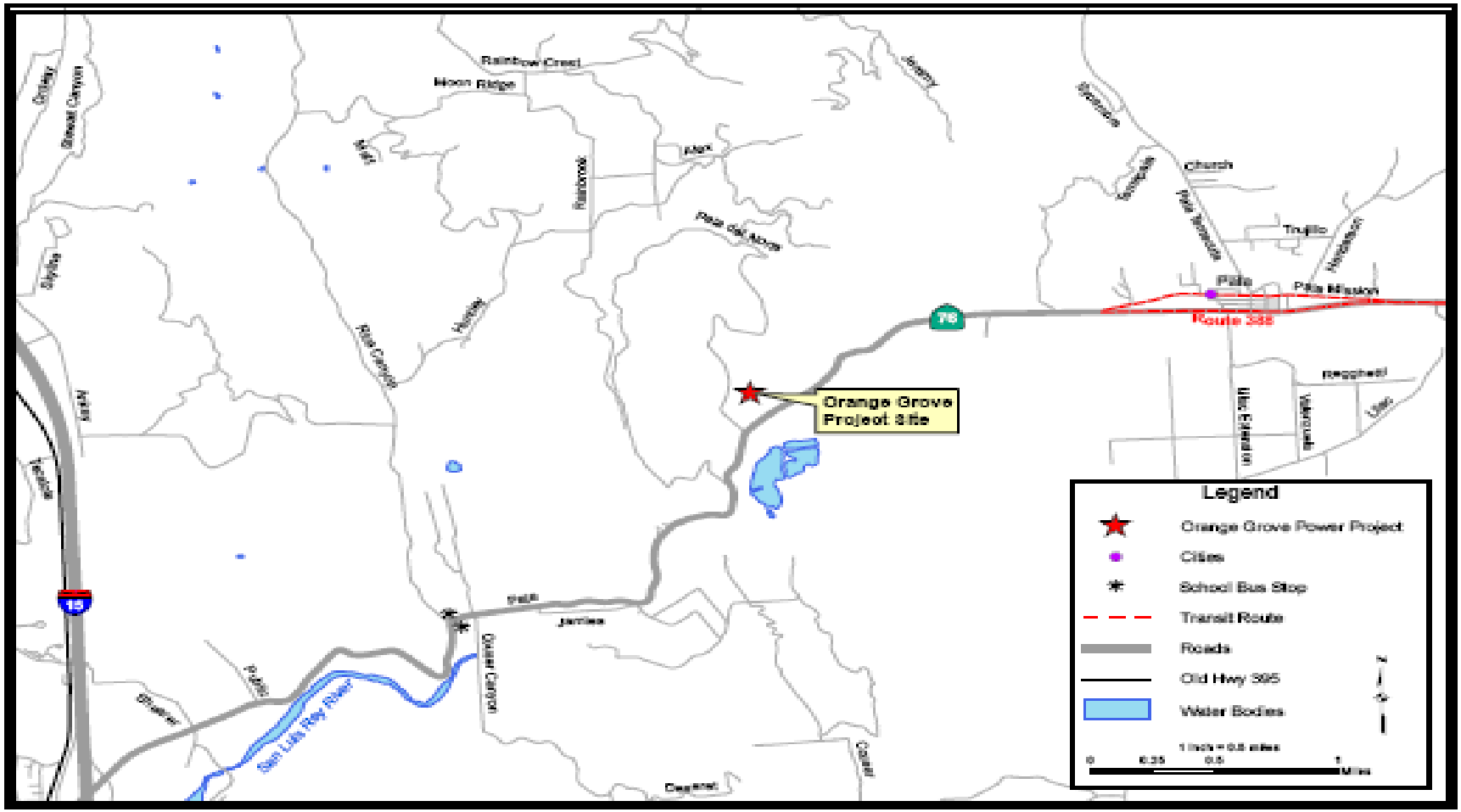
The evidence indicates that average daily traffic volume on I-15 in the project area is about 128,000 vehicles per day. About 10 percent of the daily traffic involves truck movement. The corresponding volume for SR-76 is 13,400 vehicles with approximately 5 percent truck traffic. SR-76 is a two-lane east/west road in the general project area. Bicycle travel is allowed for the entire length of SR-76 although there are no bike lanes near the project area. Pala Del Norte is a private asphalt covered road not included in the list of County maintained roads. (Ex. 1, pp. 6.11-1 to 6.11-4; 200, p. 4.10-3.)

TRAFFIC AND TRANSPORTATION – FIGURE 1

Source: Ex. 200



TRAFFIC AND TRANSPORTATION – FIGURE 2
Source: Ex. 200



Traffic and Transportation Table 1 provides existing daily traffic volume and Levels of Service (LOS) for the major highways in the project area. As noted below, SR-76 has a considerable amount of traffic west of Old Highway 395 (LOS E during peak periods) but is LOS A between I-15 and Rice Canyon Road and LOS C between Rice Canyon Road and Pala Del Norte Road. (Ex. 1, pp. 6.11-5 to 6.11-6; Table 6.11-3.) Pala Del Norte is operating at LOS A with limited traffic. (Ex. 1, p. 6.11-3, Ex. 200, p. 4.10-3.)

Traffic and Transportation Table 1
Roadway Segment Average Daily Traffic Volume and LOS

Roadway Segment	Volume	LOS
I-15 at SR-76	121,000 – 128,000	Northbound (A.M./ P.M.) = A/D Southbound (A.M./ P.M.) = D/A
SR-76	8,987 – 19,145	West of Old SR-395 = E/E I-15 to Rice Canyon = A/A Rice Canyon to Pala Del Norte = C/C

(Ex. 1, Table 6.11-2, p. 6.11-5; Table 6.11-3, p. 6.11-6.)

The Orange Grove Project will not cause degradation in the LOS on area roads. This conclusion is based upon the evidence discussed below.

1. Construction

Project construction is expected to be completed in about six months. All plant construction workers will park on the Orange Grove Project site which will also serve as a laydown area for materials and equipment. The evidence indicates that the parking area is adequate for the number of construction workers involved in the project. (Ex. 1, p. 1-16, Ex. 200, p. 4.10-5.)

Based on regional demographics and availability of skilled laborers, the construction workers will probably come from San Diego and Riverside counties. The average number of construction worker round trips will be 56 per day, while the peak workforce is expected to result in 84 worker round trips per day during a one month period. To determine the amount of vehicle trips to the project site during average and peak construction, the record assumes that workers will commute during the morning and afternoon peak intervals (6 to 8 a.m. and 4 to 6 p.m.) from Monday through Friday. The evidence also assumes that approximately 20 percent of the workers will carpool. (Ex. 1, pp. 6.11-11, 6.11-12, Ex. 200 p. 4.10-5.)

To reach the project site, construction workers coming from San Diego and Riverside will use I-15 and exit onto SR-76. They will then head east until reaching Pala Del Norte Road and turn left to reach the Orange Grove Project access road. A left turn (heading north) will lead to the project site parking area. Construction workers from the Fallbrook/Oceanside area can travel on SR-76 to Pala Del Norte Road and onto the site. The evidence indicates that construction traffic will not degrade the LOS on these roads below Caltrans and San Diego County acceptable standards (LOS C and D) or below the No Project level of service. Nevertheless, Condition of Certification **TRANS-1** requires preparation of a construction traffic control and management plan that would, among other things, advise workers to avoid using the I-15 southbound on- and off-ramps at SR 76, and SR-76 west of Old Highway 395 during the congested peak periods. (Ex. 200, pp. 4.10-5 and 4.10-7.)

Heavy equipment would be used throughout the construction period, including trenching and earthmoving equipment, forklifts, cranes, cement mixers and drilling equipment. Project construction is expected to require seven trucks per day on average and 15 trucks per day during peak construction. (Ex. 1, p.6.11-12.) In-bound and out-bound truck traffic would arrive and depart the project site using the same route as construction workers. (Ex. 200, pp. 4.10-5 to 4.10-6.)

Deliveries of hazardous materials during construction will be conducted in accordance with federal and state laws. The preferred transportation routes for hazardous materials are I-15 and SR-76. (Ex. 200, p. 4.10-8.)

The 10-inch diameter underground natural gas pipeline will cross SR-76 at two locations and be installed along the south and north side of SR-76. The pipeline will connect to an SDG&E gas line near Rice Canyon Road west of the project site. The testimony indicates that traffic impacts from the construction of the pipeline will be short term in nature, mitigated by cones and flagmen when necessary, and will not significantly impact traffic flow. The supplemental testimony of Joseph Stenger regarding Traffic and Transportation (Ex. 66), explains the duration, times and location of the pipeline construction that will need flagmen and concludes that there will be no significant impact on traffic flow. Condition of Certification **TRANS-1** will ensure that the project owner works with Caltrans and San Diego County to mitigate any significant adverse impact on traffic flow along SR-76 during construction of the pipeline. (Ex. 1, pp. 6.11-14 and 15, Ex. 200, p. 4.10-7.)

The record also contains a discussion of three projects whose construction periods may coincide with the Orange Grove Project:

Rosemary's Mountain Quarry project (which includes the construction of a new section of SR-76 that will be widened to a four lane highway from I-15 to the quarry access road 1.3 miles east of the interstate);

- The Pauma Casino expansion; and
- The Pala Casino expansion.

The two major traffic impacts of the Rosemary's Mountain Quarry project will be the widening of SR-76, expected to take about one year, and the estimated 150 to 180 truck round trips per day during the three year quarry construction process. The SR-76 widening and quarry construction began in June, 2008. The SR-76 widening construction should be completed by May, 2009, and quarry construction should be completed in 2011. The Pauma Casino expansion could begin in the spring or summer of 2009, but the project is still under review by San Diego County. Once the casino becomes operational, an estimated 4,365 new average daily vehicle trips will result. The Pala Casino expansion (currently underway) may overlap with the first few months' construction of the Orange Grove Project. Once completed, the Pala Casino expansion could generate 1,032 average daily vehicle trips on SR-76. (Ex. 1 pp. 6.1-4 to 6.1-5; 6.11-24 to 6.11-26; Ex. 200, pp. 4.10-9.)

After construction is complete, Condition of Certification **TRANS-2** requires the project owner to restore any project-related damage to SR-76 or Pala Del Norte Road to its pre-construction condition. (Ex. 200, pp. 4.10-6.) Condition of Certification **TRANS-3** requires the project owner to pay a transportation impact fee to San Diego County for cumulative traffic and transportation impacts on the roads in the project area. The evidence indicates that the transportation impact fee will mitigate the Orange Grove Project's cumulative transportation impacts (Ex. 200, p. 4.10-11).

2. Operation

Operation of the power plant would require a labor force of nine full-time employees although only six or fewer would constitute a typical work shift (Ex. 1, pp. 6.11-20). Other project-related trips (i.e. delivery trucks) are expected to be minimal (three to five per day) and would occur during regular business hours. (Ex. 200, pp. 4.10-8)

For reasons more fully described in the **Soil and Water Resources** section of this decision, there will be no water piped to the Orange Grove Project site at all. Instead, all of the project's water will be delivered to the site by water delivery trucks. During peak periods, the project will be receiving two water truck deliveries per hour [12/19/08 RT146:14-17]. We are not aware of any other power plant in California whose water supply is conveyed entirely by truck.

Intervenor McPhee testified that the use of trucks to transport water was "dangerous and impractical and harmful to animals as well as humans" but offered no evidence to support this conclusion [12/19/08 RT115:9-13]. Nevertheless, we find it self-evident that it is more dangerous to truck water over streets and highways than to run it through underground pipes.

Applicant's experts testified that SR 76 is currently in the process of being widened to four lanes and straightened near the project site. Applicant's experts pointed out that the water pick up locations are at higher elevations than the project site so the water trucks will move downhill along SR 76 at 55 mph for the majority of the trip except for one short 1,000-foot 6 percent incline and a curvy section of road approximately two miles long. Currently traffic negotiates these turns safely at approximately 40 mph (unless there is a slower speed posted). The incline equates to a mere 20 seconds of drive time and the curvy section is approximately three minutes of drive time. Trucks on SR 76 represent about 5.5 percent of the total traffic and Orange Grove Energy's Class 9 trucks will be brand new and designed for the hauling of water (see **AIR QUALITY Condition of Certification AQ-SC-8**). Applicant's experts testified that the water trucks will have no effect on the level of service on SR 76. (12/19/08 RT 141:7–149:10.)

Staff's testimony concurs with Applicant's conclusion that the water trucks will not change the level of service for the roadways serving the project site. (Ex. 200, p. 4.10-6.) However, Staff acknowledged that SR 76 has a higher rate of traffic accidents than the statewide average and the Energy Commission has no precedent for allowing water delivery by truck (12/19/08 RT 165:21–23; 166:18-21.) Therefore, Staff was amenable to adding additional safety measures targeting the delivery of water by truck as a condition of certification (12/19/08 RT 165:24 - 166: 21.)

After a discussion between all parties present at that evidentiary hearing, the parties collaboratively drafted a proposed Condition of Certification **TRANS-4**

which was received into evidence as Staff's Exhibit 202. (12/19/08 RT 174:4-175:1; RT:183:2-189:10.)

Condition of Certification **TRANS-4** ensures that water delivery by truck will be Class 9 or higher and deliveries of water may not exceed a maximum of two trips per hour. **TRANS-4** requires the project owner to demonstrate to the CPM that fully laden water trucks pose no impediment to traffic flow on the delivery route. The project owner must apply to CalTrans for signage that warns motorists to watch for water trucks turning into the site's truck entrance. Condition **TRANS-4** further requires water delivery trucks to display a dedicated telephone number for motorists to call in with their complaints. Condition **TRANS-5** requires the project owner to actively monitor and resolve any complaints regarding the water delivery trucks. (Ex. 200, p. 4.10-8; 12/19/08 RT 180:2-4, 146:14-17, 166:11-13, 183:18-188:12.) We are satisfied that these conditions mitigate any foreseeable impacts arising from the delivery of water by trucks.

Title 22 California Code of Regulations section 60310[g] requires signage when recycled water is accessible to the public, to contain the wording: "Recycled water – do not drink." Condition **TRANS-4** further requires water delivery trucks to display that warning on the trucks.

The transportation and handling of hazardous substances associated with the project also increases roadway hazard potential. However, impacts associated with hazardous material transport to the facility are mitigated to a level of insignificance by compliance with existing federal and state laws established to regulate the transportation of hazardous substances. (Ex. 200, p. 4.10-8.)

Project operation will require use of hazardous substances including sulfuric acid and chemicals for cleaning and water treatment. Truck deliveries include hazardous materials such as aqueous ammonia. A licensed hazardous waste transporter will haul any hazardous waste from the project site to one of three Class 1 hazardous waste landfills in western Kern County near the communities of Buttonwillow and Kettleman City, and in Imperial County near the community of Westmoreland. The handling and disposal of hazardous substances are addressed in the **WASTE MANAGEMENT, WORKER SAFETY AND FIRE PROTECTION** and **HAZARDOUS MATERIALS** sections of this Decision. (Ex. 200, p. 4.10-8.)

The Fallbrook Community Airpark is located about eight miles north of the Orange Grove Project site. The project site is not in the landing or take-off

pattern of this or any other airport. The Combustion Turbine Generator (CTG) stacks under most circumstances will not generate visible plumes. Since the plant will mostly be operating during the warmer conditions of summer and fall, the CTG stacks will not create ground hugging plumes that would impact vehicle traffic on SR-76. The evidence shows that the proposed project CTG stacks will not cause a significant adverse impact on aircraft or vehicle operations. (Ex. 200, p. 4.10-9)

PUBLIC COMMENT

Public comment received at the evidentiary hearing from **Ray Gray** and **Angie Wolf** expressed concerns regarding access for fire and emergency vehicles. Emergency service vehicles will reach the project site via SR-76 and Pala Del Norte Road. (12/19/08 RT 201:6-202:6, 204:11-207:2.) A second access road will be built on the eastern portion of the site that will expand emergency ingress/egress once the project becomes operational. (Ex. 1, p. 6.11-17.) For a more detailed discussion of emergency services for the Orange Grove Project, see the **WORKER SAFETY AND FIRE PROTECTION** section of this Decision. (Ex. 200, p. 4.10-9.)

Archie McPhee commented on future traffic congestion, traffic speed in relation to the school on Mission Road, and truck weight limits. (12/19/08 RT 199:3-200:7.) Future traffic congestion is addressed in the Cumulative Impacts section above. Condition of Certification **TRANS-1** requires workers to arrive at the site before 6:45 a.m. and depart after 3:45 p.m. specifically to avoid encountering school traffic and the school bus. (Ex. 1, Appendix 6.11-E.) The evidence shows that the truck weight limit on the subject roads is 80,000 pounds. (12/19/08 RT 177:8-13.) According to Mr. McPhee's calculation, the weight of 6,500 gallons of water is 55,100 pounds. (12/19/08 RT 199:19-23.) Therefore, the trucks themselves must weigh less than 24,900 pounds to stay within the legal weight limit. Impacts associated with the weight of the water trucks are mitigated to a level of insignificance by compliance with existing federal and state laws established to regulate the maximum weight of vehicles on the roads.

Keith Battle submitted a written comment that states, "Palomar Mountain Spring Water uses Hwy 76 from Palomar Mountain to the 15 for spring water transportation in 6,500 gallon tanks."

At the hearing, **Cyndy Day-Wilson** concurred with **Mr. McPhee**. She referred to a comment letter submitted in advance of the evidentiary hearing wherein she

questioned the conclusions in the Staff Assessment that 20 percent of workers will carpool and that construction traffic will not degrade the level of service. Her comment letter argued that the Staff Assessment fails to assess the unique conditions of the subject roads and the impacts of the installation of the natural gas line across SR 76. The letter observes that the Assessment does not state whether project vehicles will be authorized to use Pala Del Norte Road. (12/19/08 RT 207:18-209:22.)

The uncontroverted evidence establishes that the project will average 70 workers per day, resulting in 56 construction worker round trips per day considering the assumption of 20 percent carpooling established in the record. (Ex. 1, p. 2-34, 6.11-1; Ex. 200, p. 4.10-5.) Even if none of them ever carpool, the net daily increase in construction traffic would be a mere 14 round trips per day which is de minimus. The assumption of a 20 percent carpool rate is not unreasonable. The record further demonstrates that the total increase in construction related traffic will be between 0.15 percent and 0.16 percent, which, according to the testimony, will not substantially degrade the level of service on SR 76. (Ex. 200, pp. 4.10-5 and 4.10-7.).

We are satisfied that the record contains extensive analysis of the particular features of the subject roads (Exs. 21 and 61; 12/19/08 RT 138:16 – 156:11) and Condition of Certification **TRANS-4** adequately addresses truck safety on these roads.

As to **Ms. Day-Wilson's** concerns regarding the natural gas pipeline, the evidence states that the pipeline will be bored beneath SR 76 so as not to disrupt traffic flow on the roadway. (Ex. 1, p. 6.11-15.) In response to **Ms. Day-Wilson's** comment, the supplemental testimony of Joseph Stenger regarding Traffic and Transportation (Ex. 66), explains the duration, times and location of the pipeline construction that will need flagmen and concludes that there will be no significant impact on traffic flow.

Also, in response to Ms. **Day-Wilson's** comment regarding authorization to use Pala Del Norte Road, the supplemental testimony of Richard Jones regarding Land Use (Ex. 63), explains that the portion of Pala Del Norte Road that will be used for access to the project site lies exclusively on land owned by SDG&E and this portion of the road is owned by SDG&E. As part of its lease agreement with SDG&E, Orange Grove will hold a license to use the access roads located on adjacent property owned by SDG&E, including Pala Del Norte Road.

FINDINGS

Based on the uncontroverted evidentiary record, we find as follows:

1. The increase in traffic due to the project's construction will not degrade the LOS levels on SR-76 or Pala Del Norte Road below the LOS standards or below the No Project LOS.

2. The increase in traffic due to the project's operation will not degrade the LOS levels on SR-76 or Pala Del Norte Road below the LOS standards or below the No Project LOS.

3. The project's parking is adequate to serve the number of construction workers involved in the project.

4. The project will not impact aviation safety.

5. Condition of Certification **TRANS-1** will require a construction traffic control plan that will provide sufficient traffic mitigation during project construction.

6. Condition of Certification **TRANS-2** which requires a mitigation plan to repair project related damage to SR-76 or Pala Del Norte Road will mitigate any damage caused by project related traffic.

7. Condition of Certification **TRANS-3** which requires that the project owner pay a traffic impact fee to San Diego County will mitigate the project's cumulative traffic and transportation impacts.

8. Condition of Certification **TRANS-4,** which requires the project owner to use only Class 9 water delivery trucks, limits truck trips to two deliveries per hour, and requires the project owner to demonstrate that the trucks will not impede traffic flow, will mitigate any foreseeable impacts arising from the transportation of water by truck.

9. Condition of Certification **TRANS-4,** which requires the project owner to post a telephone number on the delivery trucks as well as at the project site to enable motorists and members of the public to call in complaints will mitigate any foreseeable impacts arising from the delivery of water by truck.

10. Condition of Certification **TRANS-4** which requires the project owner to apply to CalTrans for signs alerting traffic to trucks entering and exiting the site, will mitigate any foreseeable impacts arising from the delivery of water by truck.

11. **TRANS-5,** which imposes ongoing monitoring of delivery truck safety, will mitigate traffic and transportation impacts that may arise from water transportation by truck.

CONCLUSIONS

The Commission therefore concludes that construction and operation of the project as mitigated herein, will comply with all applicable LORS related to traffic and transportation, and will not result in any significant, direct, indirect, or cumulative adverse impacts to the local or regional traffic and transportation system.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall, in coordination with Caltrans and San Diego County, develop and implement a construction traffic control plan prior to site mobilization. Specifically, the overall traffic control plan shall include the following:

- Ensure that the project owner secures the encroachment permit for Caltrans right-of-way on SR-76 for the construction of the gas pipeline, and uses appropriate mitigation such as cones, signs, and flagmen to avoid unnecessary disruption of traffic flows on SR-76;
- Advise workers to avoid using the I-15 southbound/northbound ramps at SR-76 and also avoid using SR-76 west of Old Highway 395 during congested peak periods;
- Require workers to arrive at the site before 6:45 a.m. and depart after 3:45 p.m. to avoid encountering the Bonsall School District bus on SR-76: If the school bus travel time on SR-76 east of I-15 changes, worker arrival and departure times would change accordingly.
- Prior to site mobilization activities, the project owner shall provide the San Diego County Public Works Department for review and comment, and the CPM for review and approval, a traffic mitigation plan to maintain the existing LOS.

Verification: At least 90 days prior to the start of site mobilization activities, the project owner shall submit a construction traffic control plan to the Caltrans and the San Diego County Public Works Department for review and comment, and to the CPM for review and approval, to ensure that the construction of the linears and the increase in construction traffic would not adversely affect traffic flow on I-15 on-and-off ramps, SR-76 and Pala Del Norte Road. The plan should also include input from the Bonsall Unified school District regarding school bus operations on SR-76.

TRANS-2 Prior to site mobilization activities, the project owner shall prepare a mitigation plan for SR-76 and Pala Del Norte Road should they be damaged by project construction. The intent of this plan is to ensure

that if SR-76 and Pala Del Norte Road are damaged by project construction they will be repaired and reconstructed to original or as near original condition as possible. This plan shall include:

- Documentation of the pre-construction condition SR-76 and Pala Del Norte Road to the access road to the site. Prior to the start of site mobilization, the project owner shall provide to the CPM photographs or videotape of SR-76 and Pala Del Norte Road
- Documentation of any portions of SR-76 and Pala Del Norte Road that may be inadequate to accommodate oversize or large construction vehicles, and identify necessary remediation measures; and
- Reconstruction of portions of SR-76 and Pala Del Norte Road that are damaged by project construction due to oversize or overweight construction vehicles.

Verification: At least 90 days prior to the start of site mobilization, the project owner shall submit a mitigation plan focused on restoring SR-76 and Pala Del Norte Road to its pre-project condition to Caltrans and San Diego County Public Works Department for review and comment, and to the CPM for review and approval.

Within 90 days following the completion of construction, the project owner shall provide photo/videotape documentation to Caltrans and the San Diego County Public Works Department, and the CPM that the damaged sections of SR-76 and/or Pala Del Norte Road have been restored to their pre-project condition.

TRANS-3 Prior to the start of commercial operations, the project owner shall pay San Diego County a traffic impact fee to pay for cumulative traffic and transportation improvements on the roads in the project area.

Verification: At least 30 days prior to the start of commercial operations, the project owner shall provide the CPM with proof that the traffic mitigation fee has been paid.

TRANS-4 Project water trucks shall be class 9 or higher. Water deliveries by project water trucks shall not exceed two deliveries of water per hour during operation. The Applicant shall demonstrate to the CPM that fully laden water delivery trucks will maintain a safe speed and handle the curves in the roads without impeding existing traffic flow. All water delivery trucks carrying recycled water shall contain signage which reads: "Recycled water – do not drink," in compliance with 22 C.C.R. § 60310(g). All water delivery trucks shall display a notice in large type face on the back of each truck that provides a phone number to call to register complaints about the water delivery trucks. The project owner shall establish the telephone number for use by the public to report any unsafe traffic conditions associated with the project's delivery trucks. If the telephone is not staffed 24 hours a 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 where it is visible to passersby. The applicant shall apply to Caltrans to post signage warning other drivers to watch for water trucks turning into the site within 500 feet of the project's truck entrance.

Verification: A log of daily water deliveries shall be maintained onsite and provided in a quarterly report. Within 30 days prior to the start of first filling of water tanks onsite for commercial operations, the applicant shall provide evidence to the CPM that the project water truck specifications meet all applicable state and federal requirements for design loads. The applicant shall provide within 30 days prior to the start of first filling of the water tanks the proposed language for the posting on the back of the trucks. Prior to the start of commercial operation, the applicant shall provide a demonstration that the trucks can maintain a safe speed and handle the curves in the roads and not hamper existing traffic flow from point of pick up to point of delivery. The applicant shall apply to Caltrans via written record regarding the need for signage and shall provide a copy of the written correspondence to the CPM prior to the start of first filling of water tanks onsite by truck. Any complaints about the water trucks shall be reported to the CPM within 24 hours. Prior to commercial operation, the project owner shall transmit to the CPM a statement signed by the project manager stating that the telephone number notification has been posted at the site with a photograph of the posted notification that demonstrates its visibility from SR-76. This statement shall also confirm that the telephone number has been established, affixed to the water delivery trucks, and provide the telephone number to the CPM.

TRANS-5 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all water delivery truck complaints. The project owner or authorized agent shall:

1. use the Water Truck Traffic Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each complaint;
2. attempt to contact the person(s) making the complaint within 24 hours;
3. conduct an investigation to determine the legitimacy of the complaint;
4. take all feasible measures to resolve the complaint; and
5. submit a report to the CPM documenting the complaint and actions taken. The report shall include: a complaint summary, including the final results the investigation and, if obtainable, a signed statement

by the complainant stating that the problem has been resolved to the complainant's satisfaction.

Verification: Within five days of receiving a noise complaint, the project owner shall file a Water Truck Traffic Complaint Resolution Form, shown below, with both the local jurisdiction and the CPM that documents the resolution of the complaint. If mitigation is required to resolve the complaint, and the complaint is not resolved within a three-day period, the project owner shall submit an updated Water Truck Traffic Complaint Resolution Form when the mitigation is performed and complete.

WATER TRUCK TRAFFIC COMPLAINT RESOLUTION FORM

Orange Grove Project **(08-AFC-8)**
WATER TRUCK TRAFFIC COMPLAINT LOG NUMBER _____ Complainant's name and address: Phone number: _____
Date complaint received: _____ Time complaint received: _____
Nature of complaint:
Definition of problem after investigation by plant personnel: Date complainant first contacted: _____
Description of Investigation conducted:
Description of corrective measures taken: Complainant's signature: _____ Date: _____
Approximate cost of corrective measures: $ _____ Date resolution completed: _____ Date first letter sent to complainant: _____ (copy attached) Date final letter sent to complainant: _____ (copy attached)
This information is certified to be true and correct: Plant Manager's Signature: _____ Date: _____

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

C. SOCIOECONOMICS

The first portion of the this topic focuses on pertinent demographic information within radii of one and six miles of the project site, evaluates the effects of project-related population changes on local schools, medical and fire protection services, public utilities and other public services, as well as the fiscal and physical capacities of local government to meet those needs. The public benefits of the project are also reviewed. As part of this review, the analysis examines both the beneficial impacts on local finances from property and sales taxes as well as the potential adverse impacts upon public services.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Demographics, Services, and Finances

The construction phase is typically the focus of this stage of the Socioeconomics analysis because of the potential influx of workers into the area. Impacts are considered significant if a large influx of non-resident workers and dependents occurs in the project area, thus increasing demand for community resources.

The number of construction workers would range from a minimum of 29 in the first month of construction to a maximum of 105 in the fifth month of construction. The average number of workers onsite for the six-month period would be 70. It is uncontroverted that that because of the short construction period, all construction labor would be local and few, if any construction workers would relocate to the project site. The project would have nine full-time employees; the applicant expects all nine employees would be hired locally. Given the large labor force within 1.5 hours commuting time of the project, we do not expect employees would relocate to the immediate project area. (Ex. 200, p. 4.8-5.)

Therefore, we find that the construction and operation workforce would not induce substantial growth or concentration of population and the project would not encourage people to permanently move into the area. Consequently, the project would have no direct or indirect impact on substantial population growth in the area. (Ex. 200, p. 4.8-5.)

Noteworthy public benefits include the direct, indirect, and induced impacts of a proposed power plant. Determining and reporting those impacts is a primary task in developing a socioeconomic analysis. For purposes of this analysis, direct impacts were said to exist if the project resulted in permanent jobs and wages;

indirect impacts, if jobs, wages, and sales resulted from constructing the project; induced impacts, from the spending of wages and salaries on food, housing, and other consumer goods. (Ex. 200, p. 4.8-9.)These benefits are shown in **Socioeconomics Table 1**.

Socioeconomics Table 1
Noteworthy Public Benefits
Related to Orange Grove Energy Project

Fiscal Benefits	
Estimated annual property taxes	$1.2 million
State and local sales taxes: Construction	
State and local sales taxes: Operation	$224,750
School Impact Fee	$2,350
Non-Fiscal Benefits	
Total capital costs	$87 million
Construction payroll	$6.5 million
Operations payroll	$1.1 million
Construction materials and supplies	local value not estimated
Operations and maintenance supplies	$2.9 million
Direct, Indirect, and Induced Benefits	
Estimated Direct Employment	
Construction	105 jobs (maximum)
Operation	9 jobs
Estimated Secondary Employment	
Construction	85 jobs
Operation	14 jobs
Estimated Secondary Income	
Construction	$3.6 million
Operation	$1.6 million

(Ex. 200, pp. 4.8-9 to 4.8-10.)

The analysis characterizes the increase in employment and the increase in sales tax and local expenditures for both construction and operation as beneficial to the area. The evidence further establishes that since the workforce will likely commute to the project, neither the construction nor the operation workers will place an undue stress upon available housing. Similarly, the evidence shows that existing educational, recreational, police, medical, and emergency services will not be adversely impacted. (Ex. 7, DR 54, Ex. 54-1; Ex. 200, pp. 4.8-5 to 4.8-8.)

Finally, the evidence shows that the size of the available workforce in the region ensures that the project's construction, in conjunction with other projects planned or in process, will not adversely impact the types or numbers of workers available to complete other similar projects. Because the project will not result in any significant adverse socioeconomic impacts to population, housing, or public services due to the small size and temporary nature of construction, it is unlikely that it would contribute significantly to cumulative socioeconomic impacts. Thus, the project's impact on socioeconomic factors, when combined with the existing or anticipated impact of other projects, is not cumulatively considerable. (Ex. 200, p. 4.8-8.)

2. Environmental Justice Aspects

Section 65040.12 (c) of the Government Code defines "environmental justice" to mean "fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." In addition, federal guidelines encourage governmental agencies to incorporate environmental justice principles in the environmental review of this project.

The steps recommended by these guidance documents to assure that environmental justice concerns are addressed include: 1) outreach and involvement; 2) a demographic screening to determine the existence of a minority or low-income population; and 3) if warranted, a detailed examination of the distribution of impacts on segments of the population.

The evidentiary record indicates that Staff conducted extensive public outreach in notifying the community about the Orange Grove proceeding, holding several public workshops in the local community, and providing ample opportunity for public comment and participation. Notices were sent to adjacent landowners, local and state participating agencies, local newspapers, interested organizations, and local libraries. The Public Adviser also sent notices in English and Spanish and contacted community leaders, individuals, groups, schools, and activist organizations to inform them about the project, the licensing process, and workshops and hearings. (Ex. 200, p. 1-2.)

The record contains a demographic screening conducted in accordance with the "Final Guidance for Incorporating Environmental Justice Concerns in USEPA's National Environmental Policy Act (NEPA) Compliance Analysis" dated April 1998. The purpose of the demographic screening is to determine whether there exists a minority or low-income population within the potentially affected area.

Minority populations exist, for purposes of an environmental justice analysis, where either:

- The minority population of the affected area is greater than fifty percent of the affected area's general population; or
- The minority population percentage of the area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis; or
- One or more census blocks in the affected area have a minority population greater than fifty percent.

Minority individuals, for present purposes, are those who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black not of Hispanic origin; or Hispanic. Low-income populations are identified based upon the annual statistical poverty thresholds from the Bureau of the Census's Current Population Reports on Income and Poverty. (Ex. 200, p. 4.8-2.)

The evidence shows that a minority population of 31 percent resides within a six-mile radius of the project although there are some census blocks with greater than 50 percent minority population within the six-mile radius. The low-income population is 13 percent within the six-mile radius. (Ex. 1, p. 6.10-24; Ex. 200, p. 4.8-2.) Nevertheless, we find that the Orange Grove Project has mitigated all impacts to levels below significance for any potentially affected population such that there will be no disproportionate impacts on environmental justice populations.

PUBLIC COMMENT

The Energy Commission received written comment submitted on December 18, 2008, from **Ms. Cyndy Day-Wilson** of the law firm Best, Best & Krieger, representing **DFI Funding, Inc. DFI** asserts that the Staff Assessment fails to consider that existing residents may relocate due to significant adverse impacts from the project and that the analysis fails to acknowledge that construction and operation of the power plant will degrade surrounding property values, thus impacting the socioeconomic setting. However, we find no evidence in the record to support either conclusion. The Project would be constructed on a former citrus orchard in northwestern San Diego County. This area of San Diego County is primarily rural, with some agriculture and small communities. There is no evidence that the Project would cause relocation of residents from the

immediate area. The nearest residence is over 2,000 feet away from the Project site, nearly seven football fields away. (Ex. 200, p. 4.8-6; see *also* Ex. 200, pp. 4.6-5 to 4.6-6.)

The impacts on the value of nearby property are not an environmental impact under CEQA. Therefore, impacts to property values were not evaluated as part of the Staff Assessment (*Hecton v People of the State of California*, (1976) 58 Cal.App.3d 653, 656). Undisputed expert testimony concluded that the project will not cause any significant environmental impacts with the implementation of the proposed Conditions of Certification. The evidence guides us to the same conclusion.

FINDINGS

Based on the persuasive weight of the evidence, we find as follows:

1. The project will draw primarily upon the local labor force for the construction and the operation workforce.

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 upon local employment, housing, schools, medical resources, or fire and police protection.

4. The project will have significant economic benefits for the area.

5. Construction and operation of the project will not result in any direct, indirect, or cumulative adverse socioeconomic impacts.

6. Federal environmental justice guidelines are not binding in this case. Nevertheless, the analysis has been performed in conformity therewith.

7. Minority and low income populations exist within both a one and a six mile radius of the site.

8. All environmental impacts from the project will be mitigated to below a level of significance.

9. Siting of the project, and the analysis thereof, are consistent with environmental justice principles.

10. The project's contribution to cumulative impacts, in conjunction with the impacts from other reasonably foreseeable projects, is adequately addressed in the record and in appropriate portions of this Decision.

11. The project will not cause or contribute to disproportionate impacts upon minority or low income groups.

CONCLUSIONS

We therefore conclude that the project construction and operation activities will create some degree of benefit to the local area and will conform to principles of environmental justice. No Conditions of Certification are required for this topic.

D. NOISE AND VIBRATION

The construction and operation of any power plant project will create noise. The character and loudness of this noise, the times of day or night during which it is produced, and the proximity of the project to sensitive receptors combine to determine whether project noise will cause significant adverse impacts. In some cases, vibration may be produced as a result of construction activities such as blasting, which has the potential to cause structural damage and annoyance. The evidence summarized below evaluates whether noise and vibration produced during project construction and operation will be sufficiently mitigated to comply with applicable law. (Ex. 200, pp. 4.6-1 to 4.6-27.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is an approximately 8.5-acre parcel north of State Route 76 (SR-76) and east of Interstate 15 (I-15) in rural San Diego County. The land use designation of the project site is agricultural. Existing land uses adjacent to the project site include an electric substation, the private Pala Del Norte Road, grove land, and open space. To the west, north, and east of the site, moderately steep slopes of open space rise up to two ridgelines, with three houses near the ridgeline northeast of the site. These houses are the closest residential receptors to the project site. Zalinda Farms Nursery (the nursery) and a few single family homes are located to the east and northeast of the site, beyond the ridgeline. Currently, there are occupied care-taker residences on the nursery's property.

Sources of noise in the project area include vehicle traffic on SR-76, mechanical equipment, Pala Casino and Resort (located approximately 1.5 miles east of the project site), a motor-driven wind propeller at the nursery, natural sounds (frogs, crickets, and barking dogs), and occasional aircraft overflights. The noise environment is typical of a sparsely-populated rural setting that includes a relatively heavily traveled roadway. (Ex. 1, § 6.12.4.1; Ex. 200, p. 4.6-4.)

CEQA Guidelines set forth characteristics of noise impacts that may indicate potentially significant effects from project-related noise, such as "a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project." (Cal. Code Regs., tit. 14, § 15000 et seq., Appendix G, Section XI.) In accordance with this standard, Staff uses the significance threshold of five decibels (dBA) when project-related noise emissions exceed existing ambient noise levels at the nearest sensitive receptor. An increase in background noise levels of up to five dBA in a residential setting is insignificant;

an increase of more than ten dBA, is significant. A three decibel increase is "barely noticeable." A ten decibel increase is perceived as a "doubling in loudness and almost always causes an adverse community response." An increase of between 5 and 10 dBA may be either significant or insignificant depending upon the particular circumstances of a given case. (Ex. 200, p. 4.6-24.)

Factors to be considered in determining the significance of an increase of between five and ten dBA include: 1) the resulting noise level; 2) the duration and frequency of the noise; 3) the number of people affected; and 4) the land use designation of the affected receptor sites. Noise due to construction activities is usually considered insignificant if the construction activity is temporary and the use of heavy equipment and noisy activities are limited to day-time hours. (Ex. 200, pp. 4.6-4 to 4.6-5.)

Applicant performed an ambient noise survey on April 18 and 19, 2007 to establish a baseline for comparison of predicted project-related noise to the existing noise levels. (Ex. 1, pp. 6.12-8 to 6.12-29.) The survey monitored existing noise levels at the following five locations, shown in **Noise Figure 2**.

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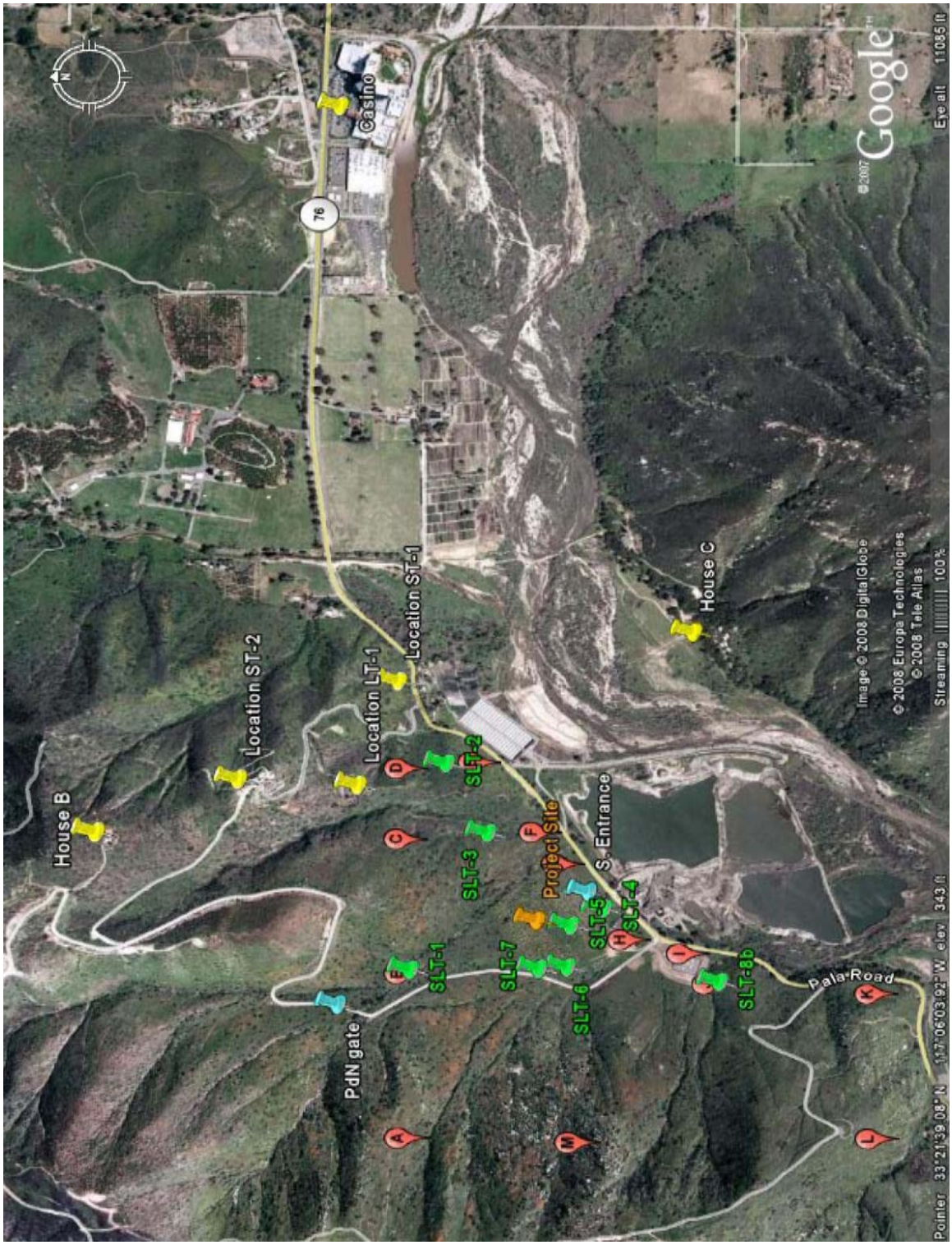
Noise Figure 2
Source: Ex. 200



1. **Location LT1:** Nearest residence to the project site. This location is approximately 2,050 feet northeast of the center of the project site. This location was monitored continuously from 3:35 p.m. on April 18 through 5:04 p.m. on April 19, 2007.

2. **Location ST1:** The nursery (Zalinda Farms Nursery). This location is approximately 2,600 feet east-northeast of the center of the project site. It was monitored for 12 minutes starting at 8:32 p.m. on April 18, again for 15 minutes starting at 2:00 a.m. on April 19, and finally for 16 minutes starting at 3:14 p.m., on April 19, 2007.

3. **Location ST2**: A residence located approximately 2,875 feet northeast of the center of the project site. This location was monitored for 15 minutes starting at 9:15 p.m. on April 18, 2007. The applicant attempted to measure the ambient noise levels at this location during the late-night and mid-day hours, but no data was recorded due to strong winds.

4. **Location House B**: A residence located approximately 3,675 feet north-northeast of the center of the project site. This location was not monitored, but the applicant has estimated the existing ambient noise levels at this location using values from similar locations and conditions.

5. **Location House C:** A residence located approximately 3,150 feet southeast of the center of the project site. This location was not monitored, but the applicant has estimated the existing ambient noise levels at this location using values from similar locations and conditions. (Ex. 200, pp. 4.6-5 – 4.6-6.)

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The existing ambient noise levels are shown in **Table 1** below:

Noise Table 1
Summary of Measured Noise Levels

Measurement Site	Measured Noise Levels, dBA		
	Nighttime Hours L_{90}	**Average During Daytime Hours** (7:00 a.m. to 10:00 p.m.) L_{eq}	**Average During Nighttime Hours** (10:00 p.m. to 7:00 a.m.) L_{eq}
LT1, Residence 2,050 feet Northeast of the Site	27[1]	35-38	30-33
ST1, Nursery 2,600 feet East-northeast of the Site	33	54	59
ST2, Residence 2,875 feet Northeast of the Site	34	46[3]	46[2]
House B, Residence 3,675 feet North-northeast of the Site	27-30[2]	~35[2]	~30[2]
House C, Residence 3,150 feet Southeast of the Site	27-30[2]	~35[2]	~30[2]

1. Calculations of average of four quietest consecutive hours of the nighttime
2. Estimated value; using measurement data from similar locations and conditions
3. Measured during evening hours and with a nearby generator running

(Ex. 200, p 4.6-7)

Project Impacts

1. Construction

Construction noise is a temporary event, in this case expected to last 6 months. (Ex. 200, p. 3-4.) Aggregate construction noise will increase at the sensitive receptors as shown in **Table 2**, below:

Noise Table 2
Predicted Construction Noise Levels

Receptor	Project Noise Level (dBA)	Existing Ambient, Average Daytime L_{eq} (dBA)	Cumulative, Using Lowest Ambient Noise Level	Change in Ambient
LT1	48	35[1]	48	+13
ST1	27	54	54	0
ST2	44	46[2]	48	+2
House B	41	~35	~42	+7
House C	28	~35	~36	+1

[1] For conservatism, we use the lowest ambient noise level from NOISE Table 1, above.
[2] Measured during evening hours and with a nearby generator running

(Source: Ex. 200, p. 4.6-8.)

Section 36.410 of the San Diego County Regulatory Ordinances limits construction to no louder than 75 dBA Leq at the property lines of any noise-sensitive receptor. As seen above in **Noise Table 2**, the project's construction activities would generate noise levels ranging from 27 dBA to 48 dBA at the project's noise-sensitive receptors, well below the County LORS limit. Further, our limitation of construction activities to weekday daytime hours, satisfies the County's prohibition of nighttime construction activity.

Although the noise level increases at House B and LT1 will be seven and 13 dBA, respectively, they are not significant because of the temporary nature of the noise source and its limitation to daytime hours. (Ex. 200, pp. 4.6-7 to 4.6-9.) To ensure this, we adopt Condition of Certification **NOISE-6** which limits construction activities to day-time hours between 7 a.m. and 7 p.m. on weekdays, and prohibits construction on weekends and federal holidays. In the event that construction noise should nevertheless annoy nearby residents, Conditions of Certification **NOISE-1** and **NOISE-2** establish notification and complaint processes to address this situation.

Construction of linear facilities is not expected to create significant noise impacts due to the construction area's periodic movement, subjecting receptors to no

more than a few days of noise, and the prohibition against nighttime and weekend activities described above.

To protect construction workers from injury due to excessive noise, Condition **NOISE-3** requires the project owner to implement a noise control program consistent with OSHA and Cal/OSHA requirements. (Ex. 200, p. 4.6-9.) Finally, there is no indication in the evidence that vibration from construction activities would be perceptible at any appreciable distance from the project site, or that it would cause any impact. (*Id*.)

2. Operation

The noise emanating from a power plant is unique. It is generally broadband, steady state in nature. When it is operating, the OGP will essentially be a continuous noise source. This noise contributes to, and becomes part of, the background noise level when most intermittent noises cease The primary noise sources of this project include the gas turbine generators, gas turbine air inlets, selective catalytic reduction units and their exhaust stacks, electrical transformers, fuel gas compressors and metering equipment, and various pumps and fans. (Ex. 200, pp. 4.6-10 to 4.6-11.)

The ambient noise levels when the plant is operating are not predicted to exceed the County's daytime or nighttime ambient noise standards except at Receptor ST1. At Receptor ST1, the background levels exceed the County standards and the project's noise does not cause the background levels to increase. Therefore the operational noise levels will satisfy the County LORS. (Ex. 200, pp. 4.6-10 to 4.6-11.)

Nighttime ambient noise levels will increase from 0 dBA (ST2) to 5 dBA (LT1), all insignificant impacts. (Ex. 200, p. 4.6-11.)

As with construction activities, operational and maintenance activities will meet OSHA and Cal/OSHA standards to protect workers. (Ex. 200, p. 4.6-13; Condition of Certification **NOISE-5**.) Operational vibration – whether ground borne or air borne – will be undetectable by likely receptors. (Ex. 200, p. 4.6-13.) Each of the projects identified as a possible contributor to cumulative impacts is sufficiently distant from the OGP that no significant cumulative noise impacts will result from the operation of the project. (Ex. 200, pp. 4.6-13 to 4.6-14.)

PUBLIC COMMENTS

The Energy Commission received written comment submitted on December 18, 2008, from **Ms. Cyndy Day-Wilson** of the law firm Best, Best & Krieger, representing **DFI Funding, Inc.,** as follows:

DFI first comments that the Applicant's noise survey was improperly performed in April while the power plant is expected to mainly operate in the summer months. However, there is no indication that the ambient noise levels in the area are significantly different from April to the summer months. The noise environment in the vicinity of the project site is dominated by transportation-related sources. (Ex. 200, p. 4.6-6; Ex. 1, pp. 6.12-8, 6.12-13 to 15, 6.12-A-3, and 6.12-A-7.)

DFI further suggests the data for the nearest residential site as only including the time between 3:35 p.m. and 5:04 p.m. instead of the more sensitive nighttime hours. This suggestion is erroneous. Monitoring was conducted over a twenty five hour period at the closest residential receptor, denoted as LT-1. (See Ex. 1, Appendix 6.12-A, pp. 6.12-A-3 and 4.)

DFI contends that Orange Grove failed to actually monitor or obtain data from three of the five sites and instead merely estimated the existing ambient noise levels at these locations using values from similar locations and conditions. We believe that where ambient noise environments at project receptors are similar; it is reasonable to attribute the measured values for one location to other similar locations. (Ex. 1, pp. 6.12-10 to 6.12-12; Ex. 200, p. 4.6-7.)

For conservatism in the estimation process, the Applicant selected the comparable measurement data that was toward the lower end of the record for a given time of day. (Ex. 1, Figure 6.12-2.) Staff then applied additional conservatism by using the lowest value in that selected data range with which to conduct their L_{90}+5 dB assessment. (Ex. 200, p. 4.6-7; Noise Table 2, as compared to 4.6-10 and 4.6-11 Noise Tables 4 and 5.) We accept this conservative method of extrapolation.

DFI also asserts that the Assessment lacks analysis of the type and frequency of construction noise impacts. **DFI** claims the Assessment should also contain a Single Event Noise Exposure Level ("SENEL") descriptor in order to quantify the impact of single-event construction operations on nearby residents.

SENEL is more commonly applied to discrete, specific noise events such as aircraft flyovers or vehicle pass-bys, rather than to ongoing activities such as construction processes. (Ex. 1, p. 6.12-52, referencing *Harris* at page 11.16.) Based on widely-used noise analysis guideline documents by the U.S. Department of Transportation/Federal Transit Administration and the Federal Highway Administration, the most common noise metrics for construction analyses are the L_{max} and L_{eq} metrics. Typically, the former defines individual noise sources and their sound emissions at 50 feet from the source, while the latter is used for assessing potential impacts at receptors. (Ex 1, p. 6.12-52, referencing Barnes, Miller, and Wood, *Prediction of Noise from Power Plant Construction*, prepared for the Empire State Electric Energy Research Corporation, Schenectady, NY; U.S. Environmental Protection Agency ["U.S. EPA"], *Noise from Construction Equipment and Operations, US Building Equipment, and Home Appliances* [1971], and *Harris* at page 48.6.) The Project's noise analysis used these standardized metrics to assess potential impacts. The Project's noise impact assessment also used analysis processes outlined in the definitive reference document on the subject published by the U.S. Environmental Protection Agency. (Ex. 1, p. 6.12-52.)

Due to their limited duration, construction noise impacts are generally not considered to be significant if the construction activity is temporary and the use of heavy equipment and noisy activities is limited to daytime hours. (Ex. 200, p. 4.6-5.) For the Project in particular, the applicable local noise LORS limit noisy construction to daytime hours (between 7:00 a.m. and 7:00 p.m. Monday through Friday). (Ex. 200, p. 4.6-3.) In fact, the Project's construction noise impacts will be well below the County's noise limit for noise-sensitive receptors near the project. (Ex. 200, p. 4.6-8.)

The applicable LORS do not require a description of every sound that will be emitted from the Project's construction. The relevant inquiry is whether Project construction will have a significant noise impact. The uncontested testimony of both Staff and Applicant concluded that the noise impacts of the Project will be less than significant. (Ex. 200, p. 4.6-14; Ex. 1, p. 6.12-33.) We are satisfied that the metrics employed in the analysis of noise in this case is adequate.

DFI is concerned that Condition of Certification **NOISE-3** refers to a noise exposure program for reducing worker exposure to high noise levels, but without describing details about this program. **NOISE-3** clearly states that the noise control plan shall be in accordance to the OSHA and Cal-OSHA standards. The condition further requires this plan to be reviewed and approved by the

Compliance Project Manager. (Ex. 200, p. 4.6-15.) These standards include the hearing protection and training requirements cited by **DFI**. (Ex. 1, pp. 6.12-5 and 6.) The record demonstrates that the relatively few areas that may be above 85 dBA will be posted as high noise level areas and hearing protection will be required therein. (Ex. 1, p. 6.12-6.)

Finally, **DFI** criticizes a change to Condition of Certification **NOISE-4** that allows operational noise emissions to be somewhat higher as measured at receptors ST1 and ST2. However, we note that the revised noise limits in **NOISE-4** are still within 5 dBA above the ambient and would produce less than significant adverse impacts at the project's noise-sensitive receptors. (Ex. 200, pp. 4.6-11 to 4.6-12.)

FINDINGS

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

1. Construction and operation of the Orange Grove Project will increase noise levels above existing ambient levels in the surrounding community.

2. Construction noise levels are temporary and transitory in nature and will be mitigated to the extent feasible by sound reduction devices, limiting construction to day-time hours in accordance with local noise control LORS, and providing a notice and complaint process to nearby receptors.

3. Project operations will increase nighttime ambient noise levels by from 0 to 5 dBA at the nearby residential receptors. This will not be a significant increase.

4. The project owner will implement measures to protect workers from injury due to excessive noise levels during both construction and operation.

5. The Orange Grove Project will not create ground or air borne vibrations which will cause significant off-site impacts.

CONCLUSIONS

Implementation of the Conditions of Certification, below, ensure that project-related noise emissions will not cause significant adverse impacts to sensitive noise receptors. We conclude that implementation of the following Conditions of Certification ensure that the OGP will comply with the applicable laws,

ordinances, regulations, and standards on noise and vibration as set forth in the pertinent portion of **Appendix A** of this Decision, and that the project will not cause indirect, direct, or cumulative significant adverse noise impacts.

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 mile of the project site and one-half mile of the linear facilities, by mail or by 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 a 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 where it is 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. This communication shall also verify that the telephone number has been established and posted at the site, and shall provide 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:

- use the Noise Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- attempt to contact the person(s) making the noise complaint within 24 hours;
- conduct an investigation to determine the source of noise in the complaint;
- if the noise is project related, take all feasible measures to reduce the source of the noise; and
- submit a report documenting the complaint and actions taken. The report shall include: a complaint summary, including the

final results of noise reduction efforts and, if obtainable, a signed statement by the complainant stating that the noise problem has been resolved to the complainant's satisfaction.

Verification: Within five days of receiving a noise complaint, the project owner shall file a Noise Complaint Resolution Form, shown below, with both the local jurisdiction and the CPM that documents the resolution of the complaint. If mitigation is required to resolve the complaint, and the complaint is not resolved within a three-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is performed and complete.

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 (above permissible) noise levels during construction in accordance to the applicable OSHA and Cal-OSHA standards.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall submit the noise control program to the CPM. The project owner shall make the program available to Cal-OSHA upon request.

NOISE RESTRICTIONS

NOISE-4 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause the noise levels due to plant operation alone, during the four quietest consecutive hours of the nighttime, to exceed an average of 31 dBA measured at or near monitoring location LT1 (approximately 2,050 feet northeast of the center of the project site), an average of ~~24~~ 31 dBA measured at or near monitoring location ST1 (the nursery), an average of ~~18~~ 32 dBA measured at or near monitoring location ST2 (approximately 2,875 feet northeast of the center of the project site), an average of 25 dBA measured at or near monitoring location House B (approximately 3,675 feet north-northeast of the center of the project site), and an average of 27 dBA measured at or near monitoring location House C (approximately 3,150 feet southeast of the center of the project site).

No new pure-tone components shall be caused by the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints.

A. When the project first achieves a sustained output of 85 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at monitoring location LT1, or at a closer location acceptable to the CPM. This survey during the power plant's full-load operation shall also include measurement of one-third octave band sound pressure levels to ensure that no new pure-tone noise components have been caused by the project.

During the period of this survey, the project owner shall conduct a short term survey of noise at monitoring locations ST1, ST2, House B, and House C, or at closer locations acceptable to the CPM. The short-term noise measurements at these locations shall be conducted during the nighttime hours of 10:00 p.m. to 7:00 a.m.

The measurement of power plant noise for the purposes of demonstrating compliance with this condition of certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the affected residence. The character of the plant noise shall be evaluated at the affected receptor locations to determine the presence of pure tones or other dominant sources of plant noise.

B. If the results from the noise survey indicate that the power plant noise at the affected receptor sites exceeds the above values during the four quietest consecutive hours of the nighttime, 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 60 days of the project first achieving a sustained output of 85 percent or greater of rated capacity. Within 30 days after completing the survey, the project owner shall submit a summary report of the survey 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 30 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-5 Following the project's attainment of a sustained output of 85 percent or greater of its rated capacity, the project owner shall conduct an occupational noise survey to identify any 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 to be employed in order 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 RESTRICTIONS

NOISE-6 Heavy equipment operation and noisy construction work relating to any project features shall be restricted to the times delineated below, unless a special permit has been issued by San Diego County:

Mondays through Fridays:	7:00 a.m. to 7:00 p.m.
Weekends and federal holidays:	No Construction Allowed

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.

Exhibit 1
Noise Complaint Resolution Form

Orange Grove Project
(08-AFC-4)

NOISE COMPLAINT LOG NUMBER _____

Complainant's name and address:

Phone number: _____

Date complaint received: _____
Time complaint received: _____

Nature of noise complaint:

Definition of problem after investigation by plant personnel:

Date complainant first contacted: _____

Initial noise levels at 3 feet from noise source _____ dBA Date: _____
Initial noise levels at complainant's property: _____ dBA Date: _____

Final noise levels at 3 feet from noise source: _____ dBA Date: _____
Final noise levels at complainant's property: _____ dBA Date: _____

Description of corrective measures taken:

Complainant's signature: _____ Date: _____

Approximate installed cost of corrective measures: $ _____
Date installation completed: _____
Date first letter sent to complainant: _____ (copy attached)
Date final letter sent to complainant: _____ (copy attached)

This information is certified to be correct:

Plant Manager's Signature: _____

Attach additional pages and supporting documentation, as required.

E. VISUAL RESOURCES

Visual resources are the natural and cultural features of the landscape that contribute to the visual character or quality of the environment. CEQA requires an examination of a project's visual impacts to determine whether the project has the potential to cause substantial degradation to the existing visual character of the site and its surroundings. (Cal. Code Regs., tit. 14 § 15382 and Appendix G, Part I.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

In general, the scenic quality of the project view shed is high, characterized by views of hills and mountains in the background. The regional landscape is primarily rural, including agriculture, large plot residential, small communities, open space, and large-scale commercial-industrial facilities. (Ex. 200, p. 4.12-3.)

North of the site, the ground slopes uphill to a ridgeline that surrounds the site to the northeast, north, and west at elevations up to 1,700 feet. Three existing residences on the ridgeline have a view of the project site. (Ex. 200, p. 4.12-3.)

The project site elevation is about 360 to 440 feet above mean sea level on a gently sloping, old alluvial fan surface. The site, formerly cultivated as a citrus grove, does not feature any undisturbed natural habitat. The construction laydown and parking areas will be located on the site adjacent to the existing Pala Substation and a fenced SDG&E storage area. (Ex. 200, p. 4.12-3.)

Staff's **Visual Resources Table 2**, replicated below, lists the most visible project components to be installed at the site.

Visual Resources Table 2
Summary of Major Publicly Visible Structures

Project Component	Number of Units	Length and Width (approximately)	Height (approximately)
Exhaust Stacks	2	12.5 feet	80 feet
Raw Water Tank	1	50 feet	40 feet
Chiller System	1	89 – 32 feet	30 feet
Turbine Enclosures	2	57 – 37 feet	43 feet
Emission Control System	2	89 – 32 feet	33 feet
Demineralized Water Storage	1	31 feet	22 feet
Sound Walls	2 Sets	915 linear feet (total)	24 and 48 feet

Source: (Ex. 200, p. 4.12-4.)

The transmission line and natural gas pipeline will be buried underground and will not affect the viewscape. Water deliveries by truck to the project site from the existing Fallbrook Public Utility District facilities will not change the viewscape. (Ex. 200, p. 4.12-4.)

1. Methodology

CEQA Guidelines (Title 14, California Code of Regulations, Appendix G, Part I (Aesthetics)) require the lead agency to consider the following questions in evaluating a project's potential visual impacts:

A. Would the project have a substantial adverse effect on a scenic vista?

B. Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

C. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

D. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Applicant and Staff used the following methodology to analyze the project's potential visual impacts in accord with the CEQA Guidelines: 1) compliance with applicable laws; 2) the extent of any alteration to the existing view shed such as blockage of desirable views; 3) significant decrease in visual quality; and 4) the introduction of a substantial change to nighttime or daytime lighting levels. The type of visual change, duration of impact, viewer sensitivity, and number of viewers are additional factors relevant to the visual resources analysis. (Ex. 200, p. 4.12-5.)

2. Potential Impacts

Scenic Vistas. A scenic vista is defined as a distant view through and along a corridor or opening that exhibits a high degree of pictorial quality. The evidentiary record indicates that there are no scenic vistas in the project viewshed. Thus, the project will not cause a significant visual impact to a scenic vista. (Ex. 200, p. 4.12-6.)

Scenic Resources. A scenic resource for purposes of this analysis may include a unique water feature (waterfall, transitional water, part of a stream or river,

estuary); a unique physical geological terrain feature (rock masses, outcroppings, layers or spires); a tree having a unique visual/historical importance to a community (a tree linked to a famous event or person, an ancient old growth tree); historic building; or a designated federal scenic byway or state scenic highway corridor. (Ex. 200, p. 4.12-6.)

The historic Mission San Antonio de Pala is located along Pala Mission Road (just north of SR-76) in Pala, approximately 1.5 miles east of the project site. According to Staff, the project will not be visible to viewers at the mission due to its distance from the project site and intervening buildings, landforms, and vegetation. There are no other notable scenic resources within the project view shed. (Ex. 200, p. 4.12-6.)

State Route (SR) 76 runs along the southern boundary of the project site. The evidence indicates that this portion of SR-76 is not designated as a State Scenic Highway and that it is listed as eligible by the California Department of Transportation but has not received that designation. (12/19/08 RT 196-198.) Consequently, the project will not damage views of an identified scenic resource nor cause a significant visual impact to a scenic resource. (Ex. 200, p. 4.12-6.)

Visual Character or Quality. The evidentiary record contains an analysis of the project's potential visual impacts during construction and operation.

During construction, project staging and worker parking will be located on the southern boundary of the project site nearest to SR-76. Other major project construction activities will be screened from off-site viewpoints by the surrounding hills on three sides of the site. The prominent and unsightly construction staging at this location could result in adverse impacts to travelers along SR-76. These visual effects, however, are considered less than significant given the moderate visual quality of this segment of SR-76, the fleeting nature of views, the relatively limited number of affected viewers, and the temporary nature of impacts.

Condition of Certification **VIS-2** requires the project owner to provide screening during construction, which includes planting trees and shrubs along the southern border of the site in the early stages of construction and installing temporary, dark-colored opaque fencing around the staging areas. Given the temporary nature of construction, the construction-related visual impacts at the site will be less than significant. (Ex. 200, p. 4.12-7.)

Trenching for construction of the natural gas pipeline and the underground transmission line on Pala del Norte Road will create temporary visual disturbances for a period of approximately three months with activities moving to different parts of the linear alignments during this period. Given the temporary short-term impacts, the visual effects along these corridors will be less than significant. (Ex. 200, p. 4.12-7.)

Applicant and Staff used "Key Observation Points" (KOPs) to compare the existing visible environmental setting and the anticipated visual change introduced by the project. The KOPs represent the most characteristic and critical viewing groups and locations where the project will be seen. (Ex. 1, appen. 6.13-A; Ex. 200, p. 4.12-5.)

Staff's **Visual Resources Figure 2**, replicated at the end of this section, shows the locations of the three KOPs used in this analysis:

- **KOP 1** – view from motorist traveling east on SR-76:
- **KOP 2** – view from motorist traveling west on SR-76; and
- **KOP 3** – views from slopes to the northeast of the project site where three residences are located.

The three KOPs are depicted in the context of the overall project viewshed or area of potential visual effect (the area within which the project could potentially be seen). Potential impacts are identified by two fundamental factors for each KOP: visual sensitivity (the susceptibility of the setting to impact as a result of its existing characteristics, including current level of visual quality, potential visibility of the project, and sensitivity to scenic values of viewers); and the degree of visual change anticipated as a result of the project. (Ex. 200, pp. 4.12-5, 4.12-7.)

KOP 1. The evidentiary record includes computerized visual simulations of the current and anticipated future views of the site at this KOP from eastbound SR-76 looking south. (Ex. 200, p. 4.12-7, **Visual Resources Figures 3A** through **3D**.)

Visual Sensitivity. Eastbound motorists on SR-76 at this location have views of the rural countryside and background hills. Viewer exposure to the project site to the east is moderate. The intervening terrain and vegetation along SR-76 and the low shrubs and existing storage facility on the eastern portion of the site minimally filter views of the site although prominent upper portions of power plant structures and noise walls could draw viewers' attention toward the site

momentarily. Duration of view will be moderately low, from 10 to 20 seconds, because motorists will be focused on maneuvering the various curves in the roadway. The evidence indicates that about 9,439 vehicles use SR-76 on a daily basis with half of these vehicles traveling east. According to the evidence, this number of viewers is considered moderately low. (Ex. 200, p. 4.12-8; Ex. 1, appen. 6.13A and 6.13B.)

Existing visual quality in the vicinity, characterized by views of the hillsides and ridgelines, is moderate. Viewer concern is also considered moderate due to the scenic quality of the road. Thus, the overall visual sensitivity for motorists is considered moderately low from **KOP 1** due to the moderately low visual quality, moderate viewer concern, and moderate overall viewer concern. (Ex. 200, p. 4.12-8; Ex. 1, p. 6.13-6, appen. 6.13A, 6.13B.)

Visual Change. For eastbound motorists on SR-76, the project structures will be clearly visible from **KOP 1**. From other segments of SR-76, the project will be partially screened by tree canopy, with the upper portions of the exhaust stacks and sound walls visible above the canopy. In both views, the project introduces contrasting elements of vertical and rectilinear form and line, light and contrastive coloring in relation to the visual foreground of natural grasses, resulting in a moderate level of contrast. (Ex. 200, p. 4.12-8.)

Overall visual dominance of the project will remain subordinate to the hillsides in the background but the vertical form and line of the exhaust stacks and sound walls will silhouette against the hillside, increasing dominance and attracting attention to a moderate degree. However, the project's features will not block high quality or scenic views in the vicinity. Due to the moderate level of contrast, subordinate visual dominance, and low view blockage, overall visual change will be low to moderate. (Ex. 200, pp. 4.12-8 to 4.12-9, **Visual Resources** Figure 3B.)

Impact Significance. Considering the moderate visual sensitivity and the moderate level of visual change, the project's visual impact at KOP 1 will be adverse but less than significant. Mitigation measures included in the Conditions of Certification will minimize the project's adverse visual impacts for the life of the project.

Condition of Certification **VIS-1** requires the project owner to treat the exteriors of major project structures with an earth-tone finish to optimize visual integration with the background hills in conjunction with an approved Surface Treatment

Plan. Condition of Certification **VIS-2** requires in-fill perimeter landscape screening and replacement planting to reduce project line and form contrast. Condition **VIS-3** requires the project owner to comply with local ordinances on nighttime lighting to reduce impacts to drivers along SR-76.

KOP 2. The evidentiary record includes photo simulations of the current and anticipated views of the site at this KOP from westbound SR-76, approximately 500 feet east of the project site. This view looks west across SR-76 from a private driveway. The former citrus grove at the site can be seen as well as the steep hillsides west of the site vegetated with sage scrub and chaparral habitat. (Ex. 200, p. 4.12-9, **Visual Resources Figures 4A** through **4D**.)

Visual Sensitivity. Westbound motorists on SR-76 have views of the rural countryside but the project site occupies the visual foreground at the KOP 2 location. Viewer exposure on westbound SR-76 to the site is moderate. Because of the particular angle of this view, the project appears well-screened by the existing tall oak tree canopy, scattered trees, and shrubs currently on the project site, which nearly equal the height of the anticipated project structures and effectively screen the greater part of the project. As the viewer moves closer to the site, the effectiveness of the foreground screening increases so that dominance of the power plant structures will be negligible. However, views of the site from SR-76 farther to the west are not screened by the tall canopy, and overall form, line and color contrasts are considered moderate. (Ex. 200, p. 4.12-10.)

From KOP 2, visual dominance of the project structures will be subordinate to the hillsides. Motorists' attention will be focused on the roadway due to curves along this stretch of highway rather than eastward toward the project site. However, prominent upper portions of the power plant structures and noise walls could draw viewers' attention toward the site for a few seconds. (Ex. 200, p. 4.12-10.)

Existing visual quality in the vicinity, characterized by views of the hillsides and ridgelines, is moderate. Viewer concern is also considered moderate due to the scenic quality of this portion of SR-76. The duration of view will be moderately low. Thus, the overall visual sensitivity for motorists at KOP 2 is considered low to moderate due to the moderately low visual quality, moderate viewer concern, and moderate overall viewer concern. (Ex. 200, p. 4.12-10.)

Visual Change. According to Staff, the project will attract viewers' attention due to its contrastive, vertical form and industrial character silhouetted against the

backdrop of the surrounding hills, resulting in a moderately low level of contrast. Although the project will be visually subordinate to the hillsides, it will compound the industrial character of this view so that overall dominance will be moderate (co-dominant). Overall visual change is therefore considered moderate. (Ex. 200, p. 4.12-11.)

Impact Significance. Considering the setting's moderate visual sensitivity and moderate level of project visual change, the project's visual impact at **KOP-2** will be adverse, but less than significant. With implementation of Conditions of Certification **VIS-1**, **VIS-2**, and **VIS-3**, overall visual impacts at **KOP 2** can be reduced to insignificant levels by earth-tone surface colors, long-term landscaping, and controlled lighting.

KOP 3. The evidentiary record includes photo simulations of the current and anticipated future views of the site from three residences on the slopes to the northeast side of the hillside above the site. (Ex. 200, p. 4.12-11, **Visual Resources Figures 5A** through **5D**.)

Visual Sensitivity. According to Staff, residents have potentially high levels of viewer concern due to long periods of viewing time, concern for their place of residence, and concern for effects on property values. Views from **KOP 3** are from positions on the hillside about 0.5 miles above the site. Visual exposure to the site is considered moderate, mediated by limited viewer numbers, distance from the project site, and screening at the site.

Existing visual quality for potentially affected residential viewers depends on location and the presence of scenic views, but it is moderately high, since the views of the site also include elevated views of former aggregate pits and the surrounding hills and valley in the distance. Overall visual sensitivity of this viewer group is therefore moderate to high. (Ex. 200, pp. 4.12-11 to 4.12-12.)

Visual Change. The vertical and rectilinear form and line of the power plant will contrast with the irregular silhouette of the foreground hills, as well as the surface color contrast of the project. Overall, visual contrast at these distances is considered moderate. (Ex. 200, p. 4.12-12.)

The residential viewers' attention to the project would be visually subordinate to the prominent hills and sky in the viewscape. The new project features, however, will increase the portion of the view with industrial character. Thus, the overall visual change will be moderate**.** (Ex. 200, p. 4.12-12.)

Impact Significance. In the context of overall moderate viewer sensitivity, project impacts could potentially be significant from **KOP 3** but implementation of Conditions of Certification **VIS-1**, **VIS-2**, and **VIS-3** will reduce overall visual impacts at **KOP 3** to insignificant levels. With these measures, the impacts from project operation will not substantially degrade the existing visual character or quality of the site and its surroundings, as perceived by sensitive receptors in the project viewshed.

4**.** Lighting Impacts

During nighttime construction and normal operation, the project has the potential to introduce light to surrounding properties and the nighttime sky, creating significant light and glare in the vicinity. Condition of Certification **VIS-3** requires project lighting to be directed inward, downward, down-shielded, or capped to reduce glare and light trespass. Where lighting is not required for normal operation, safety, or security, switches or photocells will allow areas of the site to remain dark except as needed. Implementation of this Condition will ensure that the project meets the County's lighting ordinance requirements for "Zone A" areas and reduces potential lighting impacts to insignificant levels. (Ex. 200, p. 4.12-13.)

5. Plumes

The heated exhaust gas from the project's two LM 6000 turbines will not produce visible water vapor plumes except in cool ambient temperatures or high relative humidity. Since the project is a peaker, it will likely operate during the warmer months of the year with typically dry weather so visible plumes are not expected to occur. (Ex. 200, pp. 4.12 to 4.12-14.)

6. Cumulative Impacts.

Although the Orange Grove Project will introduce lighting and tall industrial structures into the viewscape, the potential visual impacts will be mitigated to insignificant levels. The proposed Gregory Canyon Landfill near the site represents a substantial change to the undeveloped land in the area but it is a planned use that is not considered a significant adverse visual impact. The evidence, therefore, indicates that the introduction of the mitigated Orange Grove Project to the viewshed will not result in a significant cumulative visual impact in

conjunction with other planned, foreseeable development in the vicinity. (Ex. 200, p. 4.12-15.)

7. Compliance with LORS

The evidentiary record establishes that the project is consistent with applicable LORS. Staff's **Visual Resources Table 3**, replicated below, summarizes the findings.

Visual Resources Table 3
Project's Consistency with LORS Applicable to Visual Resources

LORS		Consistency Determination	Basis for Consistency
Source	Policy and Strategy Descriptions		
Federal			
National Route Preservation Bill			
Transportation Equity Act for the 21st Century of 1998, and Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2005.	Involves federal managed lands, and recognized National Scenic Byway or All-American Road within its vicinity.	YES	The project site does not involve federal managed lands, nor a recognized National Scenic Byway or All-American Road within its vicinity.
State			
California Streets and Highways Code, Sections 260-263 (Scenic Highways)	Ensures the protection of highway corridors that reflect the State's natural scenic beauty.	YES	Not applicable: SR-76 has not been designated as an official State scenic highway.
Local			
San Diego County			
General Plan-Land Use Element	Encourages visual integration of projects of differing types or densities through the use of building setbacks, landscaped buffers, or other design features. Ensures that design reflects concerns about the preservation of viewsheds.	YES	The Orange Grove project is consistent with the City's zoning and land use policies (see Land Use section of this Decision) and the project is consistent with the City's Land Use Map.
Circulation/Scenic Highways Element	Provides the San Diego Scenic Corridor Guidelines, designated corridors and streets.	YES	The project site is located along SR-76, and this stretch is not listed as a scenic route.

LORS		Consistency Determination	Basis for Consistency
Source	Policy and Strategy Descriptions		
County of San Diego Zoning Ordinance Part 4 and 6, Section 4000	Provides site review requirements, and establishes performance standards for development projects including architectural design, landscaping, and outdoor storage. Requires that architectural design of structures and their materials and colors are visually harmonious with surrounding development and natural land forms.	YES AS CONDITIONED	The project will be constructed to meet these standards and requirements. The detailed plans will be reviewed by the Chief Building Official and will be directed towards assuring that the design meets the county requirements.
Section 4000 and Zone A Light Pollution Code		YES AS CONDITIONED	Project lighting will be designed to comply with the Light Pollution Code for Zone A.

Source: Ex. 200, p. 4.12-16.

PUBLIC COMMENT

The Energy Commission received written comment submitted on December 18, 2008, from **Ms. Cyndy Day-Wilson** of the law firm Best, Best & Krieger, representing **DFI Funding, Inc. DFI** claims that the Assessment fails to quantify viewer numbers and distance from the Project site, and fails to explain how tree and shrub screening at the site would mitigate aesthetic impacts down to a "moderate" level.

The uncontested record describes the viewshed area as rural and describes the slopes and ridgelines that surround the site to the northeast, north and west. (Ex. 200, p. 4.12-3 and Land Use Figure 3.) This topography blocks all but proximal views of the site from these directions. The AFC provides additional descriptions of the viewshed and of the relatively limited receptors with opportunity for views of the Project. (Ex. 1, Appendix 6.13-A, p. 6.13-A-2.)

Furthermore, the Assessment does quantify viewer numbers. The Assessment notes that three homes on the ridgeline located to the north of the Project site would have a view of the site. (Ex. 200, p. 4.12-3.) The viewers from these sites are the only residents with substantial views of the Project site. (Ex. 200, p. 4.12-11.) The Assessment also notes the amount of vehicles that travel along SR-76

each day, from which point motorists could potentially view parts of the Project: approximately 9439 vehicles per day. (Ex. 200, p. 4.12-8.)

The few nearby residences and the travelers on SR-76 are the primary receptors of concern due to their proximity to the Project and because these receptors constitute the vast majority of receptors with potential views of the Project. The Conditions of Certification also include mitigation measures, such as surface treatment of Project structures and buildings to minimize contrast with the Project's surroundings. (Ex. 200, pp. 4.12-17 through 4.12-19.) Condition of Certification **VIS-2** requires that the final landscape plan places screening vegetation at strategic locations to assure implementation of the screening requirements. (*See* Ex. 1, Appendix 2-A at Drawing L100; Ex. 200, pp. 4.12-18 and 4.12-19.)

These measures will almost completely mitigate visual impacts to all but a few residents to the north, and they will limit the visual effect of the Project to those few residents who have unobstructed views of the Project site. However, the residents with unobstructed views of the Project site also currently have views of other man-made features and disturbed areas, including the former gravel quarry, SDG&E substation and storage area, electrical transmission lines, and agricultural lands. (Ex. 1 p. 6.13-5.) In sum, we are satisfied that the Assessment adequately quantifies viewers and distances, and adequately explains how *flora* screening at the site contributes to the diminution of visual impacts.

DFI also contends that since eastbound motorists on SR-76 (KOP 1) have "views of the rural countryside and hills," these motorists are looking at a "scenic vista." However, this contention incorrectly assumes that "views of the rural countryside and hills" are the same as "scenic vistas." This is not necessarily true. As DFI noted in its letter, a scenic vista is "a distant view through and along a corridor or opening that exhibits a high degree of pictorial quality." (Ex. 200, p. 4.12-6.) Approximately 9,439 vehicles per day use SR-76. About half of these vehicles would be eastbound; therefore the number of viewers will be moderately low. Their duration of view will be moderately low, from 10 to 20 seconds, because the motorist will be focused on maneuvering the various curves in the highway. The overall visual sensitivity for motorists is considered moderately low from KOP 1. This assessment is the result of the moderately low visual quality, moderate viewer concern, and moderate overall viewer concern. (Ex. 200, p. 4.12-8)

The project would not block high quality or scenic views from key viewpoints in this general area. Vertical features would not intrude into the sky, but remain visually subordinate. Due to the moderate level of contrast, subordinate visual dominance, and low view blockage, overall visual change due to structures would be low to moderate. In the context of the setting's moderate visual sensitivity, and the moderate level of project visual change, the project's visual impact at KOP 1 would be adverse, but less-than-significant. (Ex. 200, p. 4.12-9)

To minimize visual impacts even further, staff has proposed Condition of Certification **VIS-1** which requires that all project features be colored to blend in with the existing landscape to the greatest extent feasible in accordance with a Surface Treatment Plan that would be approved by the Compliance Project Manager (CPM). SR-76 is not designated as a State Scenic Highway. (Ex. 200, p. 4.12-6.) Along most portions of SR-76, the Project site will be at least partially screened by existing tree canopy and terrain. (Ex. 200, p. 4.12-10.) The "prominent and striking" upper portions of the Project have the potential to draw viewers' attention toward the site, but only momentarily. (*Id.*) Furthermore, due to the curves in SR-76, the attention of motorists along that route tends to be drawn to the road rather than to their surroundings. (*Id*.) Thus, while some visual resources may be impacted as indicated by **DFI**, we believe that the impacts from the Project, after mitigation, will not be significant.

FINDINGS

Based on the uncontroverted evidence, we make the following findings and conclusions:

1. The scenic quality of the Project view shed is characterized by views of hills and mountains in the background and rural scenery, including agriculture, large plot residential, small communities, open spaces, and large-scale commercial-industrial facilities.

2. Project components that could affect visual resources include the sound walls, the turbine enclosures, the chiller system, the emission control system, and the demineralized water and raw water storage tanks.

3. The Project's potential visual impacts on the relevant viewshed were analyzed at three defined Key Observation Points (KOPs) at different locations surrounding the site.

4. Since there are no scenic vistas or scenic resources within the relevant view shed, the Project will not cause a significant visual impact to a scenic vista or scenic resource in the area.

5. The Project site is not located near a designated State Scenic Highway.

6. Short-term views of construction equipment and construction-related activities at the Project site and along the linear corridors will not result in significant visual impacts due to the temporary nature of the construction period.

7. The Project, as mitigated by the Conditions of Certification, will not create a significant visual impact to viewsheds at the KOPs.

8. The Project, as mitigated by the Conditions of Certification, will not substantially degrade the existing visual character or quality of the site and its surroundings.

9. The project, as mitigated by the Conditions of Certification, will not generate a significant new source of light or glare to nighttime or daytime views.

10. The Project will not create visible water vapor plumes during normal operation.

11. The Project, as mitigated by the Conditions of Certification, will not create nor contribute to the creation of significant adverse cumulative visual impacts.

CONCLUSIONS

We therefore conclude that, with implementation of the following Conditions of Certification, the Orange Grove Project will not result in any significant adverse direct, indirect, or cumulative impacts to visual resources. Moreover, implementation of the mitigation measures described in the evidentiary record and included in the Conditions of Certification, below, will ensure that the Orange Grove Project complies with all applicable laws, ordinances, regulations, and standards relating to visual resources.

CONDITIONS OF CERTIFICATION

SURFACE TREATMENT OF PROJECT STRUCTURES AND BUILDINGS

VIS-1 The project owner shall treat the surfaces of all project structures and buildings visible to the public such that a) their colors minimize visual intrusion and contrast by blending with the landscape; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. Surface color treatment shall include painting of sound walls, exhaust stacks, turbine inlet filters, and other features in an earth tone color and value to match the surrounding hillsides.

The project owner shall submit for CPM review and approval, a specific surface treatment plan that will satisfy these requirements. The treatment plan shall include:

1. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;
2. A list of each major project structure, building, tank, pipe, and wall; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;
3. One set of 11” x 17” color photo simulations at life size scale, of the treatment proposed for use on project structures, including structures treated during manufacture, from a representative point of view (Key Observation Point 1-location shown on Visual Resources Figure 1 of the Staff Assessment);
4. A specific schedule for completion of the treatment; and
5. A procedure to ensure proper treatment maintenance for the life of the project.
6. The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.

Verification: At least 90 days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to the County of San Diego or responsible jurisdiction for review and comment.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.

Prior to the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and are ready for inspection and shall submit one set of electronic color photographs from the same key observation points identified in (d) above.

The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

ADDITIONAL PERIMETER LANDSCAPE SCREENING

VIS-2 The project owner shall provide landscaping that reduces the visibility of the power plant structures in accordance with local policies. Englemann oaks shall be planted as shown in the conceptual landscaping plan in Drawing L100 of Appendix 2-A of the Application for Certification, and other vegetation consisting of informal groupings of native shrubs shall be strategically placed around the facility boundaries or other strategic locations. The objective shall be to create landscape screening of sufficient density and height to screen the power plant structures to the greatest feasible extent within the shortest feasible time and considering water conservation needs and fire protection; and to provide timely replacement for aging or diseased tree specimens on site in order to avoid future loss of existing visual screening.

The project owner shall submit to the CPM for review and approval and simultaneously to the County of San Diego for review and comment a landscaping plan whose proper implementation will satisfy these requirements. The plan shall include:

1. A detailed landscape, grading, and irrigation plan, at a reasonable scale. The plan shall demonstrate how the requirements stated above shall be met. The plan shall provide a detailed installation schedule demonstrating installation of as much of the landscaping as early in the construction process as is feasible in coordination with project construction, and plans for installing temporary, dark-colored opaque fencing around the staging areas during the construction period.
2. A list (prepared by a qualified professional arborist familiar with local growing conditions) of proposed species, specifying installation sizes, growth rates, expected time to maturity, expected size at five years and at maturity, spacing, number, availability, and

a discussion of the suitability of the plants for the site conditions and mitigation objectives, with the objective of providing the widest possible range of species from which to choose;

3. Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and
4. A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project.

The plan shall not be implemented until the project owner receives final approval from the CPM.

Verification: The landscaping plan shall be submitted to the CPM for review and approval and simultaneously to the County of San Diego for review and comment at least 90 days prior to installation.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM and simultaneously to the County of San Diego a revised plan for review and approval by the CPM.

The planting must occur during the first optimal planting season following site mobilization. The project owner shall simultaneously notify the CPM and the County of San Diego within seven days after completing installation of the landscaping, that the landscaping is ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead or dying vegetation, for the previous year of operation in each Annual Compliance Report.

TEMPORARY AND PERMANENT EXTERIOR LIGHTING

VIS-3 To the extent feasible, consistent with safety and security considerations, the project owner shall design and install all permanent exterior lighting such that a) lamps and reflectors are not visible from beyond the project site, including any off-site security buffer areas; b) lighting does not cause excessive reflected glare; c) direct lighting does not illuminate the nighttime sky; d) illumination of the project and its immediate vicinity is minimized, and e) the plan complies with local policies and ordinances.

The project owner shall submit to the CPM for review and approval and simultaneously to the County of San Diego for review and comment a lighting mitigation plan that includes the following:

1. Location and direction of light fixtures shall take the lighting mitigation requirements into account;
2. Lighting design shall consider setbacks of project features from the site boundary to aid in satisfying the lighting mitigation requirements;

3. Lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated;
4. Light fixtures that are visible from beyond the project boundary shall have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for security;
5. All lighting shall be of minimum necessary brightness consistent with operational safety and security; and
6. Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.

Verification: At least 90 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to discuss the documentation required in the lighting mitigation plan.

At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to the County of San Diego for review and comment a lighting mitigation plan.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.

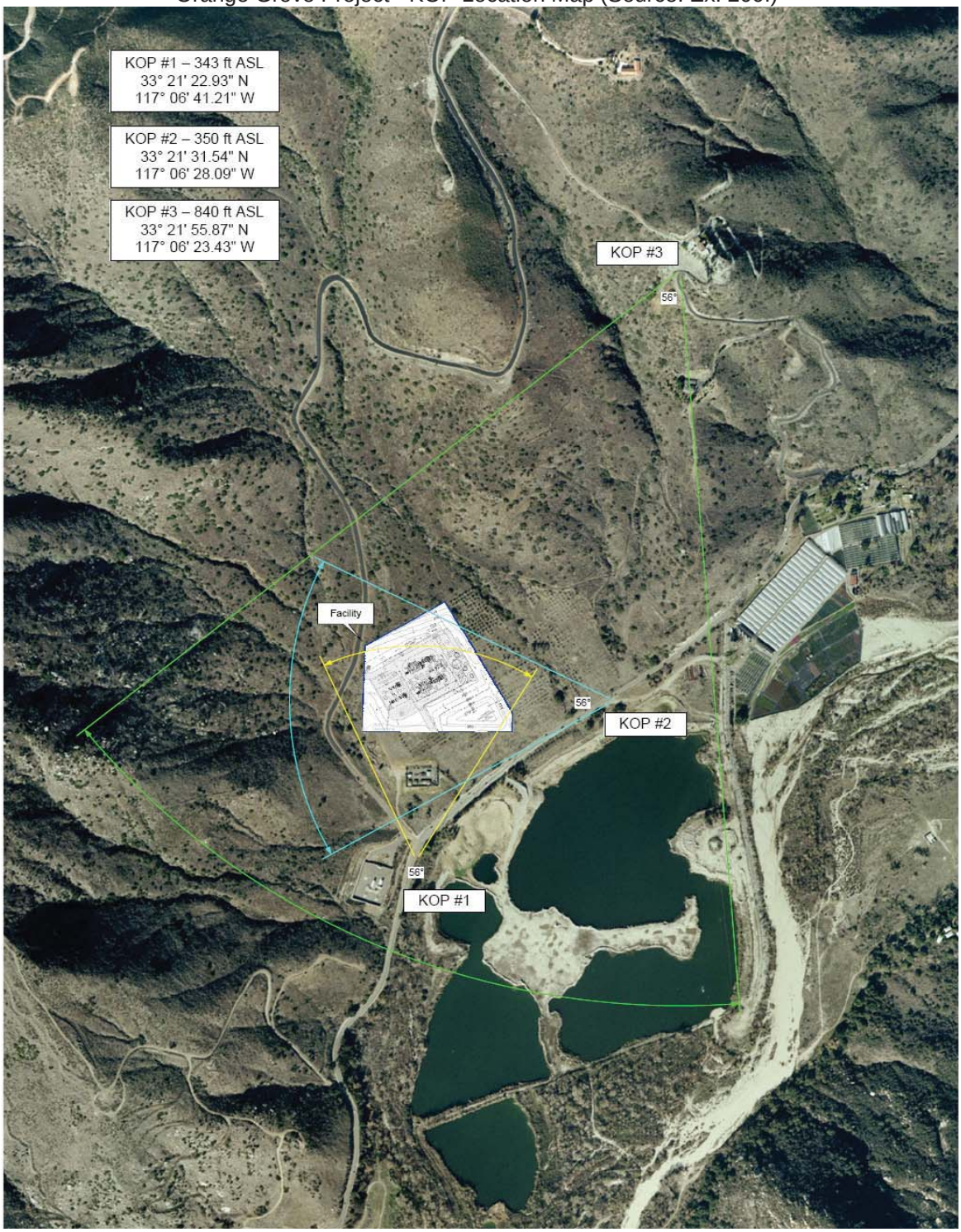
The project owner shall not order any exterior lighting until receiving CPM approval of the lighting mitigation plan.

Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection.

Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the **COMPLIANCE GENERAL CONDITIONS** including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 48 hours after completing implementation of the proposal. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days.

VISUAL RESOURCES - FIGURE 2

Orange Grove Project - KOP Location Map (Source: Ex. 200.)



Appendix A: *Laws, Ordinances, Regulations, and Standards*

Appendix B: *Exhibit List*

Appendix C: *Proof of Service List*

APPENDICES

AIR QUALITY

Applicable LORS	Description
Federal	
40 Code of Federal Regulations (CFR) Part 52	Nonattainment New Source Review (NSR) requires a permit and requires Best Available Control Technology (BACT) and offsets. Permitting and enforcement delegated to SDAPCD. Prevention of Significant Deterioration (PSD) requires major sources to obtain permits for attainment pollutants. A major source for a simple-cycle combustion turbine is defined as any one pollutant exceeding 250 tons per year. Since the emissions from OGP would not exceed 250 tons per year, PSD does not apply.
40 CFR Part 60 Subpart KKKK	New Source Performance Standard (NSPS) for gas turbines: 15 parts per million (ppm) NOx at 15% O_2 and fuel sulfur limit of 0.060 lb SOx per million Btu heat input. BACT is more restrictive.
40 CFR Part 70	Title V: federal permit. Title V permit application is required within one year of start of operation. Permitting and enforcement delegated to SDAPCD.
40 CFR Part 72	Acid Rain Program. Requires permit and obtaining sulfur oxides credits. Permitting and enforcement delegated to SDAPCD.
State	
Health and Safety Code (HSC) Section 40910-40930	Permitting of source needs to be consistent with Air Resource Board (ARB) approved Clean Air Plans.
HSC Section 41700	Restricts emissions that would cause nuisance or injury.
California Code of Regulations (CCR) Section 93115	Airborne Toxics Control Measure for Stationary Compression Ignition Engines. Limits the types of fuels allowed, established maximum emission rates, establishes recordkeeping requirements.
Local – San Diego Air Pollution Control District (SDAPCD) Rule and Regulations	
Regulation II – Permits	This regulation sets forth the regulatory framework of the application for and issuance of construction and operation permits for new, altered, and existing equipment. Included in these requirements are the federally delegated requirements for New Source Review, Title V Permits, and the Acid Rain Program. Regulation II Rule 20.1 and 20.3 establishes the pre-construction review requirements for new, modified, or

Applicable LORS	Description
	relocated facilities, in conformance with the federal New Source Review regulation to ensure that these facilities do not interfere with progress in attainment of the national ambient air quality standards and that future economic growth in the San Diego County is not unnecessarily restricted. This regulation establishes Best Available Control Technology (BACT) and emission offset requirements.
Regulation IV – Prohibitions	This regulation sets forth the restrictions for visible emissions, odor nuisance, various air emissions, and fuel contaminants. This regulation also specifies additional performance standards for stationary gas turbines and other internal combustion engines. However, for this project these provisions are less strict than the new source rule requirements of Regulation II.
Regulation X – Standards of Performance for New Stationary Sources	Regulation X incorporates provisions of 40 CFR Part 60, Chapter I, and is applicable to all new, modified, or reconstructed sources of air pollution. Sections of this federal regulation apply to stationary gas turbines (40 CFR Part 60 Subpart KKKK) as described above in the federal LORS description. These subparts establish limits of NO_2 and SO_2 emissions from the facility as well as monitoring and test method requirements. SDAPCD has not yet been delegated enforcement authority for this NSPS, but expects delegation later this year.
Regulation XI – National Emission Standards for Hazardous Air Pollutants	Regulation XI adopts federal standards for hazardous air pollutants (40 CFR Part 63) by reference. No such standards presently exist that would apply to the project.
Regulation XII – Toxic Air Contaminants – New Source Review	Regulation XII, Rule 1200, establishes the pre-construction review requirements for new, modified, or relocated sources of toxic air contaminant, including requirements for Toxics Best Available Control Technology (T-BACT) if the incremental project risk exceeds rule triggers.

Applicable LORS	Description
Regulation XIV – Title V Operating Permits	Regulation XIV, Rule 1401 defines the permit application and issuance as well as compliance requirements associated with the Title V federal permit program. Any new source which qualifies as a Title V facility must obtain a Title V permit within 12 months of starting operation modification of that source. Regulation II, Rule 1412 defines the requirements for the Acid Rain Program, including the requirement for a subject facility to obtain emission allowances for SOx emissions as well as monitoring SOx, NOx, and carbon dioxide (CO_2) emissions from the facility.

ALTERNATIVES

California Environmental Quality Act Criteria

The “Guidelines for Implementation of the California Environmental Quality Act,” Title 14, California Code of Regulation, Section 15126.6(a), provides direction by requiring an evaluation of the comparative merits of “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.” In addition, the analysis must address the “no project” alternative. [14 Cal. Code Regs., §15126.6(e).]

The range of alternatives is governed by the “rule of reason” which requires consideration only of those alternatives necessary to permit informed decision-making and public participation. CEQA states that an environmental document does not have to consider an alternative where the effect cannot be reasonably ascertained and whose implementation is remote and speculative. [14 Cal. Code Regs., §15126.6(f)(3).]

BIOLOGICAL RESOURCES

Applicable LORS	Description
Federal	
Clean Water Act (CWA) 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. The administering agency is the U.S. Army Corps of Engineers (USACE).
Endangered Species Act (ESA) 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 the protection of threatened and endangered plant and animal species and their critical habitat. The administering agency is the U.S. Fish and Wildlife Service (USFWS).
Migratory Bird Treaty Act	Title 16, United States Code, Sections 703 through 712, prohibit the taking of migratory birds, including nests with viable eggs. The administering agency is the USFWS.
Fish and Game Coordination Act	Title 16, United States Code, section 661 et seq. requires federal agencies to coordinate federal actions with the U.S. Fish and Wildlife Service (USFWS) to conserve fish and wildlife resources.
State	
California Endangered Species Act (CESA) of 1984	Fish and Game Code Sections 2050 through 2098 protect California's rare, threatened, and endangered species.
California Code of Regulations	California Code of Regulations Title 14, Division 1, Subdivision 3, Chapter 3, Sections 670.2 and 670.5, list plants and animals of California that are designated as rare, threatened, or endangered.
Fully Protected Species	Fish and Game Code Sections 3511, 4700, 5050, and 5515 prohibit the taking of animals that are classified as fully protected in California.
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 – Take, Possess, or Destroy	Fish and Game Code Section 3503.5 specifically protects California's birds of prey in the orders Falconiformes and Strigiformes by making it unlawful to take, possess, or destroy any such 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 non-game birds by making it unlawful to take or

Applicable LORS	Description
	possess any migratory non-game bird as designated in the Migratory Bird Treaty Act, or any part of such migratory non-game bird.
Natural Community Conservation Plan (NCCP) Act of 1991	This act includes provisions for protection and management of state-listed threatened or endangered plants and animals and their designated habitats.
Native Plant Protection Act of 1977	Fish and Game Code Sections 1900 et seq. designate rare, threatened, and endangered plants in the State of California.
Streambed Alteration Agreement	Fish and Game Code section 1600 et seq. requires the CDFG to review project impacts to waterways, including impacts to vegetation and wildlife from sediment, diversions, and other disturbances.
Clean Water Act	By federal law, every applicant for a federal permit or license for an activity which may result in a discharge into a California water body, including wetlands, must request a 401 certification from the Regional Water Quality Control Board so that the proposed activity will not violate state and federal water quality standards.
Local	
San Diego County General Plan – Open Space Element; Conservation Element and Community and Subregional Plans	Provides guiding principles for the conservation of biological resources, such as water, vegetation, and wildlife habitat.
Multiple Species Conservation Plan San Diego County Code Title 8, Div. 6, Ch 5: Biological Mitigation Ordinance Sec. 86.501	These ordinances protect the County's biological resources by guiding development outside of biological resource core areas, and by establishing mitigation standards for discretionary projects. Adoption and implementation of these ordinances enable the County of San Diego to achieve the conservation goals set forth in the Subarea Plan for the Multiple Species Conservation Plan (“MSCP”), adopted by the Board of Supervisors on October 22, 1997.

Applicable LORS	Description
NCCP Conservation and Process Guidelines	Documents comprising the NCCP Conservation and Process Guidelines include the Southern California Coastal Sage Scrub Natural Community Conservation Planning Conservation Guidelines and the Southern California Coastal Sage Scrub Natural Community Conservation Planning Process Guidelines, both dated November 1993, on file with the Clerk of the Board of Supervisors as Document No. 758984. These documents comprise the State's NCCP Conservation and Process Guidelines by the special rule promulgated by the U.S. Fish and Wildlife Service for the coastal California Gnatcatcher under Section 4(d) of the Endangered Species Act of 1973, published at Section 17.41(b) of Part 17, subchapter B of chapter I, Title 50 of the Code of Federal Regulations.
Habitat Loss Permit	This permit is issued by the Director of the San Diego Planning and Land Use or the Director of the San Diego Department of Public Works in connection with the issuance of a permit or approval authorizing the disturbance or removal of coastal sage scrub. Habitat Loss Permit Ordinance No. 9698 amends Section 86.101 San Diego County Code to authorize the Director of the Department of Public Works to issue Habitat Loss Permits in connection with the review of grading and improvement plans.

CULTURAL RESOURCES

Applicable LORS	Description
State	
Health and Safety Code, section 7050.5	Makes it a misdemeanor to disturb or remove human remains found outside a cemetery; also requires a project owner to halt construction if human remains are discovered and to contact the county coroner.
Public Resources Code 5097.98 (b) and (e)	Requires a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until he/she confers with the NAHC-identified Most Likely Descendents (MLDs) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to reinter the remains elsewhere on the property in a location not subject to further disturbance.
Local	
County of San Diego Resource Protection Ordinance (Ordinance No. 9842, County Code Chapter 6)	Requires that a resource protection study be performed to evaluate the potential for the project to impact cultural resources. Provides for protection of archaeological and historic resources within the County, and prohibits impacts to resources considered significant under the County guidelines.
Conservation Element of the San Diego County General Plan	Uses the Environmental Impact Report process to evaluate the potential impacts of proposed projects to cultural resources. Prohibits excavation of archaeological sites except by qualified archaeologists.
Zoning Ordinance, sections 5700-5749	Requires a landowner to submit a site plan concerning changes to historic resources to the County for approval.

FACILITY DESIGN

Applicable LORS	Description
Federal	Title 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health standards
State	2007 California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations)
Local	San Diego County regulations and ordinances
General	American National Standards Institute (ANSI) American Society of Mechanical Engineers (ASME) American Welding Society (AWS) American Society for Testing and Materials (ASTM)

GEOLOGY AND PALEONTOLOGY

Applicable LORS	Description
Federal	No federal LORS for geologic hazards and resources for this site.
State	
California Building Code (CBC), 2007	The CBC (2007) includes a series of standards that are used in project investigation, design, and construction (including grading and erosion control).
Alquist-Priolo Earthquake Fault Zoning Act, Public Resources Code (PRC), section 2621–2630	Mitigates against surface fault rupture of known active faults beneath occupied structures. Requires disclosure to potential buyers of existing real estate and a 50-foot setback for new occupied buildings. The site is not located within a designated Alquist-Priolo Fault Zone.
The Seismic Hazards Mapping Act, PRC Section 2690–2699	Areas are identified that are subject to the effects of strong ground shaking, such as liquefaction, landslides, tsunamis, and seiches.
PRC, Chapter 1.7, sections 5097.5 and 30244	Regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.
Warren-Alquist Act, PRC, sections 25527 and 25550.5(i)	The Warren-Alquist Act requires the Energy Commission to “give the greatest consideration to the need for protecting areas of critical environmental concern, including, but not limited to, unique and irreplaceable scientific, scenic, and educational wildlife habitats; unique historical, archaeological, and cultural sites…” With respect to paleontologic resources, the Energy Commission relies on guidelines from the Society for Vertebrate Paleontology, indicated below.
Society for Vertebrate Paleontology (SVP), 1995	The “Measures for Assessment and Mitigation of Adverse Impacts to Non-Renewable Paleontological Resources: Standard Procedures” is a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. The measures were adopted in October 1995 by the SVP, a national organization of professional scientists.
Local	
San Diego County Code of Regulatory Ordinances	Title 8, Division 7 establishes need for grading permit and requirements for clearing and grading.
San Diego County General Plan	Part V establishes policies to guide efforts to minimize risk from seismic, flooding, and other geologic hazards.

HAZARDOUS MATERIALS MANAGEMENT

Applicable LORS	Description
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 (42 USC §112(r)	Requires states to implement a comprehensive system informing 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.
49 CFR 172.800	The U.S. Department of Transportation (DOT) requirement that suppliers of hazardous materials prepare and implement security plans.
49 CFR Part 1572, Subparts A and B	Requires suppliers of hazardous materials to ensure that all their hazardous materials drivers are in compliance with personnel background security checks.
The Clean Water Act (CWA) (40 CFR 112)	Aims to prevent the discharge or threat of discharge of oil into navigable waters or adjoining shorelines. Requires a written spill prevention, control, and countermeasures (SPCC) plan to be prepared for facilities that store oil that could leak into navigable waters.
Title 49, Code of Federal Regulations, Part 190	Outlines gas pipeline safety program procedures.
Title 49, Code of Federal Regulations, Part 191	Addresses 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 DOT of any reportable incident by telephone and then submit a written report within 30 days.

Applicable LORS	Description
Title 49, Code of Federal Regulations, Part 192	Addresses transportation of natural and other gas by pipeline and minimum federal safety standards, specifies minimum safety requirements for pipelines including material selection, design requirements, and corrosion protection. The safety requirements for pipeline construction vary according to the population density and land use that characterize the surrounding land. This part also contains regulations governing pipeline construction (which must be followed for Class 2 and Class 3 pipelines) and the requirements for preparing a pipeline integrity management program.
Federal Register (6 CFR Part 27) interim final rule	A regulation of the U.S. Department of Homeland Security that requires facilities that use or store certain hazardous materials to submit information to the department so that a vulnerability assessment can be conducted to determine what certain specified security measures shall be implemented.
State	
Title 8, California Code of Regulations, section 5189	Requires facility owners to develop and implement effective safety management plans that 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 Risk Management Plan (RMP) process.
Title 8, California Code of Regulations, section 458 and sections 500 to 515	Sets forth requirements for the design, construction, and operation of vessels and equipment used to store and transfer ammonia. These sections generally codify the requirements of several industry codes, including the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, the American National Standards Institute (ANSI) K61.1 and the National Boiler and Pressure Vessel Inspection Code. These codes apply to anhydrous ammonia but are also used to design storage facilities for aqueous ammonia.
California Health and Safety Code, section 25531 to 25543.4	The California Accidental Release Program (CalARP) requires the preparation of a Risk Management Plan (RMP) and off-site consequence analysis (OCA) and submittal to the local Certified Unified Program Agency for approval.

Applicable LORS	Description
California Health and Safety Code, section 41700	Requires that “No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)	Prevents certain chemicals that cause cancer and reproductive toxicity from being discharged into sources of drinking water.
California Public Utilities Commission General Order 112-E and 58-A	Contains standards for gas piping construction and service.
Local	
San Diego County Code of Regulatory Ordinances, Title 6, Division 8, Chapter 11	Requirements for hazardous materials inventory and response plan.
	The Certified Unified Program Agency (CUPA) with the responsibility to review Risk Management Plans (RMPs) and Hazardous Materials Business Plans (HMBPs) is the San Diego County Department of Environmental Health (DEH), Hazardous Materials Division (HMD). With regard to seismic safety issues, the site is located in Seismic Risk Zone 4. Construction and design of buildings and vessels storing hazardous materials will meet the seismic requirements of the Uniform Building Code and the California Building Code (OGE 2008a Section 6.3.1.5.2).

LAND USE

Applicable LORS	Description
State	
California Land Conservation Act of 1965, SS 51200	Regulates agricultural preserve lands.
Local	**County of San Diego**
General Plan - Regional Land Use Element, Section 2.5	General Agriculture is the subject parcels' land use designation. The Regional Land Use Element (RLUE), Section 2.5 states that General Agriculture land use is "applied to areas where agricultural use is encouraged, protected and facilitated. This designation is intended to facilitate agricultural use as the dominant land use."
General Plan - Regional Land Use Element, Section 1.6	The proposed project site is designated as an Environmentally Constrained Area (ECA) in RLUE Section 1.6. An ECA includes "floodplains, lagoons, areas with construction quality sand deposits, rock quarries, agricultural preserves, areas containing rare and endangered plant and animal species".
General Plan - Conservation Element	Policy 2 in Chapter 6 of the Conservation Plan states that, "the County will analyze, improve and promote methods for preserving agriculture".
General Plan - Conservation Element	"The Conservation Element is for the conservation, development, and utilization of natural resources, including water and its hydraulic force, forests, soils, rivers, and other waters, harbors, fisheries, wildlife, minerals, and other natural resources." The conservation Plan identifies the planning area where the subject site is located as Resource Conservation Area and Unique Geologic Feature.
General Plan - Pala/Pauma Subregional Plan	Policies in this Plan are primarily concerned with urban sprawl and leapfrog development.

Applicable LORS	Description
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	Zoning for the proposed OGP site is A72 General Agricultural. Both parcels, APN 110-072-26 and APN 110-370-01, are zoned A72. **Section 2722** lists permitted uses in general agricultural zoning. Energy projects are permitted within this zoning with a Major Use Permit. **Section 2725** lists types of uses that would be permitted upon approval of Major Use Permit findings and includes Major Impact Services and Utilities.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 4200** regulates minimum lot area. According to the County's GIS property profile for APN 110-072-26 the minimum lot area is 10 acres.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 4300** regulates building type. The building type for each parcel is attached and detached.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 4600** regulates building height. The maximum permitted height of buildings is 35 feet and two stories for the two parcels.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 4620** provides exceptions to height limit restrictions. It states that "any structure for which a Major Use Permit is granted pursuant to other provisions of this ordinance, when the Major Use Permit authorizes an exemption to the height regulations" shall be exempt from the maximum height provisions of the applicable building designator.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 4800** regulates setbacks. The front-yard setback is 60 feet from any abutting public street or private thoroughfare. The interior side-yard setback is 15 feet as measured from the lot line. The exterior side-yard setback is 35 feet as measured from the centerline of the abutting street. The rear-yard setback is 25 feet as measured from the rear lot line. Where a rear yard opens onto an alley, public park, or other permanent open space, 1/2 of the width of such alley, public park, or other permanent open space, may be considered as applying to the rear yard setback to the extent of not more than 50% of the required rear yard setback.

Applicable LORS	Description
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 5100** regulates Agricultural Preserve Area (APA). The parcel has an Agricultural Preserve Area special regulation according the County's GIS property profile. **Section 5110** provides additional use permit findings for APA parcels.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 5500** regulates Flood Plain Area (FPA). The parcel is partially designated as FPA special regulation according to the County's GIS property profile. Buildings on such designated properties must be engineered to minimize impacts from flooding and stormwater runoff.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 6322** regulates commercial and industrial outdoor lighting.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 6700** regulates fences, walls, screening and landscaping.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 6750** regulates parking.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 6800** regulates enclosures. Enclosure means the degree that the storage and display of goods may be open and/or visible from public rights-of-way.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 6200 & 6250** regulates signs.
The Zoning Ordinance of San Diego County Ordinance No. 5281 (New Series)	**Section 7350** provides use permit procedures.

NOISE AND VIBRATION

Applicable LORS	Description
Federal	
Occupational Safety & Health Act (OSHA): 29 U.S.C. § 651 et seq.	Protects workers from the effects of occupational noise exposure. OSHA) 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.
U.S. Environmental Protection Agency (USEPA)	Assists state and local government entities in development of state and local LORS for noise.
The Federal Transit Administration (FTA)	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 vibrational decibel (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.

Applicable LORS	Description
State	
California Occupational Safety & Health Act (Cal-OSHA): 29 U.S.C. § 651 et seq., Cal. Code Regs., tit. 8, §§ 5095-5099	Protects workers from the effects of occupational noise exposure
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 of California, Office of Noise Control, prepared the Model Community Noise Control Ordinance, which provides guidance for acceptable noise levels in the absence of local noise standards. This model also defines a simple tone, or "pure tone," as 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 A-weighted decibels (dBA). The California Occupational Safety and Health Administration (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 federal OSHA standards
Local	
County of San Diego Code of Regulatory Ordinances, Title 3, Public Safety	Establishes acceptable noise level limits at various land uses; of primary concern herein are sensitive noise receptors. A sensitive noise receptor, also referred to as a noise-sensitive receptor, is a receptor at which there is a reasonable degree of sensitivity to noise (such as residences, schools, hospitals, elder care facilities, libraries, cemeteries, and places of worship). The noise standards are found in Chapter 4 of the County's Regulatory Ordinances. Section 36.404 establishes acceptable noise level limits for various land uses. According to this section, operational noise levels are limited to 45 dBA L_{eq} during the nighttime hours of 10:00 p.m. to 7:00 a.m. and 50 dBA L_{eq} during the daytime hours of 7:00 a.m. to 10:00 p.m., at any residential property. Section 36.410 limits noisy construction to the hours of 7:00 a.m. to 7:00 p.m. Mondays through Fridays and to no louder than 75 dBA L_{eq} at any property line with a legal dwelling unit.

POWER PLANT EFFICIENCY

No federal, state or local/county laws, ordinances, regulations, and standards apply to the efficiency of this project.

POWER PLANT RELIABILITY

Although no federal, state, or local/county LORS apply to the reliability of this project, recently adopted laws and regulations influence the project's operational requirements.

In September 2005, California AB 380 (Núñez, Chapter 367, Statutes of 2005) became law. This modification to the Public Utilities Code requires the California Public Utilities Commission to consult with the California ISO to establish resource adequacy requirements for all load-serving entities (basically, public and privately owned utility companies). These requirements include maintaining a minimum reserve margin (extra generating capacity to serve in times of equipment failure or unexpected demand) and maintaining sufficient local generating resources to satisfy the load-serving entity's peak demand and operating reserve requirements.

In order to fulfill this mandate, the California ISO has begun to establish specific criteria for each load-serving entity under its jurisdiction. These criteria guide each load-serving entity in deciding how much generating capacity and ancillary services to build or purchase, after which the load-serving entity issues power purchase agreements to satisfy these needs. Orange Grove acquired its power purchase agreement from San Diego Gas and Electric Company (SDG&E) as a result of SDG&E's plans to meet reliability requirements imposed by the California ISO.

PUBLIC HEALTH

Applicable LORS	Description
Federal	
Clean Air Act section 112 (Title 42, U.S. Code section 7412)	The National Emissions Standards for Hazardous Air Pollutants (NESHAP) 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.
State	
California Health and Safety Code section 25249.5 et seq. (Proposition 65)	These sections establish thresholds of exposure to carcinogenic substances above which Prop 65 exposure warnings are required.
California Health and Safety Code section 41700	This section states that “no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”
California Code of Regulations, Title 22, Section 60306	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.
California Public Resource Code section 25523(a); Title 20 California Code of Regulations (CCR) section 1752.5, 2300–2309 and Division 2 Chapter 5, Article 1, Appendix B, Part (1); California Clean Air Act, Health and Safety Code section 39650, et seq.	These regulations require a quantitative health risk assessment for new or modified sources, including power plants that emit one or more toxic air contaminants (TACs).

Applicable LORS	Description
Local	
San Diego Air Pollution Control District (SDCAPCD) Rule 51	This rule states that no source shall cause injury, detriment, nuisance or annoyance to the public, which could endanger their comfort, repose, health and safety, or property.
SDCAPCD Rule 1200	This rule requires the use of Best Available Control Technology for Toxics (T-BACT) for major sources of emissions.
SDCAPCD Rule 1210	This rule implements the California Airborne Toxic Control Measures (ATCM).

SOCIOECONOMICS

Applicable LORS	Description
California Education Code, Section 17620	The governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement for the purpose of funding the construction or reconstruction of school facilities.
California Government Code, Sections 65996-65997	Except for a fee, charge, dedication, or other requirement authorized under Section 17620 of the Education Code, state and local public agencies may not impose fees, charges, or other financial requirements to offset the cost for school facilities.

SOIL AND WATER

Applicable LORS	Description
Federal	
Title 33, United States Code (U.S.C.), section 1251 et seq. — Federal Water Pollution Control Act (commonly called the Clean Water Act)	The Clean Water Act (CWA) established a broad national program for protecting water quality and regulating discharges of waste and pollutants into waters of the United States. It provides authority for establishment of water quality standards and waste discharge limits for point source discharges (such as those from industrial facilities, sewage treatment plants, and storm water). The act also prohibits discharges of pollutants without a permit or other authorization and allows authorized states to implement provisions of the act in lieu of the United States Environmental Protection Agency (U.S. EPA). Key CWA provisions include: • Section 401 - Water Quality Certification requirement for federally permitted activities (such as construction) that may result in discharges to surface waters and wetlands. • Section 402 - National Pollutant Discharge Elimination System (NPDES) permit program for point source discharges (including storm water). • Section 404 – Permit program addressing discharges of dredge or fill materials into surface waters and wetlands. This section is implemented by the United States Army Corp of Engineers (U.S. ACE).
Title 42, U.S.C., section 6901, et seq. — Solid Waste Disposal Act of 1965 (as amended and revised by the Resource Conservation and Recovery Act of 1976, et al)	The Solid Waste Disposal Act, as amended and revised by the Resource Conservation and Recovery Act (RCRA), established requirements for the management of solid wastes (including hazardous wastes), landfills, underground storage tanks, and certain medical wastes. The law seeks to protect human health and the environment (including surface and groundwater) from improper management and disposal of waste and associated contaminants.
State	
California Constitution, Article 10, section 2, and California Water Code (CWC), section 100	These laws require that the water resources of the state be put to beneficial use to the fullest extent possible and that the waste, unreasonable use, or unreasonable method of use of water be prevented. The laws also require that conservation of such water be exercised with a view to the reasonable and beneficial use of the water in the interest of the people and for the public welfare.

Applicable LORS	Description
CWC, Division 7, section 13000 et seq. — Porter-Cologne Water Quality Control Act	The Porter-Cologne Water Quality Control Act (Porter-Cologne) was established to protect the water quality and beneficial uses of waters of the state. The law gives broad authority to the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) to establish water quality standards and waste discharge requirements, issue permits, and implement provisions of the federal Clean Water Act. Under Porter-Cologne, “waters of the state” include both surface and groundwaters.
CWC, section 13550	This section of Porter-Cologne establishes that the use of potable domestic water for non-potable uses (including industrial use) is a waste or an unreasonable use of the water if recycled water is available and meets the following conditions: the quality and quantity of the reclaimed water are suitable for the use; the cost is reasonable; the use is not detrimental to public health; and the use will not impact downstream users or biological resources.
CWC, section 13552.8	This section of Porter-Cologne allows any public agency to require the use of reclaimed water in cooling towers if reclaimed water is available and meets the requirements set forth in CWC section 13550; if there are no adverse impacts to any existing water right; and if appropriate mitigation or control is provided in the event that public exposure to cooling tower mist is possible.
Title 17, California Code of Regulations (CCR), Division 1, Chapter 5	This chapter of the CCR addresses the requirements for backflow prevention and cross connections of potable and non-potable water lines.
Title 22 , CCR, Division 4 — Environmental Health	The Environmental Health regulations address requirements for drinking water standards, water treatment and operator certification, and water recycling criteria (including tertiary treatment standards). The regulations are implemented by the California Department of Public Health (CDPH), formerly known as the California Department of Health Services.
Title 23, CCR, Division 3 — SWRCB and RWQCBs	These regulations implement provisions of the CWC and the Porter-Cologne Water Quality Control Act. Among other things, the regulations address water rights, implementation of the federal Clean Water Act, discharges to land, underground tanks, and waste discharge requirements/NPDES permits.

Applicable LORS	Description
SWRCB Water Quality Order No. 99-08-DWQ	The SWRCB regulates storm water discharges associated with construction projects to protect state waters. Under Order 99-08-DWQ, the SWRCB issued an NPDES General Permit No. CAS000002 for storm water discharges associated with construction activity affecting areas greater than or equal to one acre. Those subject to the order can qualify for the permit if they meet the criteria, prepare and implement an acceptable Storm Water Pollution Prevention Plan (SWPPP), and notify the SWRCB of planned construction with a Notice of Intent (NOI).
SWRCB Water Quality Order No. 97-03-DWQ	The SWRCB also regulates storm water discharges associated with the operation of certain industrial facilities. Order 97-03-DWQ established NPDES General Permit No. CAS000001 for storm water discharges from 10 general industrial facility categories, including steam electric generating facilities. As with the construction storm water general permit, facilities can qualify if they meet the criteria, prepare and implement an acceptable SWPPP, monitor and report as necessary, and submit an NOI to the SWRCB. Section E.5. of the General Permit also requires facility operators to comply with all local agency municipal storm water management programs developed to comply with NPDES permits issued to local agencies.
RWQCB, San Diego Region Order No. R9-2007-0001	The California Regional Water Quality Control Board (RWQCB), San Diego Region Order No. R9-2007-0001, issued on January 24, 2007, establishes NPDES Municipal Storm Water Permit No. CAS0108758 requirements for urban runoff in San Diego County. The county and city co-permittees are required to establish requirements within their jurisdictions to regulate discharges from municipal storm sewer systems into waters of the United States, as well as to develop and implement Urban Runoff Management Programs for the area. The San Diego County Watershed Protection Ordinance and Grading Ordinance have both been established and amended to be consistent with provisions of RWQCB Order No. R9-2007-001.

Applicable LORS	Description
Warren-Alquist Act, Public Resources Code section 25500 et seq.	This law gives the California Energy Commission authority to certify the construction and operation of thermal electric power plants 50 megawatts (MW) or larger. The Energy Commission certification is in lieu of any permit required by state, regional, or local agencies, and federal agencies to the extent permitted by federal law (Pub. Resources Code, section 25500). The Energy Commission must review power plant applications for certification to assess potential environmental and public health and safety impacts, potential measures to mitigate those impacts (Pub. Resources Code, section 25519), and compliance with applicable governmental laws and standards [Pub. Resources Code, section 25523(d)].
Local	
San Diego County Code of Regulatory Ordinances, Title 6 - Health and Sanitation, Division 8 - Sewage and Refuse Disposal, Chapter 3 - Septic Tanks and Seepage Pits (section 68.301 et seq.)	This ordinance establishes the requirements and standards for the design, installation, and maintenance of onsite wastewater treatment systems (OWTS), including septic tanks, leach lines, and seepage pits. CWC section 13282 allows RWQCBs to authorize local public agencies to issue permits and regulate OWTS. The San Diego County Department of Environmental Health is authorized to regulate OWTS throughout the county.
San Diego County Code of Regulatory Ordinances, Title 6, Division 7 – Water and Water Supplies, Chapter 8 – Watershed Protection, Storm Water Management and Discharge Control (section 67.801 et seq.).	This ordinance establishes requirements for watershed protection, storm water management and discharge control, and grading to protect water resources and improve water quality in San Diego County. The ordinances have been adopted in conformance with the requirements of the municipal storm water permit issued to San Diego County by the RWQCB.
San Diego County Code of Regulatory Ordinances, Title 8 – Zoning and Land Use Regulations, Division 7 – Excavation and Grading, Clearing and Watercourses (section 87.101 et seq.).	This ordinance establishes requirements for grading or clearing of properties in San Diego County. The ordinance includes requirements for erosion control and maintenance of drainage structures and protective devices, and also requires compliance with federal and state permits and plans addressing storm water management.

Applicable LORS	Description
State Policies and Guidance	
SWRCB Resolution No. 75-58 — Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling (adopted June 19, 1975).	This SWRCB policy specifically addresses the use of inland waters for power plant cooling. The policy states that 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. The policy establishes a general hierarchy for cooling water whereby the lowest quality water reasonably available is to be utilized for evaporative cooling processes. It also includes cooling water discharge prohibitions.
SWRCB Resolution No. 77-1	SWRCB No. 77-1 encourages and promotes reclaimed water use for non-potable purposes.
SWRCB Resolution 88-63 — Sources of Drinking Water Policy	This policy states that all surface and groundwaters of the state are considered to be suitable, or potentially suitable, for municipal or domestic water supply, and should be designated as such by the RWQCBs, with the exception of certain waters (such as contaminated sources or process wastewaters).
The 2003 California Energy Commission *Integrated Energy Policy Report (IEPR)*	The *2003 IEPR* was developed and adopted pursuant to Public Resources Code sections 25301 and 25302. It includes a water and wastewater policy stating that the Energy Commission will approve the use of fresh water for cooling purposes by power plants it licenses only where alternative water supply sources and alternative cooling technologies are shown to be “environmentally undesirable” or “economically unsound.” In addition, the policy states that the Energy Commission will also require that zero-liquid discharge technologies be used to manage project wastewater unless such technologies are shown to be “environmentally undesirable” or “economically unsound.”

TRANSMISSION LINE SAFETY AND NUISANCE

Applicable LORS	Description
Aviation Safety	
Federal	
Title 14, Part 77 of the Code of Federal Regulations (CFR),"Objects Affecting the Navigable Air Space"	Describes the criteria used to determine the need for a Federal Aviation Administration (FAA) "Notice of Proposed Construction or Alteration" in cases of potential obstruction hazards.
FAA Advisory Circular No. 70/7460-1G, " Proposed Construction and/or Alteration of Objects that May Affect the Navigation Space"	Addresses the need to file the "Notice of Proposed Construction or Alteration" (Form 7640) with the FAA in cases of potential for an obstruction hazard.
FAA Advisory Circular 70/460-1G, "Obstruction Marking and Lighting"	Describes the FAA standards for marking and lighting objects that may pose a navigation hazard as established using the criteria in Title 14, Part 77 of the CFR.
Interference with Radio Frequency Communication	
Federal	
Title 47, CFR, Section 15.2524, Federal Communications Commission (FCC)	Prohibits operation of devices that can interfere with radio-frequency communication.
State	
California Public Utilities Commission (CPUC) General Order 52 (GO-52)	Governs the construction and operation of power and communications lines to prevent or mitigate interference.
Audible Noise	
Local	
San Diego County Code of Regulatory Ordinances	Specifies the County's Noise Standards for the differing land uses.
Hazardous and Nuisance Shocks	
State	
Title 8, California Code of Regulations (CCR) Section 2700 et seq. "High Voltage Safety Orders"	Specifies requirements and minimum standards for safely installing, operating, working around, and maintaining electrical installations and equipment.
National Electrical Safety Code	Specifies grounding procedures to limit nuisance shocks. Also specifies minimum conductor ground clearances.

Applicable LORS	Description
Industry Standards	
Institute of Electrical and Electronics Engineers (IEEE) 1119, "IEEE Guide for Fence Safety Clearances in Electric-Supply Stations"	Specifies the guidelines for grounding-related practices within the right-of-way and substations.
Electric and Magnetic Fields	
State	
GO-128, CPUC. "Rules for Construction of Underground Electric Supply and Communication Systems".	Specifies requirements for safety for all persons engaged in construction, maintenance, operation or use of underground systems and to the general public.
CPUC Decision 93-11-013	Specifies CPUC requirements for reducing power frequency electric and magnetic fields.
Industry Standards	
American National Standards Institute (ANSI/IEEE) 644-1944 Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines	Specifies standard procedures for measuring electric and magnetic fields from an operating electric line.
Fire Hazards	
State	
14 CCR Sections 1250-1258, "Fire Prevention Standards for Electric Utilities"	Provides specific exemptions from electric pole and tower firebreak and conductor clearance standards and specifies when and where standards apply.

TRAFFIC AND TRANSPORTATION

Applicable LORS	Description
Federal	
Code of Federal Regulations (CFR) Title 14, Chapter 1, Part 77	Includes standards for determining obstructions in navigable airspace. Sets forth requirements for notice to the Federal Aviation Administration of certain proposed construction or alteration. Also, provides for aeronautical studies of obstructions to air navigation to determine their effect on the safe and efficient use of airspace.
Title 49, Subtitle B	Includes procedures and regulations pertaining to interstate and intrastate transport (includes hazardous materials program procedures), and provides safety measures for motor carriers and motor vehicles who operate on public highways.
State	
California Vehicle Code, Division 2, Chapter. 2.5, Div. 6, Chap. 7, Div. 13, Chap. 5, Div. 14.1, Chap. 1 & 2, Div. 14.8, Div. 15 California Streets and Highway Code, Division 1 & 2, Chapter 3 & Chapter 5.5	Includes regulations pertaining to licensing, size, weight and load of vehicles operated on highways, safe operation of vehicles, and the transportation of hazardous materials. Includes regulations for the care and protection of State and County highways, and provisions for the issuance of written permits.
Local	
San Diego County General Plan – Circulation Element. Guidelines for Determining Significance- Traffic and Transportation- Public Facilities Element	Objectives are to provide a guide for the provisions of a coordinated system of highway routes serving all sections of San Diego County, to help achieve efficiency and economy in this important field of public works, to facilitate the planning to meet and street and highway needs in subdivision and other land development programs and to inform the citizens of San Diego County of these plans. New development shall provide needed roadway expansion and improvements on-site to meet demand created by development, and to maintain a Level of Service C for on-site Circulation Element roads and D for off-site and on-site abutting Circulation Element roads during peak traffic hours.

TRANSMISSION SYSTEM ENGINEERING

Applicable LORS	Description
Federal	
NERC/WECC Planning Standards	The Western Electricity Coordinating Council (WECC) Planning Standards are merged with the North American Electric Reliability Council (NERC) Planning Standards and provide the system performance standards used in assessing the reliability of the interconnected system. These standards require the continuity of service to loads as the first priority and preservation of interconnected operation as a secondary priority. Certain aspects of the NERC/WECC standards are either more stringent or more specific than the NERC standards alone. These standards provide planning for electric systems so as to withstand the more probable forced and maintenance outage system contingencies at projected customer demand and anticipated electricity transfer levels, while continuing to operate reliably within equipment and electric system thermal, voltage and stability limits. These standards include the reliability criteria for system adequacy and security, system modeling data requirements, system protection and control, and system restoration. Analysis of the WECC system is based to a large degree on Section I.A of the standards, “NERC and WECC Planning Standards with Table I and WECC Disturbance-Performance Table” and on Section I.D, “NERC and WECC Standards for Voltage Support and Reactive Power”. These standards require that the results of power flow and stability simulations verify defined performance levels. Performance levels are defined by specifying the allowable variations in thermal loading, voltage and frequency, and loss of load that may occur on systems during various disturbances. Performance levels range from no significant adverse effects inside and outside a system area during a minor disturbance (loss of load or a single transmission element out of service) to a level that seeks to prevent system cascading and the subsequent blackout of islanded areas during a major disturbance (such as loss of multiple 500 kV lines along a common right of way, and/or multiple generators). While controlled loss of generation or load or system separation is permitted in certain circumstances, their uncontrolled loss is not permitted (WECC 2006).NERC Reliability Standards for the Bulk Electric Systems of North America provide national policies, standards, principles and guidelines to assure the adequacy and security of the electric transmission system. The NERC Reliability Standards provide for system performance levels under normal and contingency conditions. With regard to power flow and stability simulations, while these Reliability Standards are similar to NERC/WECC Standards, certain aspects of the NERC/WECC Standards are either more stringent or more specific than the

	NERC Standards for Transmission System Contingency Performance. The NERC Reliability Standards apply not only to interconnected system operation but also to individual service areas (NERC 2006).
State	
California Public Utilities Commission (CPUC) General Order 95 (GO-95)	"Rules for Overhead Electric Line Construction," formulates uniform requirements for construction of overhead lines. Compliance with this order ensures adequate service and safety to persons engaged in the construction, maintenance and operation or use of overhead electric lines and to the public in general.
California Public Utilities Commission General Order 128 (GO-128)	"Rules for Construction of Underground Electric Supply and Communications Systems," formulates uniform requirements and minimum standards to be used for underground supply systems to ensure adequate service and safety to persons engaged in the construction, maintenance and operation or use of underground electric lines and to the public in general.
California ISO Planning Standards and Guidelines	Assure the adequacy, security and reliability in the planning of the California ISO transmission grid facilities. The California ISO Grid Planning Standards incorporate the NERC/WECC and NERC Reliability Planning Standards. With regard to power flow and stability simulations, these Planning Standards are similar to the NERC/WECC or NERC Reliability Planning Standards for Transmission System Contingency Performance. However, the California ISO Standards also provide some additional requirements that are not found in the WECC/NERC or NERC Standards. The California ISO Standards apply to all participating transmission owners interconnecting to the California ISO controlled grid. They also apply when there are any impacts to the California ISO grid due to facilities interconnecting to adjacent controlled grids not operated by the California ISO (California ISO 2002a). California ISO/Federal Energy Regulatory Commission (FERC) Electric Tariff provides guidelines for construction of all transmission additions/upgrades (projects) within the California ISO controlled grid. The California ISO determines the "Need" for the proposed project where it will promote economic efficiency or maintain system reliability. The California ISO also determines the Cost Responsibility of the proposed project and provides an Operational Review of all facilities that are to be connected to the California ISO grid (California ISO 2007a).

Visual Resources

Applicable LORS	Description
Federal	
Transportation Equity Act for the 21st Century of 1998, and Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2005.	The project site does not involve federal managed lands, nor a recognized National Scenic Byway or All-American Road within its vicinity.
State	
California Streets and Highways Code, Sections 260 through 263 – Scenic Highways	Ensures the protection of highway corridors that reflect the State's natural scenic beauty.
Local	
San Diego County General Plan, adopted 12/3/79 Circulation/Scenic Highways Element	Encourages visual integration of projects of differing types or densities through the use of building setbacks, landscaped buffers, or other design features. Ensures that design reflects concerns about the preservation of viewsheds. Provides the San Diego Scenic Corridor Guidelines, designated corridors and streets. The project site is located along SR 76, and this stretch is not listed as a scenic route.
County of San Diego Zoning Ordinance (Ordinance 5281), adopted 12/19/78 Section 4000 and Zone A – Light Pollution Code - Part 6-General Regulations “GI” General Agricultural Zone, including sign requirements.	Provides site review requirements, and establishes performance standards for development projects including architectural design, landscaping, exterior lighting and outdoor storage. Requires that architectural design of structures and their materials and colors are visually harmonious with surrounding development and natural land forms. Includes requirements for placement of buildings and building heights. Regulates the design, character, location, number, type, quality of materials, size, illumination and maintenance of signs.

WASTE MANAGEMENT

Applicable LORS	Description
Federal	
Title 42, United States Code (U.S.C.), §§6901, et seq. Solid Waste Disposal Act of 1965 (as amended and revised by the Resource Conservation and Recovery Act of 1976, et al).	The Solid Waste Disposal Act, as amended and revised by the Resource Conservation and Recovery Act (RCRA) et al, establishes requirements for the management of solid wastes (including hazardous wastes), landfills, underground storage tanks, and certain medical wastes. The statute also addresses program administration, implementation and delegation to states, enforcement provisions and responsibilities, as well as research, training, and grant funding provisions. RCRA Subtitle C establishes provisions for the generation, storage, treatment, and disposal of hazardous waste, including requirements addressing: • Generator record keeping practices that identify quantities of hazardous wastes generated and their disposition; • Waste labeling practices and use of appropriate containers; • Use of a manifest when transporting wastes; • Submission of periodic reports to the United States Environmental Protection Agency (USEPA) or other authorized agency; and • Corrective action to remediate releases of hazardous waste and contamination associated with RCRA-regulated facilities. RCRA Subtitle D establishes provisions for the design and operation of solid waste landfills. RCRA is administered at the federal level by USEPA and its ten regional offices. The Pacific Southwest regional office (Region 9) implements USEPA programs in California, Nevada, Arizona, and Hawaii.
Title 42, U.S.C., §§ 9601, et seq. Comprehensive Environmental Response, Compensation and Liability Act	The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund, establishes authority and funding mechanisms for cleanup of uncontrolled or abandoned hazardous waste sites, as well as cleanup of accidents, spills, or emergency releases of pollutants and contaminants into the environment. Among other things, the statute addresses: • Reporting requirements for releases of hazardous substances; • Requirements for remedial action at closed or abandoned hazardous waste sites, and brownfields; • Liability of persons responsible for releases of hazardous substances or waste; and

	• Requirements for property owners/potential buyers to conduct “all appropriate inquiries” into previous ownership and uses of the property to 1) determine if hazardous substances have been or may have been released at the site, and 2) establish that the owner/buyer did not cause or contribute to the release. A Phase I Environmental Site Assessment is commonly used to satisfy CERCLA “all appropriate inquiries” requirements.
Title 40, Code of Federal Regulations (CFR), Subchapter I – Solid Wastes.	These regulations were established by USEPA to implement the provisions of the Solid Waste Disposal Act and RCRA (described above). Among other things, the regulations establish the criteria for classification of solid waste disposal facilities (landfills), hazardous waste characteristic criteria and regulatory thresholds, hazardous waste generator requirements, and requirements for management of used oil and universal wastes. • Part 246 addresses source separation for materials recovery guidelines. • Part 257 addresses the criteria for classification of solid waste disposal facilities and practices. • Part 258 addresses the criteria for municipal solid waste landfills. • Parts 260 through 279 address management of hazardous wastes, used oil, and universal wastes (i.e., batteries, mercury-containing equipment, and lamps). USEPA implements the regulations at the federal level. However, California is an authorized state so the regulations are implemented by state agencies and authorized local agencies in lieu of USEPA.
Title 49, CFR, Parts 172 and 173. Hazardous Materials Regulations	U.S. Department of Transportation established standards for transport of hazardous materials and hazardous wastes. The standards include requirements for labeling, packaging, and shipping of hazardous materials and hazardous wastes, as well as training requirements for personnel completing shipping papers and manifests. Section 172.205 specifically addresses use and preparation of hazardous waste manifests in accordance with Title 40, CFR, section 262.20.
State	
California Health and Safety Code (HSC), Chapter 6.5, §25100, et seq. Hazardous Waste Control Act of 1972, as amended.	This California law creates the framework under which hazardous wastes must be managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA program. It also provides for the designation of California-only hazardous wastes and development of standards (regulations) that are equal to or, in some cases, more stringent than federal requirements.

	The California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) administers and implements the provisions of the law at the state level. Certified Unified Program Agencies (CUPAs) implement some elements of the law at the local level.
Title 22, California Code of Regulations (CCR), Division 4.5. Environmental Health Standards for the Management of Hazardous Waste	These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. As with the federal requirements, waste generators must determine if their wastes are hazardous according to specified characteristics or lists of wastes. Hazardous waste generators must obtain identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Generator standards also include requirements for record keeping, reporting, packaging, and labeling. Additionally, while not a federal requirement, California requires that hazardous waste be transported by registered hazardous waste transporters. The standards addressed by Title 22, CFR include: • Identification and Listing of Hazardous Waste (Chapter 11, §§66261.1, et seq.) • Standards Applicable to Generators of Hazardous Waste (Chapter 12, §§66262.10, et seq.) • Standards Applicable to Transporters of Hazardous Waste (Chapter 13, §§66263.10, et seq.) • Standards for Universal Waste Management (Chapter 23, §§66273.1, et seq.) • Standards for the Management of Used Oil (Chapter 29, §§66279.1, et seq.) • Requirements for Units and Facilities Deemed to Have a Permit by Rule (Chapter 45, §§67450.1, et seq.) The Title 22 regulations are established and enforced at the state level by DTSC. Some generator standards are also enforced at the local level by CUPAs.
HSC, Chapter 6.11 §§25404 – 25404.9 Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)	The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the six environmental and emergency response programs listed below. • Aboveground Storage Tank Program • Business Plan Program • California Accidental Release Prevention (CalARP) Program • Hazardous Material Management Plan / Hazardous Material Inventory Statement Program

	• Hazardous Waste Generator / Tiered Permitting Program • Underground Storage Tank Program The state agencies responsible for these programs set the standards for their programs while local governments implement the standards. The local agencies implementing the Unified Program are known as Certified Unified Program Agencies (CUPAs). San Diego County Department of Environmental Health is the area CUPA. **Note:** The Waste Management analysis only considers application of the Hazardous Waste Generator/Tiered Permitting element of the Unified Program. Other elements of the Unified Program may be addressed in the Hazardous Materials and/or Worker Health and Safety analysis sections.
Title 27, CCR, Division 1, Subdivision 4, Chapter 1, §15100, et seq. Unified Hazardous Waste and Hazardous Materials Management Regulatory Program	While these regulations primarily address certification and implementation of the program by the local CUPAs, the regulations do contain specific reporting requirements for businesses. • Article 9 – Unified Program Standardized Forms and Formats (§§ 15400-15410). • Article 10 – Business Reporting to CUPAs (§§15600 – 15620).
Public Resources Code, Division 30, §40000, et seq. California Integrated Waste Management Act of 1989.	The California Integrated Waste Management Act of 1989 (as amended) establishes mandates and standards for management of solid waste. Among other things, the law includes provisions addressing solid waste source reduction and recycling, standards for design and construction of municipal landfills, and programs for county waste management plans and local implementation of solid waste requirements.
Title 14, CCR, Division 7, §17200, et seq. California Integrated Waste Management Board	These regulations further implement the provisions of the California Integrated Waste Management Act and set forth minimum standards for solid waste handling and disposal. The regulations include standards for solid waste management, as well as enforcement and program administration provisions. • Chapter 3 -- Minimum Standards for Solid Waste Handling and Disposal. • Chapter 3.5 – Standards for Handling and Disposal of Asbestos Containing Waste. • Chapter 7 – Special Waste Standards. • Chapter 8 – Used Oil Recycling Program. • Chapter 8.2 – Electronic Waste Recovery and Recycling
HSC, Division 20, Chapter 6.5, Article 11.9, §25244.12, et seq.	This law was enacted to expand the State's hazardous waste source reduction activities. Among other things, it establishes hazardous waste source reduction review, planning, and reporting requirements for businesses that routinely generate

Hazardous Waste Source Reduction and Management Review Act of 1989 (also known as SB 14).	more than 12,000 kilograms (~ 26,400 pounds) of hazardous waste in a designated reporting year. The review and planning elements are required to be done on a 4 year cycle, with a summary progress report due to DTSC every 4th year.
Title 22, CCR, §67100.1 et seq. Hazardous Waste Source Reduction and Management Review.	These regulations further clarify and implement the provisions of the Hazardous Waste Source Reduction and Management Review Act of 1989 (noted above). The regulations establish the specific review elements and reporting requirements to be completed by generators subject to the Act.
Local	
San Diego County Code of Regulatory Ordinances 9840 Sections 68.508 through 68.518	The County Code of Regulatory Ordinances relating to diversion of construction and demolition materials from landfill disposal.
San Diego County Integrated Waste Management Plan	Provides guidance for local management of solid waste and household hazardous waste (incorporates the County's Source Reduction and Recycling Elements, which detail means of reducing commercial and industrial sources of solid waste).
San Diego County Department of Environmental Health, Hazardous Material Division (HMD) various programs	HMD is the Certified Unified Program Agency (CUPA) for San Diego County that regulates and conducts inspections of businesses that handle hazardous materials, hazardous wastes, and/or have underground storage tanks. HMS programs include assistance with oversight on property re-development (i.e., brownfields); and voluntary or private oversight cleanup assistance.

WORKER SAFETY AND FIRE PROTECTION

Applicable LORS	Description
Federal	
Title 29 U.S. Code (USC) section 651 et seq (Occupational Safety and Health Act – OSHA of 1970)	This act mandates safety requirements in the workplace with the purpose of "[assuring] so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources" (29 USC § 651).
Title 29 Code of Federal Regulation (CFR) sections 1910.1 to 1910.1500 (OSHA Regulations)	These sections 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.
29 CFR sections 1952.170 to 1952.175	These sections provide federal approval of California's plan for enforcement of its own Safety and Health requirements, in lieu of most of the federal requirements found in 29 CFR sections 1910.1 to 1910.1500.
State	
Title 8 California Code of Regulations (Cal Code Regs.) all applicable sections (Cal/OSHA regulations)	These sections require that all employers follow these regulations as they pertain to the work involved. This includes regulations pertaining to safety matters during construction, commissioning, and operations of power plants, as well as safety around electrical components, fire safety, and hazardous materials use, storage, and handling.
24 Cal Code Regs. section 3, et seq.	This section incorporates the current addition of the Uniform Building Code.
Health and Safety Code section 25500, et seq.	This section presents Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at a facility.
Health and Safety Code sections 25500 to 25541	These sections require a Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at a facility.
Local (or locally enforced)	
California Fire Code	The fire code contains general provisions for fire safety, including requirements for proper storage and handling of hazardous materials and listing of the information needed by emergency response personnel. Enforced by the North County Fire Protection District.

County Fire Code – San Diego County Code of Regulatory Ordinances, Title 3, Division 5, Chapter 3	Ensures that all industrial facilities comply with rules and regulations regarding flammable materials and other fire hazards.
National Fire Protection Association (NFPA) standards	These standards provide specifications and requirements for fire safety, including the design, installation, and maintenance of fire protection equipment. Enforced by the North County Fire Protection District.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
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APPLICATION FOR CERTIFICATION FOR THE ***ORANGE GROVE POWER PLANT PROJECT***	**DOCKET NO. 08-AFC-4**

EXHIBIT LIST

APPLICANT'S EXHIBITS

EXHIBIT 1 Application for Certification, Orange Grove Project Application for Certification; dated June 2008, and docketed on June 19, 2008. Topics: All Topics. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 39:4-5.)

EXHIBIT 2 Supplement to the Application for Certification – Orange Grove Project; dated July 2008, and docketed July 9, 2008. Topics: Biological Resources; Generation Facility Description, Design, and Operation; Water Resources. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 44:2-5.)

EXHIBIT 3 Withdrawn by Applicant on 12/1/08.

EXHIBIT 4 Circulation Element Draft and Agency E-Mail Contacts; dated June 30, 2008. Not docketed. Topics: Traffic and Transportation. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 156:5-7.)

EXHIBIT 5 E-mail from Joe Stenger to Jim Adams Regarding Orange Grove Water Trucks; dated July 24, 2008. Not docketed. Topics: Traffic and Transportation Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 156:5-7.)

EXHIBIT 6 Grading Permit Application for the Orange Grove Project; dated August 26, 2008, and docketed September 5, 2008. Topics: Generation Facility Description, Design, and Operation. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 89:7-8.)

EXHIBIT 7 Orange Grove Project Responses to Data Requests 1-73; dated August 29, 2008, and docketed August 29, 2008. Topics: Air Quality; Alternatives Analysis; Biological Resources; Cultural Resources; Generation Facility Description, Design, and Operation; Hazardous Materials Handling; Public Health; Socioeconomics; Soil and Water Resources; Transmission System Design, Safety and Nuisance; Waste Management; Worker Safety and Fire Protection. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 44:2-5.)

EXHIBIT 8 Axle Count and Daily Classification Report, E-mailed to CEC Staff on September 2, 2008, and dated March 15, 2008 and March 20, 2008. Topics: Traffic and Transportation. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 156:5-7.)

EXHIBIT 9 E-Mail from Joe Stenger to Jim Adams Regarding SR 76 California Legal Advisory Route; dated September 3, 2008. Not docketed. Topics: Traffic and Transportation. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 156:5-7.)

EXHIBIT 10 Orange Grove Energy AFC – Responses to Data Requests from the September 11, 2008 Workshop and Other Data Requests; dated October 1, 2008, and docketed October 1, 2008. Topics: Air Quality; Biological Resources; Cultural Resources; Hazardous Materials Handling; Soil Resources; Transmission Line Safety and Nuisance; Waste Management; Water Resources; Worker Safety. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 44:3-5.)

EXHIBIT 11 Withdrawn by Applicant on 12/1/08. (12/19/08 RT 157:5-7.)

EXHIBIT 12 Cumulative Air Quality Impact Assessment; dated October 2008, and docketed October 17, 2008. Topic: Air Quality. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 62:6-8.)

EXHIBIT 13 E-mail from E. Back to M. Moreno Regarding Orange Grove HLP; dated October 21, 2008, and docketed October 27, 2008. Topics: Biological Resources. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 44:3-5.)

EXHIBIT 14 E-mail from J. Stenger to J. Adams Regarding Orange Grove Energy Initial Water Hauling; dated October 24, 2008, and docketed October 24, 2008. Topic: Water Resources Sponsored

by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 89:8-11.)

EXHIBIT 15 Letter-Report Geoarchaeological Investigation for the Orange Grove Project Gas Pipeline; dated October 30, 2008 and docketed along with Orange Grove Energy's Status Report on November 4, 2008. Topic: Cultural Resources. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 45:12-13.)

EXHIBIT 16 (reserved by Applicant, but not used and therefore not received)

EXHIBIT 17 Orange Grove Energy, L.P. Comments to the Orange Grove Project Preliminary Determination of Compliance; dated November 6, 2008 and docketed November 14, 2008. Topic: Air Quality. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 62:6-8.)

EXHIBIT 18 Witness Declarations and Resumes; docketed November 18, 2008. Sponsored by Applicant.

a) Declaration of Michael Jones, Stephen Thome, and Joseph Stenger, regarding Executive Summary/Project Description, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 38: 22-23, 39:4-5.)

b) Declaration of Doug Murray, regarding Air Quality, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 62:6-8.)

c) Declaration of Elisha Back, dated November, 17, 2008, H. Ceri Williams-Dodd and dated November, 18, 2008 regarding Biological Resources. Sponsored by Applicant; received into evidence on _ December 19, 2008. (12/19/08 RT 44:3-5.)

d) Declaration of Thomas Jackson, Wendy Tinsley, and Joseph Stenger, regarding Cultural Resources, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 45:12-13.)

e) Declaration of Todd Stanford and Joseph Stenger, regarding Hazardous Materials, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 57:17-19.)

f) Declaration of Robert Prohaska and Joseph Stenger, regarding Land Use, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 46:1.)

g) Declaration of Robert Mantey, regarding Noise and Vibration, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 58:13-14.)

h) Declaration of Doug Murray and Karen Vetrano, regarding Public Health, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 46:18-19.)

i) Declaration of Joseph Stenger, regarding Socioeconomic Resources, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 47:9.)

j) Declaration of Joseph Stenger and Michael Jones, dated November, 17, 2008, and Joseph Bondank, dated November, 18, 2008, regarding Soil and Water Resources. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 89:9-11.)

k) Declaration of Ruth Davis and, Joseph Stenger, regarding Traffic and Transportation, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 156:5-7.)

l) Declaration of Joseph Stenger, regarding Visual Resources, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 48:12-13.)

m) Declaration of Joseph Stenger, regarding Waste Management, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 48:20-21, 49:5.)

n) Declaration of Joseph Stenger and Michael Jones, dated November, 17, 2008, regarding Worker Safety. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 49: 19.)

o) Declaration of Michael Jones, dated November, 17, 2008, Joseph Bondank, dated November, 18, 2008, and Ronald

Thomas, dated November, 16, 2008, regarding Engineering Assessment: Facility Design, Power Plant Efficiency, Power Plant Reliability, and Transmission System Engineering. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 50:7-8.)

p) Declaration of Joseph Stenger, regarding Engineering Assessment: Geology and Paleontology, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 50:23-24.)

q) Declaration of Michael Jones, Stephen Thome, and Joseph Stenger, regarding Alternatives, dated November, 17, 2008. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 53:24, 54:1-3.)

r) Declaration of Joseph Stenger and Michael Jones dated November, 17, 2008, regarding Conditions of Certifications. Sponsored by Applicant; received into evidence on December 19, 2008. (12/19/08 RT 54:17-21.)

EXHIBIT 19 Withdrawn December 19, 2008. (12/19/08 RT 54:14-16.)

EXHIBIT 20 Habitat Loss Permit Status, filed with Orange Grove's Prehearing Conference Statement, dated and docketed November 25, 2008. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 44:3-5.)

EXHIBIT 21 Water Truck Speed Along SR-76, filed with Orange Grove's Prehearing Conference Statement, dated and docketed November 25, 2008. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 156:6-7.)

EXHIBIT 22 Letter on Setback from Riparian Area, filed with Orange Grove's Prehearing Conference Statement, dated and docketed November 25, 2008. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 44:4-5.)

EXHIBIT 23 Orange Grove Energy's Supplemental Reply Testimony of Richard Jones and Joseph Stenger On Soil and Water Resources; dated December 1, 2008 and docketed December 1, 2008. Topic: Soil and Water Resources. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 89:9-11.)

EXHIBIT 24 Site Layout Plan, Orange Grove Project; filed with Orange Grove's Prehearing Conference Statement; dated and docketed November 25, 2008. Topic: Engineering Assessment: Facility Design, Power Plant Efficiency, Power Plant Reliability, Transmission System Engineering. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 50:7-8.)

EXHIBIT 25 Reserved by Applicant, but not used therefore not received.

EXHIBIT 26 Reserved by Applicant, but not used therefore not received.

EXHIBITS 27 through 49 reserved by Applicant, but not used therefore not received.

EXHIBIT 50 Caltrans – Comments on Orange Grove Project; dated August 13, 2008, and docketed August 15, 2008. Topics: Transmission Line Safety and Nuisance; Engineering Assessment: Facility Design, Power Plant Efficiency, Power Plant Reliability, Transmission System Engineering. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 53:11-15.)

EXHIBIT 51 California Regional Water Quality Control Board, San Diego Region – Comments on the Application for Certification for the Orange Grove Power Plant Project, California Energy Commission; dated August 26, 2008, and docketed September 5, 2008. Topics: Soil and Water Resources; Engineering Assessment: Facility Design, Power Plant Efficiency, Power Plant Reliability, Transmission System Engineering. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 89:9-10.)

EXHIBIT 52 Rainbow Municipal Water District - Comments on Orange Grove Project; dated August 27, 2008, and docketed September 5, 2008. Topic: Soil and Water Resources. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 89:10-11.)

EXHIBIT 53 United States Fish and Wildlife Service - Comments on the Orange Grove Project Biological Report; dated September 3, 2008, and docketed September 10, 2008. Topic: Biological Resources. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 44:4-5.)

EXHIBIT 54 Mercy Medical Transportation, Inc. - Letter Regarding EMS Services, Orange Grove Project; dated September 6, 2008, and docketed September 10, 2008. Topic: Worker Safety. Sponsored

by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 49:18-19.)

EXHIBIT 55 Meeting with the U.S. Fish and Wildlife Service and the CA Department of Fish and Game Agenda; dated September 18, 2008, and docketed September 10, 2008. Topic: Biological Resources. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 44:4-5.)

EXHIBIT 56 E-mail from Michael Porter of Regional Water Quality Control Board, San Diego, to Cheryl Closson Regarding Orange Grove Power Plant Project in Northern San Diego County; dated October 3, 2008, and docketed October 22, 2008. Topic: Soil and Water Resources. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 89:10-11.)

EXHIBIT 57 Reserved by Applicant, but not used therefore not received.

EXHIBIT 58 Reserved by Applicant, but not used therefore not received.

EXHIBIT 59 Letter from SDG&E Regarding Clarifying Mitigation for Transmission System Upgrades; dated November 19, 2008, and docketed November 19, 2008. Topic: Biological Resources. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 44:4-5.)

EXHIBIT 60 San Diego Air Pollution Control District Final Determination of Compliance, Orange Grove Project; dated December 4, 2008, and docketed December 4, 2008. Topic: Air Quality. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 62:8.)

EXHIBIT 61 Orange Grove Energy Project Water Haul Routes, dated December 19, 2008. Topic: Traffic and Transportation. Sponsored by Applicant, and received into evidence on December 19, 2008. (12/19/08 RT 156:6-7.)

EXHIBITS 62 Reserved by Applicant, but not used therefore not received.

EXHIBIT 63 Testimony of Richard Jones Regarding Land Use. Sponsored by Applicant, and received into evidence on March 16, 2009. (3/16/09 RT)

EXHIBIT 64 Testimony of Joseph Stenger Regarding Soil and Water Resources. Sponsored by Applicant, and received into evidence on March 16, 2009. (3/16/09 RT)

EXHIBIT 65 Applicant's comments to the Presiding Member's Proposed Decision. Sponsored by Applicant, received into evidence on March 16, 2009. (3/16/09 RT)

EXHIBIT 66 Testimony of Joseph Stenger Regarding Traffic and Transportation. Sponsored by Applicant, and received into evidence on March 16, 2009. (3/16/09 RT)

ENERGY COMMISSION STAFF'S EXHIBITS

EXHIBIT 200 Amended Staff Assessment, dated December 2008, and docketed December 11, 2008. Sponsored by Staff; received into evidence on December 19, 2008. (12/19/08 RT 182:17-18.)

EXHIBIT 201 Documents in support of stipulation to allow Will Walters to testify by telephone. Sponsored by Staff; received into evidence on December 19, 2008. (12/19/08 RT 182:17-18.)

EXHIBIT 202 New Condition **TRANS-4** Language. December 19, 2008. (12/19/08 RT 189:4-10.)

EXHIBIT 203 Staff's response to Committee's Questions and Comments on Presiding Member's Proposed Decision. Sponsored by Staff, received into evidence on on March 16, 2009. (3/16/09 RT)

EXHIBIT 204 Declaration of Suzanne L. Phinney. Sponsored by Staff, received into evidence on March 16, 2009. (3/16/09 RT)

EXHIBIT 205 Declaration of Felicia Miller. Sponsored by Staff, received into evidence on March 16, 2009. (3/16/09 RT)

EXHIBIT 206 Letter dated January 7, 2009 from County of San Diego to Stephen Thome regarding Subdivision Map Act. Sponsored by Staff, received into evidence on March 16, 2009. (3/16/09 RT)

EXHIBIT 207 Declaration of James Adams. Sponsored by Staff, received into evidence on March 16, 2009. (3/16/09 RT)

EXHIBIT 208 Declaration of Robert Morris and Order No. 91-39 Waste Discharge Requirements for Fallbrook Sanitary Distritct by the California Regional Water Quality Control Board, San Diego Region and.

Addendum Nos. 1-3 to Order 91-39. Sponsored by Staff, received into evidence on March 16, 2009. (3/16/09 RT)

EXHIBIT 209 Declaration of Jared Babula. Sponsored by Staff, received into evidence on March 16, 2009. (3/16/09 RT)

EXHIBIT 210 Staff's comments and corrections to the Presiding Member's Proposed Decision. Sponsored by Staff, received into evidence on March 16, 2009. (3/16/09 RT)

INTERVENOR ANTHONY ARAND'S EXHIBITS

EXHIBIT 300 Eight page document consisting of a table of Estimated Emissions for the Granite Asphalt Plant; a two page letter from Intervenor Arand to Felicia Miller regarding air issues, dated November 26, 2008; Comparison of Sycamore Landfill and Gregory Canyon PM10s; RMWD Sewer Plant air data; a table entitled Housing Projects Total, and a single page letter from Intervenor Arand to Felicia Miller regarding his professional qualifications**.** Not offered nor received.

INTERVENOR ALLIANCE FOR A CLEANER TOMORROW'S EXHIBITS

None

INTERVENOR ARCHIE D. MCPHEE'S EXHIBITS

EXHIBIT 500 Eight page document consisting of a Prehearing Conference Statement, a Stipulation, a Financial Hardship Petition, a three page letter signed by Archie McPhee, dated November 23, 2008; a sheet entitled "Attachments" and a sheet containing a table from page 6.5-8 of the Orange Grove Application for Certification regarding the FPUD Reclaimed Water Quality Chemistry Profile for 2006 and 2007. WITHDRAWN

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
ORANGE GROVE POWER PLANT PROJECT

DOCKET NO. 08-AFC -4
PROOF OF SERVICE

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DECLARATION OF SERVICE

I, _____, declare that on _____, I served and filed copies of the attached _____, dated _____. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: **[www.energy.ca.gov/sitingcases/orangegrovepeaker]**. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

_____sent electronically to all email addresses on the Proof of Service list;

_____by personal delivery or by depositing in the United States mail at _____ with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

_____sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

_____depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-4
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

_____