CALIFORNIA
ENERGY
COMMISSION

CANYON POWER PLANT

Application For Certification (07-AFC-9)
Orange County

PRESIDING MEMBER'S
PROPOSED DECISION

FEBRUARY 2010
(07-AFC-9)
CEC-800-2010-001-PMPD

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CALIFORNIA ENERGY COMMISSION

1516 9th Street
Sacramento, CA 95814
www.energy.ca.gov/sitingcases/canyon/index.html

JEFFREY BYRON
Presiding Committee Member

PAUL KRAMER
Hearing Officer

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

I hereby submit the Presiding Member's Proposed Decision for the ***CANYON POWER PLANT PROJECT*** (Docket Number 07-AFC-9). I have prepared this document pursuant to the requirements set forth in the Commission's regulations. (20 Cal. Code Regs., §§ 1749-1752.5.)

I recommend that the Application for Certification be approved, subject to the Conditions of Certification set forth herein, and that the Energy Commission grant the Project Owner a license to construct and operate the Project.

Dated: February 10, 2010, at Sacramento, California.

JEFFREY D. BYRON
Commissioner and Presiding Committee Member
Canyon AFC Committee

Exhibit 201

DOCKET
07-AFC-9
DATE
RECD. MAR 09 2010

AIR QUALITY ADDENDUM/ERRATA

Testimony of William Walters P.E

CORRECTIONS/REVISIONS TO THE AIR QUALITY TESTIMONY

Southern California Public Power Authority (SCPPA), the Canyon Power Plant (CPP), project applicant, has requested a revision to a portion of Staff Condition of Certification **AQ-SC3** (subpart I.) and has noted that a correction is necessary to the verification for District Condition of Certification **AQ-16**. Staff agrees that considering the nature of the project site (small site footprint with limited onsite traffic mileage) that their request to revise the frequency for the onsite paved road sweeping is reasonable and would not adversely impact air quality emissions during construction. Staff also agrees with the requested correction to the staff's verification of District condition **AQ-16**. The recommended revision and correction are provided below in underline and strikethrough.

Staff Condition Revision

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.

A. All unpaved roads and disturbed areas in the project and linear 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.

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

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

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

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

F. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.

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

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

I. All paved roads within the construction site shall be swept once ~~at least twice~~ daily (or less during periods of precipitation, or more often as determined necessary by the AQCMM as conditions warrant) on days when construction activity occurs to prevent the accumulation of dirt and debris.

J. At least the first 500 feet of any public roadway exiting from the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or runoff from the construction site is visible on the public roadways.

K. 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.

L. All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions from the material 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.

M. 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.

N. SCAQMD Rule 403 required mitigation measures shall apply when they are more stringent than measures a) through m).

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.

District Condition Verification Correction

AQ-16 The 5 ppmv NH_3 emission limit(s) is averaged over 60 minutes at 15 percent O_2, dry basis. The project owner shall calculate and continuously record the NH_3 slip concentration using the following equation.

District Requirement

NH_3 (ppmv) = [a–b*c/1E6]*1E6/b; where

a = NH_3 injection rate (lbs/hr)/17(lbs/lbs-mol)

b = dry exhaust gas flow rate (scf/hr)/385.3 (scf/lbs-mol)

c = change in measured NOx across the SCR (ppmvd at 15 percent O_2)

The project owner shall install and maintain a NOx analyzer to measure the SCR inlet NOx ppmv accurate to plus or minus 5 percent calibrated at least once every twelve months.

The NOx analyzer shall be installed and operated within 90 days of initial start-up.

The project owner shall use the above described method or another alternative method approved by the District's Executive Officer.

The ammonia slip calculation procedures described above shall not be used for compliance determination or emission information without corroborative data using an approved reference method for the determination of ammonia.

[RULE 1303(a)(1) – BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: C4, C10, C16, C22]

Verification: The project owner shall include ammonia slip concentrations averaged on an hourly basis as part of the Quarterly Operation Report (**AQ-SC10**). The project owner shall submit all SCR inlet NOx analyzer calibration results to the CPM within 60 days of the calibration date. Exceedances of the ammonia limit shall be reported and chronic exceedances of the ammonia slip limit, defined as occurring more than 10 percent of the operation for any single ~~HRSG~~ turbine exhaust stack, shall be identified by the project owner and confirmed by the CPM within 60 days of the submitted Quarterly Operation Report (**AQ-SC10**) that indicates chronic exceedances. If a chronic exceedance is identified and confirmed, the project owner shall work in conjunction with the CPM to develop a reasonable compliance plan to investigate and redress the chronic exceedance of the ammonia slip limit within 60 days of the above confirmation.

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INTRODUCTION

A. SUMMARY OF THE DECISION

This Decision contains the Commission's rationale in determining that the proposed Canyon Power Plant (CPP) will, as mitigated, have no significant impacts on the environment and complies with all applicable laws, ordinances, regulations, and standards (LORS). The project may therefore be licensed. This Decision is based exclusively upon the record established during this certification proceeding and summarized in this document. We have independently evaluated the evidence, provided references to the record[1] supporting our findings and conclusions, and specified the measures required to ensure that the CPP is designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

On December 28, 2007, Southern California Public Power Authority (the Applicant) submitted an Application for Certification (AFC) for the Canyon Power Plant (CPP), a 200-megawatt (MW) simple-cycle electric generating facility proposed in the city of Anaheim, Orange County. The facility would be located at 3071 East Miraloma Avenue on a 10-acre parcel located within an industrial area. The Los Angeles Basin in which the proposed site is located is bordered by mountain ranges to the north, east, and south, with the Palos Verde Peninsula and coastline to the west. (Ex. 200, p. 3-1.) The area within 5 miles of the project site has a gradual east-west slope, with the terrain rising sharply to the north and east approximately 6 miles from the site where the Chino Hills and Santa Ana Mountains begin. (*Id*.) The Energy Commission has exclusive jurisdiction to license this project and is considering the proposal under a twelve-month review process established by Public Resources Code, section 25540.6.

The CPP is a nominal 200-MW simple-cycle generating facility configured using four General Electric LM 6000PC Sprint combustion turbine units equipped with inlet air evaporative coolers, a mechanical-draft cooling tower, step up transformers, buried electric transmission lines, air emissions control equipment, an aqueous ammonia storage tank, and two water storage tanks. The facility also includes a new natural gas pipeline, a reclaimed water supply pipeline, a

[1] The Reporter's Transcript of the evidentiary hearings is cited as "date of hearing RT page __." For example: 11/02/09 RT 77. 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.

connection to Anaheim's potable water supply, a connection to Orange County's Sanitation District's (OCSD) sewer system, and a connection to Anaheim's storm water drainage system. The plant's air pollution emission controls include water injection for the combustion turbines, a selective catalytic reduction system (SCR) to control oxides of nitrogen (NO_X) emissions, and an oxidation catalyst system to control carbon monoxide (CO) and volatile organic compound (VOC) emissions.

The CPP would interconnect with two existing transmission lines via four new underground transmission cables which will exit the project site from a new on-site 69 kilovolt (kV) switchyard. Natural gas for the project will be supplied from a new 12-inch, 3,400-foot-long natural gas pipeline to be owned and maintained by SoCal Gas Company.

The primary source of process water for the project will be reclaimed water supplied from Orange County Water District's and OCSD's joint groundwater replenishment system. Municipal water will be used as a backup water supply. The Applicant projects that it will take approximately 12 months to construct the power plant.

There will be an average of approximately 145 daily construction workers. The peak construction labor force would be 225 daily construction workers during the fifth month of construction.

CPP is expected to require a total of nine permanent full-time employees for operations, of which seven would be existing workers (five generation technicians, one generation manager, and one office specialist) from the Anaheim Peaking Plant and two would be new hires (one operations and maintenance supervisor and one generation technician). (Ex. 200, p. 4.8-8 to 4.8-9).

Applicant estimates capital costs associated with the project to be approximately $174 million. (Ex. 200, p. 4.8-13.) No significant impacts to the study area population or employment base would result from proposed project operation.

B. SITE CERTIFICATION PROCESS

The CPP and its related facilities are subject to Energy Commission licensing jurisdiction. (Pub. Res. Code, § 25500 et seq.). During licensing 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 when the required information is submitted in a timely manner; a license 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, the Energy Commission conducts a comprehensive examination of a project's potential economic, public health and safety, reliability, engineering, and environmental ramifications.

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 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 analytic information, it appoints a Committee of two Commissioners to conduct the formal licensing 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 a 30-day public comment period. Staff's responses to public comment on the PSA and its complete analyses and recommendations are published in the Final Staff Assessment (FSA, also Exhibit 200).

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 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 in the case, or other persons with an interest in the case, 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 review

process and specify the occurrence of certain procedural events in which the public may participate. The key procedural events that occurred in the present case are summarized below.

On December 28, 2007, Southern California Public Power Authority (the Applicant) submitted an Application for Certification (AFC) for the Canyon Power Plant (CPP), a 200-megawatt (MW) simple-cycle electric generating facility proposed in the city of Anaheim, Orange County. The CPP is a nominal 200-MW simple-cycle generating facility configured using four General Electric LM 6000PC Sprint combustion turbine units equipped with inlet air evaporative coolers, a mechanical-draft cooling tower, step up transformers, buried electric transmission lines, air emissions control equipment, an aqueous ammonia storage tank, and two water storage tanks.

On March 12, 2008, the Energy Commission deemed the AFC data adequate (sufficient data to proceed) and assigned a Committee of two Commissioners to conduct proceedings.

The formal parties included the Applicant and the Energy Commission staff (Staff). There were no Intervenors in this proceeding.

On March 20, 2008, the Committee issued a Notice of "Informational Hearing and Site Visit". The Notice was mailed to local agencies and 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 CPP. The Public Adviser's Office (PAO) mailed letters (bilingual, English and Spanish) notifying these entities of the Informational Hearing and Site Visit for the project. The PAO also identified and similarly notified local officials with jurisdiction in the project area. The PAO placed a notice in *The Orange County Register* for April 6, 9, and 12, 2008. Additionally a notice was placed in *The Excelsior*, the Spanish-language weekly publication of the Orange County Register.

On Tuesday, April 15, 2008, the Committee conducted a Site Visit to tour the proposed CPP Project site and then convened a public Informational Hearing at the Anaheim City Hall. At that event, the Committee, the parties, interested governmental agencies, and other public participants discussed issues related to development of the CPP, described the Commission's review process, and explained opportunities for public participation. On April 25, 2008, the Committee issued the Scheduling Order for the proceedings.

In the course of the review process, Staff conducted a public workshop on June 13, 2008, to discuss with the Applicant, governmental agencies, and interested members of the public, the resolution of issues and concerns.

Staff issued its Preliminary Staff Assessment (PSA) on May 7, 2009 and on May 21, 2009, conducted a joint public workshop in Anaheim, California, with the South Coast Air Quality Management District, to discuss the topics of Air quality, greenhouse gases, and public health topics. Staff issued its Final Staff Assessment (FSA) on October 8, 2009.

On October 13, 2009, the Committee issued a Notice of Prehearing Conference and Evidentiary Hearing. The conference and hearing were held at the Energy Commission headquarters in Sacramento, on Monday, November 2, 2009.

The Committee published this PMPD on February 10, 2010, and will conduct a Committee Conference in Sacramento at Commission Headquarters on Monday, March 8, 2010. At the hearing, the parties may comment on the PMPD. The 30-day comment period on the PMPD will expire on February 10, 2010. Written comments should be submitted by March 10, 2010. A Notice of Availability was published in a general circulation publication specific to the area.

D. PUBLIC COMMENT

The record contains public comments from concerned individuals and organizations. Throughout these proceedings, as reflected in the transcribed record, the Committee provided an opportunity for public comment at each Committee-sponsored conference and hearing. Cynthia Verdugo Peralta and Jerald Cole offered public comments at the Evidentiary Hearing. Their comments are discussed in the P**roject Alternatives** section of this document.

I. PROJECT DESCRIPTION AND PURPOSE

The Southern California Public Power Authority (SCPPA) filed an Application for Certification (AFC) for the Canyon Power Plant on December 28, 2007. The project will be owned by SCPPA and operated by the City of Anaheim. (11/02/09 RT 51 - 52.) The project and laydown area are located on a 10 acre parcel at 3071 East Miraloma Avenue in Anaheim. (See **Project Description, Figure 1**.) Land uses in the project area are mainly industrial. (Ex. 200, pp. 3-1 to 3-2.) The primary access point will be at the southeast corner of the property off East Miraloma Avenue.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence presented was uncontested. (11/02/09 RT 7, 52 – 55, 92 – 93; Exs. 1, § 1.0 and 2.0; 3; 4; 5; 6; 7; 13; 28; 38; 40; 52; 75; 200, § 3.)

The plant is a nominal 200 MW peaking power plant using four simple cycle natural gas-fired General Electric LM6000 PC SPRINT combustion turbine generators (CTG). Each CTG will have a mechanical inlet air chiller. This will provide additional quick-start peaking generation capacity to support local demand and meet resource adequacy requirements. (Ex. 200, p. 3.1.) Each CTG may operate nearly 1,100 hours per year, for a total facility operation of up to 4,320 annual machine hours. (11/02/09 RT 24 – 25.)

Project construction is expected to take 12 months. Depending upon when construction is initiated, the Canyon Project could begin commercial operation by December 2010. There will be an average daily construction workforce of approximately 145, with a peak daily workforce of 225 during the fifth month of construction. Project operation will require nine full-time employees, two of whom will be additions to the existing staff. (Ex. 200, p. 4.8-12.) Capital costs are about $174 million. (Ex. 200, p. 4.8-14.)

1. Project Objectives

The evidence of record identifies the project objectives as:

- To construct and operate a nominal 200 MW, natural gas-fired, simple cycle generating facility specifically designed to serve electricity demand in the City of Anaheim;

- To develop a site consistent with community planning at a location that is supported by the local community;
- To site the proposed project with ready access to natural gas and transmission interconnections;
- To safely produce electricity without creating significant environmental impacts;
- To reduce reliance on out-of-state imported energy;
- To provide a back-up for as-available wind energy; and
- To build new generation that requires minimal additional project-specific transmission system upgrades (Ex. 200, p. 3.1).

2. Power Plant Features

The major equipment and facilities include the following:

- General Electric LM6000 PC SPRINT combustion turbines with inlet chillers;
- A four cell mechanical-draft cooling tower;
- Step up transformers;
- Electrical switchyard;
- Air emissions control equipment;
- Aqueous ammonia storage tank;
- Water storage tanks; and
- Underground utility lines (electrical transmission lines, natural gas pipeline, potable and fire water pipelines, sewer pipeline, and a reclaimed water pipeline). (Ex. 200, p. 3.2.)

The project will utilize water injection to control nitrogen oxides (NO_x) emissions and for power augmentation. A Selective Catalytic Reactor system (SCR) and associated support equipment will be used for further NO_x control. An oxidation catalyst will also be provided for carbon monoxide (CO) control. Plant auxiliary equipment includes a packaged chilled water system with associated heating, ventilation, and air conditioning (HVAC), a four-chambered cooling tower, and SCR emission control systems necessary to meet the proposed emission limits.

NO_x emissions will be controlled to 2.3 parts per million by volume, dry (ppmvd) basis corrected to 15 percent oxygen by a combination of water injection in the CTGs and SCR systems in the exhaust stack transition. CO will be controlled to 4 ppmvd at 15 percent oxygen in the CTG combustors with an oxidation catalyst system. Volatile organic compound (VOC) emissions will be controlled to 2 ppmvd at 15 percent oxygen. (Exs. 38; 40; 52; 200, p. 3-3.)

3. Associated Facilities

Transmission. The project will include generator step-up transformers and an on-site 69 kilovolt (kV) switchyard interconnecting with two existing transmission lines. Underground 69-kV cables will connect from the step-up transformers to the on-site switchyard. There will be four new underground 69-kV circuits leaving the site. Two will proceed approximately 100 feet underneath and to the south side of East Miraloma Avenue to resurface and connect to the existing 69-kV overhead Vermont-Yorba lines via two new transition structures. The second two 69-kV underground circuits will proceed eastward approximately 4,000 feet on East Miraloma Avenue, turn south on Miller, then proceed approximately 3,000 feet to connect to the Dowling-Yorba 69-kV line at East La Palma Avenue. (Ex. 200, p. 3-3.)

Gas Supply. The project will obtain gas from a new 12-inch, 3,240-foot-long pipeline owned and maintained by SoCalGas Company. The pipeline will be connected to on-site fuel gas compressors. From the site, this new pipeline will run approximately 580 feet east on East Miraloma Avenue to Kraemer Boulevard, then north 2,660 feet to connect into SoCalGas' line L-1218 on East Orangethorpe Avenue. *(Id.)*

Water Supply. The Canyon power plant will require up to 650 acre feet of water per year. The primary source of process water will be reclaimed water supplied from the Orange County Groundwater Replenishment System (GWRS) via a new 2,185-foot-long, 14-inch pipeline utilizing a new off-site booster pump station. The water pipeline will run east of the site on the north side of East Miraloma Avenue for 1,850 feet to the new pumping station. The line will then proceed north 210 feet, then 125 feet easterly, to connect to the GWRS recycled water line on the western side of the Carbon Canyon Diversion Channel. (See **Project Description, Figure 2**; Ex. 200, p. 3-4.)

Water Discharge. Oily wastewater will be directed to a wastewater oil-water separator. (Exs. 38, 40, 52.) Equipment areas that may contain oily residue will

be located within concrete spill-containment berms that also drain to the oil-water separator. Blowdown from the chillers, reject water from reverse osmosis, and domestic sanitary wastewater do not contain oil and will not go to the oil-water separator. (Ex. 52.) Wastewater will be combined to discharge into the Orange County Sanitation District (OCSD) sewer system connection on East Miraloma Avenue.

Underground 2,000-gallon-capacity water wash tanks will be provided to collect and store CTG solvent-based wastewater. Hazardous wastewater will be temporarily stored on-site, transported off-site by licensed hazardous waste haulers, and recycled or disposed at facilities in accordance with established standards applicable to generators of hazardous waste (Cal. Code of Regs., tit. 22, §§ 66262.10 et seq.). When the cleaning solution is not hazardous but instead contains a biodegradable detergent, the waste will be sent directly to the sanitary sewer**.** (11/02/09 RT 53 – 55.)

Stormwater from the site that has the potential to come into contact with plant equipment will flow through an underground piping system to an underground multi-chamber treatment device that removes sediment, coarse materials, and oil from the water before being directed to an underground percolation vault. Stormwater that does not come into contact with plant equipment will flow directly into the underground percolation vault. The percolation vault will include an overflow outlet and pipe to allow stormwater in excess of the 25-year storm event to flow to the municipal storm drain system. (Ex. 200, p. 3-4.)

4. Facility Closure

The project will likely remain “as-is” for temporary, short-term project closures. In the event of a hazardous materials release, procedures identified in the emergency Risk Management Plan will apply. These may include draining and disposing of on-site chemicals if appropriate. (Ex. 200, p. 3-5.)

The Canyon Project will be designed for a 30-year operating life but, if economically viable, could operate longer. Nevertheless, at some point in the future, the project will cease operation and shut down. It will then be necessary to ensure that the closure occurs in a manner that protects public health and safety and is environmentally acceptable.

One year prior to a planned closure, the project owner will submit to the Energy Commission a specific decommissioning plan which includes:

- Identification, discussion, and scheduling of the proposed decommissioning activities to include the power plant, applicable transmission lines, and other pertinent facilities constructed as part of the project.

- Description of the measures to be taken that will ensure the safe shutdown and decommissioning of all equipment, including the draining and cleaning of all tanks and the removal of any hazardous waste.

- Identification of all applicable LORS in effect at the time, and an explanation of how the specific decommissioning will be accomplished in accordance with the LORS.

- Notification of state and local agencies, including the Energy Commission.

- Reuse of the land will probably be encouraged in this case, as opposed to taking additional land for future industrial or commercial purposes. If the plant site is to return to its natural state, the specific decommissioning plan will include the removal of all aboveground and underground objects and material, as well as an erosion control plan that is consistent with sound land management practices.

FINDINGS OF FACT

Based on the evidence, we find as follows:

1. The Southern California Public Power Authority will own the Canyon power plant. The City of Anaheim will operate the plant.

2. The Canyon Project involves the construction and operation of a nominal 200 MW natural gas-fired, simple cycle peaking electrical generating facility in the City of Anaheim. The project site and associated construction laydown area will occupy approximately 10 acres of land.

3. The project includes associated transmission, gas supply, and water supply lines.

4. The project and its objectives are adequately described by the relevant documents contained in the record.

<u>CONCLUSION OF LAW</u>

1. We therefore conclude that the Canyon 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.

PROJECT DESCRIPTION - FIGURE 1
Canyon Power Project - Existing & Proposed Aerial Views of CPP Facility

Existing

Proposed

SOURCE: Ex. 200

PROJECT DESCRIPTION - FIGURE 2

Canyon Power Project - Site and Linear Facilities Location Map

SOURCE: Ex. 200

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 meet the basic objectives of the proposed project but would avoid or substantially lessen potentially significant environmental impacts.[2] [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*.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Objectives

The project objectives include:

- Provide 200MW of quick start, peak load generation;
- Assist the City of Anaheim (COA) to increase peak demand capacity reserves as required under AB 380 and by the California Independent System Operator (California ISO);
- Develop a site consistent with the goals and policies of the community planning documents;
- To site the project in close proximity to natural gas and electrical interconnection infrastructure in order to achieve economic viability;
- Safely produce electricity without creating significant environmental impacts;
- Reduce COA's current reliance on out of state electricity; and
- Provide a reliable backup system for intermittent wind and solar energy.

[2] Public Resources Code section 25540.6(b) requires an Applicant for a power plant such as the CPP, which is otherwise exempt from the notice of intention process, to include information on the site selection criteria, alternative sites, and the reasons for choosing the proposed site. Section 1765 of the Commission's regulations further requires the parties to present evidence on alternative sites and facilities. Based on the totality of the record and as reflected in our findings for each of the technical topics, the mitigated CPP will not result in any significant adverse effects on the environment.

2. Alternative Sites

The Applicant identified nine alternative sites in the AFC. (Ex. 1, p. 5-3.) These sites were selected by the City of Anaheim's (COA) consultant, URS, in two siting studies conducted in 2003 and 2006. We agree with Staff that Applicant's identified alternatives describe a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain most of the basic objectives of the project but could avoid or substantially lessen any of the significant effects of the project." (Cal. Code Regs., tit. 14 §15126.6[a].) In the FSA, Staff selected five of Applicant's alternative sites and referred to those as site numbers 1, 2, 3, 6, and 7, in order to preserve consistency with the COA's siting studies. (Ex. 200, p. 6-3.) To minimize confusion we will retain that numbering for purposes of this Decision.

The AFC sets forth Applicant's nine alternative sites in Alternatives Table 5.4-1, which we reproduce below:

TABLE 5.4-1
ALTERNATIVE SITE LOCATIONS

Site Number	***Site Name***	***Site Location***
1	Maintenance Yard	Near Vermont Avenue and East Street
2	Metal Site	Along the south side of SR 91, east of Kraemer Boulevard.
3	OCWD Site	North of the 91 Freeway, west of Richfield Road
4	Disney Parking Lot	At the intersection of Katella Avenue and Haster Street
5	San Farrel	At 3000 La Jolla Street
6	Dowling and CT	At Dowling Substation and existing combustion turbine site, at Kraemer Boulevard and Coronado Street
7	Lewis Street	Near the intersection of Lewis Street and Cerritos Avenue
8	Car Lot Site	At La Palma Avenue and Yorba Linda Boulevard
9	OC Food Services	Along East Miraloma Avenue, west of Kraemer Boulevard

(Source: Ex. 1.)

a. Site 1

Site 1 has reasonable access to the necessary infrastructure and appears devoid of any biological resources, as is the proposed project. It is closer to sensitive receptors including schools and residences than the proposed site. Therefore, locating the project

at this site would not avoid or reduce any significant impacts. As a result, we find that Site 1 is not a preferred alternative to the proposed project site.

b. Site 2

Site 2 is an existing industrial use facility (metal recycling, lumber yard and rail car area) that has reasonable access to the necessary infrastructure. Applicant states in the AFC that the site does pose a potential for adverse impacts to biological resources due to its close proximity to the Santa Ana River. No such impacts were identified for the proposed site. As a result this site is not a preferred alternative to the proposed project site.

c. Site 3

Site 3 has reasonable access to infrastructure systems and potentially enough buildable land on its southern boundary. Site 3 is zoned conservation/water uses and is surrounded by water and park uses on three sides, including a ground water recharge basin and the Santa Anna River. The established zoning fails to meet the screening criteria. The surrounding uses would also be impacted from locating the proposed project at Site 3. For example, impacts to visual resources would be greater at Site 3 because of the scenic viewpoints available at the surrounding recreation areas. Additionally the proposed project, if located at Site 3, would potentially cause significant impacts to the ambient noise level at Site 3 because the conservation area and park setting of Site 3 is conducive to ambient noise levels that are lower than that of the industrial setting of the proposed site. The site is also within a State designated scenic highway corridor (State Route 91). Considering the above factors, Site 3 is not a preferred alternative to the proposed project site.

d. Site 6

Site 6 is the Dowling substation and includes the COA Utilities Department's existing peaking combustion turbine (a General Electric LM5000 combustion turbine) generation facility. The site has compatible zoning for the proposed project and no biological resources are present on site. All utilities are at the site, but one necessary pipeline connection is one-half mile away. Siting the proposed project at this site would require replacing the existing LM 5000 with the four new General Electric LM6000PC Sprint gas turbines (LM6000s). It would also require the acquisition and relocation of Anaheim Fire Station No. 5 and the parcel used by Walton's Pool Supplies (Walton's).

Replacing the LM5000 with the proposed project's more efficient LM6000s would reduce the emission of criteria air pollutants on a per MW/h basis. However, use of Site

6 would result in the elimination of 45MW of existing capacity and result in the CPP failing to achieve its project objective to develop 200MW of additional reserve capacity. Although, under CEQA (Cal. Code Regs., tit. 14, §15126.6[a]) an alternative is reasonable if it can achieve "most" of the basic project objectives, due to the uncertainty of the economic costs of relocating the fire station, potential negative affects to emergency response times, and the uncertainty of Walton's willingness to relocate or sell its business, we find that Site 6 is not a reasonable alternative to the proposed project site.

e. Site 7

Site 7 has sufficient acreage. However, some of the infrastructure connections are up to two and one-half miles away. Immediately north of this site is a ministry facility which also provides temporary housing for up to 50 people and is therefore considered a sensitive receptor. As a result of the proximity to sensitive receptors, this site is not a preferred alternative to the proposed project site. (Ex. 1, pp. 5-3 to 5-4; Ex. 200, pp. 6-3 to 6-5.)

3. Alternative Generation Technologies

The Applicant and Staff also considered alternatives to the proposed electrical generation technology. The primary project objective is to provide fast start, peak demand, reserve, electrical supply capacity to the COA. In the FSA, Staff relied upon the following screening criteria in considering the various technology alternatives:

- **Commercially Available and Reliable.** The technology must be proven to be commercially available and reliable for use in an on-demand "peaking generation facility".
- **Implementable.** The technology must be a practicable application for the project while reducing the environmental impacts beyond that of the proposed project.
- **Cost Effective.** The technology must be obtainable at a reasonable pass-through cost to ratepayers. (Ex. 200, p. 6-5)

Alternative technologies considered for the project included oil and natural gas, coal, nuclear, water, biomass, municipal, solid waste, and solar. Use of combined-cycle technology, rather than the proposed simple-cycle, was also considered. The evidence shows that Staff gave thorough consideration to each technology alternative. In each case, the alternative under consideration either required a resource not available in the project area (hydro, geothermal), required an amount of space not available in the project area (solar thermal, photovoltaic), was intermittent in nature and therefore would

not meet the project objective of availability on demand (solar, wind), were not cost-effective in a peaking scenario (nuclear, coal, oil, biomass), or had greater air quality impacts than the proposed project (OTSG, biomass).

We call out combined cycle technology for further discussion because two public commentors argued that the project should be constructed as a combined cycle, rather than the simple-cycle, generator proposed by the applicant. Staff examined four combined cycle technology variants:

- Combined-Cycle Gas Turbine
- Once Through Steam Generator (OTSG)
- Kalina combined-cycle
- Advanced Combustion Turbine Cycle

The Kalina and Advanced Combustion variants are not commercially proven at this point. The traditional combined cycle and OSTG variants, while more efficient than the proposed project, will use more water for cooling and raise the capital cost of the project, in the case of OTSG, by an estimated $80 million. While the increased capital cost could be recovered in reduced fuel costs due to the increased efficiency, the steam portion of a OTSG generator would not be able to respond as quickly as the combustion turbines, limiting somewhat the plant's ability to back up generation from renewable sources (solar, wind, etc.). Further, emission levels for OTSG would be similar to a simple cycle, with some criteria pollutant emissions increasing slightly and others decreasing slightly. OTSG and other combined cycle technologies are not clearly superior to simple cycle generation in the applicant's proposed application.

We therefore find that there are no generation technology alternatives that meet the project objectives. (Ex. 1 pp. 5-5 to 5-9; Ex. 200, pp. 6-5 to 6-12.)

4. 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 project-related impacts are mitigated to insignificant levels under the CPP proposal.

The No Project alternative is not superior to the proposed project because it would not help the COA meet the peak demand capacity reserves, required under AB 380 and by the CAISO. The No Project alternative would also lack the CPP's ability to compensate for the intermittency of solar and wind power generation facilities by increasing the reserve capacity of the overall supply of electricity. On the basis of the totality of the evidence, we find that the No Project alternative would not be a reasonable alternative to the proposed project. (Ex. 1, p. 5-2; Ex. 200, pp. 6-2 to 6-3.)

5. Public Comments

During the Evidentiary Hearings, Ms. Cynthia Verdugo Peralta and Mr. Jerald Cole offered public comments expressing concerns principally that the project was proposed as a simple cycle generator rather then a combined cycle. (11/02/09 RT 55 - 58, 78 - 82.) They believe that combined cycle generator would more efficiently burn natural gas, resulting in fewer air emissions per unit of electricity generated. While that is generally true, we find that all potential environmental impacts of the proposed simple cycle project, including those in the category of air quality, are mitigated to insignificant levels. Although, having found no unmitigable significant impacts, we are not bound to conduct an alternatives analysis, we have done so and, as we discuss above, combined cycle technologies fail to achieve some of the project objectives and, in the case of OTSG, do not offer clear air emission reductions. We decline to impose that choice upon the applicant.

Based upon the evidence we find and conclude as follows:

FINDINGS OF FACT

1. The evidence contains an acceptable analysis of a reasonable range of alternatives to the project as proposed.
2. The evidence contains an adequate review of alternative sites, fuels, technologies, and the "no project" alternative.
3. Alternative fuels and technologies are not capable of meeting project objectives.
4. No site alternative is capable of meeting the stated project objectives and applicable siting criteria.
5. The "no project" alternative would not avoid or substantially lessen potentially significant environmental impacts since no unmitigable significant impacts have been found.
6. The "no project" alternative would not provide electrical system benefits.

CONCLUSION OF LAW

1. We conclude, therefore, that the evidence 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.

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 AND DISCUSSION OF THE EVIDENCE

The evidence 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 Canyon Power Plant (CPP) 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 OF FACT

The evidence establishes:

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

CONCLUSIONS OF LAW

1. The compliance and monitoring provisions incorporated as a part of this Decision satisfy the requirements of Public Resources Code section 25532.

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

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

Site mobilization is limited preconstruction 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 site mobilization. Walking, driving or parking a passenger vehicle, pickup truck and light vehicles is allowable during site mobilization.

CONSTRUCTION

Onsite work to install permanent equipment or structures for any facility.

Ground Disturbance

Construction-related 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

Construction-related 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, 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 Compliance Project Manager (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.

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 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 Conditions of Certification of the Decision. 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
(07-AFC-09C)
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 Final Decision.

Compliance Reporting

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the 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:

1. the technical area;

2. the Condition number;

3. a brief description of the verification action or submittal required by the Condition;

4. the date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.);

5. the expected or actual submittal date;

6. the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable; and

7. the compliance status of each condition, e.g., “not started,” “in progress” or “completed” (include the date).

8. 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:

1. A summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;

2. Documents required by specific Conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, as well as the conditions they satisfy and submitted as attachments to the Monthly Compliance Report;

3. An initial, and thereafter updated, compliance matrix showing the status of all Conditions of Certification;

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

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

6. A cumulative listing of any approved changes to Conditions of Certification;

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

8. A projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with Conditions of Certification;

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

10. 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:

1. 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);

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

3. Documents required by specific Conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, with the Condition it satisfies, and submitted as attachments to the Annual Compliance Report;

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

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

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

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

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

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

10. A listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved 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. Current Compliance fee information is available on the Energy Commission's website http://www.energy.ca.gov/siting/filing_fees.html. You may also contact the CPM for the current fee information. 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. Laws, Ordinances, Regulations and Standards (LORS) pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure will be consistent with LORS in effect at the time of closure.

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

CLOSURE DEFINITIONS

Planned Closure

A planned closure occurs 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:

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

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

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

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

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, Staff Approved Project Modifications 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 **Staff approved project modifications** 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.

STAFF APPROVED PROJECT MODIFICATION

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 a staff approved project modification 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 Petition to Amend that includes staff's intention to approve the proposed project 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

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

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:

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

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

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

4. After the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum that fairly and accurately identifies the positions of all parties and any 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.
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.

CONDITION NUMBER	SUBJECT	DESCRIPTION
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 Canyon Project consists of separate analyses that examine its 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. (11/02/09 RT 7, 36 to 37, 92 to 93; Exs. 1, § 3 and Appendices A1 – A7; 13; 38; 40; 68; 74; 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, as appropriate, 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 standards and special requirements. (Ex. 200, p. 5.1-2.) 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. (Ex. 200, p. 5.1-3.) 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, pp. 5.1-2 to 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. (Ex. 200, p. 5.1-3.) **Table 1**, contained in Condition **GEN-2,** lists the major structures and equipment included in the initial engineering design for the project.[3] (As reflected in Ex. 74.) 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 Canyon 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. Compliance with design requirements will be verified through specific inspections and audits.

The power plant site is located in Seismic Risk Zone 4. (Ex. 200, p. 5.1-2.) 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[4] (CBO) for review and approval prior to the start of construction. (Ex. 200, p. 5.1-4.)

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[3] The master drawing and master specifications lists described in Condition **GEN-2** include documents based on the project's *detailed* design and may include additional documents for structures and equipment not currently identified in Table 1. (Ex. 200, p. 5.1-3.)

[4] The Energy Commission is the CBO for 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 delegate 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.

The evidentiary record also addresses project closure, which may range from "mothballing" the facility to removing all equipment and restoring the site. (Ex. 200, p. 5.1-5.) To ensure that decommissioning of the facility will conform to applicable LORS and be completed in a manner that protects 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; activities necessary to restore the site, if appropriate; and decommissioning alternatives. (*Id.*) Related requirements are described in the general closure provisions of the Compliance Monitoring and Closure Plan. *See* the **COMPLIANCE AND CLOSURE** section 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 OF FACT

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

1. The Canyon Project is currently in the preliminary design stage.
2. 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 provide, in part, that qualified personnel will perform design review, plan checking, and field inspections of the proposed project.
4. 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.
5. The **GENERAL CONDITIONS,** included in the **COMPLIANCE AND CLOSURE** section of this Decision, establish requirements to be followed in the event of facility closure.

CONCLUSION OF LAW

1. We therefore conclude that implementation of the Conditions of Certification listed below ensure that the Canyon Project will be designed and constructed in conformance with the applicable LORS 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 design, 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 being 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 drawings, 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 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)	Legend Ref. No.
Combustion Turbine (CT), Foundation and Connections	4	1
CT Generator, Foundation and Connections	4	1
Generator Beaker, Foundation and Connections	4	17
Generator Step-Up Transformer, Foundation, spill containment and Connections	4	19, 20
Tempering Air Fans (Blowers), Foundation and Connections	4	6
Ammonia Dilution (injection) Skid, Foundation and Connections	4	8
CEMS System, Foundation and Connections	4	9
SCR Exhaust Stack, Foundation and Connections	4	10
SCR Catalyst System, Foundation and Connections	4	11
Fin Fan Lube Oil Cooler, Foundation and Connections	4	12
CT Auxiliary Skid, Foundation and Connections	4	13
NOx Water Injection Skid, Foundation and Connections	4	15
BOP Electrical Equipment Enclosure, Foundation and Connections	1	23
Auxiliary Transformer, Foundation and Connections	2	51
Incoming Gas Metering Station	1	60
Fuel Gas Compressor System, Cooling Radiator, Accumulator, Foundation, sound wall and Connections	5	25, 26
Demineralized Water Storage Tank, Foundation and Connections	1	31
Raw Water Storage Tank, Foundation and Connections	1	32
Demineralized Water Transfer Pumps, Foundation and Connections	1	33
1st and 2nd Stage RO Skid, Foundation and Connection	1	39, 40
4-Cell Cooling Tower Package, Foundation and Connections	1	42
Chiller Water Pumps, Foundation and Connections	3	75
Air Compressor Skid, Foundation and Connections	1	44
Aqueous Ammonia Storage Tank, Foundation and Connections	1	46
Oil/Water Separator and Connections	1	48
Waste Water Sump and Lift Station, Foundation and Connections	1	49
Black Start Diesel Generator, Foundation and Connections	1	53
Main Electrical Equipment Enclosure, Foundation and Connections	1	50
Station Service Transformer, Foundation and Connections	2	52
Control/Administration/Shop/Warehouse Building, Foundation and Connections	1	54
20’ Perimeter Wall	1	64
Offsite GWRS Water Booster Pump Station, Foundation and Connections	1	n/a

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 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 approval 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 addressed 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 covered 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 necessary 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 that the CBO 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 shall 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 are 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 and 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 ensure 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 were 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);

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);

3. 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

4. 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, Chaper 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/NFPA Z223.1 (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
- Orange 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 the 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

The Canyon Project will use substantial amounts of natural gas for its fuel. Pursuant to the California Environmental Quality Act (CEQA), we must determine whether the consumption of this non-renewable form of energy will result in substantial impacts upon energy resources. (Cal. Code Regs., tit. 14 § 15126.4(a)(1), App. F.)

The evidence examines the project's: energy requirements and energy use efficiency; effects on local and regional energy supplies and resources; requirements for additional energy supply capacity; and compliance with applicable energy standards. The evidence also addresses whether there are feasible alternatives which would reduce any wasteful, inefficient, or unnecessary energy consumption attributable to the project. (11/02/09 RT 7, 77 – 84, 92 – 93; Exs. 70; 200, § 5.3.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project objectives include providing approximately 200 MW of peaking and intermediate load electrical power to meet the City of Anaheim's internal need. The Canyon facility will operate in a simple cycle mode, utilizing four General Electric (GE) LM6000 PC SPRINT combustion turbine generators (CTGs) in parallel. The CTGs will be equipped with mechanical inlet air chillers.[5] (Ex. 200, pp. 5.3-1 to 5.3-2.) The project will burn natural gas at a rate of approximately 1,735 million Btu (British Thermal Units) per hour. Under expected conditions, Canyon will generate electricity at a thermal efficiency of approximately 38 percent lower heating value (LHV) at full load operation. (Ex. 200, p. 5.3-2.)

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. When reduced output is required, the four train CTG configuration allows one or more of the turbine generators to be shut down. This allows the remaining machines to produce a percentage of the full power at optimum efficiency, rather than operating a single, larger machine at an inefficient partial load output. The City of Anaheim needs this efficient operating flexibility to meet projected summer load and provide local reliability service.

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[5] The mechanical inlet air chillers allow the generators to maintain optimum output and efficiency at escalated temperatures.

The City of Yorba Linda opposes the project, contending that Once Through Steam Generation (OTSG) rather than simple cycle technology should be used. This would involve using three turbines in combined cycle mode, rather than the four proposed to operate in simple cycle mode. In Yorba Linda's view, the combined cycle configuration would result in lower emission levels. (11/02/09 RT 77 – 85.) Yorba Linda did not introduce any evidence supporting its position.

Applicant stated that it had examined the combined cycle configuration and concluded that simple cycle was preferable. (11/02/09 RT 82 – 84; Exs. 26; 33; 34; 39; 41; 45; 71; 73.) Staff testimony also specifically addressed the City of Yorba Linda's suggestion that three rapid start combined cycle units be used. This testimony explains that a rapid start combined cycle power plant differs from a conventional combined cycle partly in the design of the HRSG. Design options include reducing material and piping runs to reduce thermal mass and thermal stresses, and the use of an OTSG. The OTSG is simpler than the HRSG in a conventional combined cycle plant and, unlike the conventional HRSG, can be operated dry (i.e. with no water or steam in the tubes). The result is that the gas turbine generator can be started and run up to full power in ten minutes or less, providing as much as 75% of full power. The steam cycle can then be started and loaded in another thirty minutes to three hours or so. An OTSG rapid start combined cycle plant can be expected to exhibit fuel efficiency as high as 49% LHV in steady-state full load operation, or about midway between a simple cycle gas turbine plant and a conventional combined cycle plant. (Ex. 200, p. 5.3-6.).

Staff endorses Applicant's decision to operate Canyon as a simple cycle project, however, noting that simple cycle is appropriate for Anaheim's peaking needs. Staff testimony also indicates that were Anaheim to invest the capital necessary to build a more fuel-efficient combined cycle plant, it would be obligated to dispatch the plant more in order to justify its existence. This would expose Yorba Linda to more exhaust pollution, not less. Installing a combined cycle plant of any type to serve Anaheim's peaking and capacity needs is not sensible in Staff's view. The proposed project appears to be the optimum configuration to satisfy Anaheim's needs. Overall, the evidence establishes that the simple cycle configuration, with its short start-up time and fast ramping,[6] is well-suited for providing peaking power. (Ex. 200, p. 5.3-3.)

[6] "Ramping" is increasing and decreasing electrical output to meet fluctuating load requirements.

Modern gas turbines embody the most fuel-efficient generating technology currently available. The evidence also contains an analysis of equipment proposed for the project. The alternatives to the GE LM6000 PC SPRINT, i.e., the Siemens SGT800 and the Pratt & Whitney FT8 Twin Pac, present no significant improvements in actual operating efficiency. (Ex. 200, pp. 5.3-4 to 5.3-5.) The evidence also establishes that the use of a mechanical chiller, as proposed, is appropriate since the alternatives - the evaporative cooler or the absorption chiller - possess no real efficiency benefit. (Ex. 200, p. 5.3-5.)

The evidence also conclusively establishes that SoCalGas' present fuel supply capacity is sufficient to meet project demands. (Ex. 200, pp. 5.3-2 to 5.3.-3.) Moreover, the evidence shows that only natural gas burning technologies are feasible for this project. Technologies such as biomass and other fossil fuels cannot meet air quality requirements. Renewables require more physical area and are not always available when peaking power is needed. (Ex. 200, p. 5.3-4.)

In conclusion, the uncontradictated evidence persuasively shows that the Canyon Project will supply a nominal 200 MW of peaking power, and that simple cycle operation is appropriate. The project will provide this power in the most fuel efficient manner practicable, without creating adverse effects on energy supplies or resources. It will not require additional sources of energy supply or consume energy in a wasteful or inefficient manner. (Ex. 200, p. 5.3-7.)

During the Evidentiary Hearing, two public comments were received to the effect that the project should be configured as a combined-cycle generator rather then a simple cycle unit. Those comments are discussed in the **Alternatives** section of this decision.

Based on the uncontroverted evidence, we make the following findings and reach the following conclusions:

FINDINGS OF FACT

1. The Canyon Project will provide approximately 200 MW of peaking electrical power, operate in simple cycle mode, and utilize four GE LM 6000 PC SPRINT gas turbines.

2. Under average annual ambient conditions, Canyon will generate electricity at a thermal efficiency of approximately 38 percent LHV at full load operation.

3. The project's simple cycle configuration, incorporating mechanical chillers, is well suited to serving intermittent peaking loads of the City of Anaheim.

4. Use of the GE LM6000 PC SPRINT is appropriate for the Canyon Project.

5. The Canyon Project will not require the development of new fuel supply resources.

6. The Canyon Project will consume natural gas in as efficient a manner as practicable.

7. The evidence contains a comparative analysis of alternative fuel sources and generation technologies, none of which is superior to the proposed project at meeting project objectives in an efficient manner.

8. No Federal, State, or local laws, ordinances, regulations, or standards apply to the efficiency of this project.

CONCLUSIONS OF LAW

We therefore conclude that the Canyon Project will not create adverse effects upon energy supplies or resources, require additional sources of energy supply, or consume energy in a wasteful or inefficient manner.

No Conditions of Certification are required for this topic area.

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.

The responsibility for maintaining system reliability falls largely to control area operators such as the California Independent System Operator (CAISO) that purchase, dispatch, and sell electric power throughout the State. 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. The City of Anaheim, as a member of the Southern California Public Power Authority (SCPPA), must meet CAISO criteria which include maintaining a 15 percent reserve margin and increasing local generation to reduce reliance upon imported power.

The CAISO criteria are designed to maintain system-wide reliability. However, it is possible that, if numerous power plants operated at reliability levels sufficiently lower than historical levels, the assumptions used by CAISO to ensure system reliability would prove invalid. Therefore, to ensure adequate system reliability, we examine whether individual power plants will be built and operated to the traditional level of reliability reflected in the power generation industry because, where a power plant compares favorably to industry norms, it is not likely to degrade the overall reliability of the electric system it serves. (Ex. 200, p. 5.4-3.) The evidence presented on this topic was uncontested. (11/2/09 RT 5-6, 92-93; Exs. 1; 13; 71; 200, § 5.4.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

Applicant expects an equivalent availability factor approaching 98 percent for the Canyon Project. The availability factor for a power plant is the percentage of time that it is available to generate power. Both planned and unplanned outages subtract from a plant's availability. For practical purposes, a reliable power plant is one that is available when called upon to operate. The evidence shows that delivering acceptable reliability entails: 1) adequate levels of equipment availability; 2) plant maintainability with scheduled maintenance outages; 3) fuel and water availability; and 4) resistance to natural hazards.

The record, summarized below, reflects Commission staff's evaluation of the proposed project against typical industry norms as a benchmark for assessing plant reliability.

1. Equipment Availability

Equipment availability will 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 adequate maintenance and repair of the equipment and systems. The project owner will use a QA/QC program typical in the power industry. Equipment will be purchased from qualified suppliers and the project owner will perform receipt inspections, test components, and administer independent testing contracts. (Ex. 200, p. 5.4-3.) To ensure these measures are taken, we have incorporated appropriate Conditions of Certification in the **FACILITY DESIGN** section of this Decision.

2. Plant Maintainability

As a peaking facility, the Canyon Project will be operated no more than a total of 4,320 machine-hours per year. (11/02/09 RT 24-25.) This limited operation allows adequate opportunity for needed maintenance. During periods of extended dispatch, as could occur if other major generating or transmission assets were disabled, the facility may be required to operate for prolonged periods. In such an instance, the availability of redundant pieces of equipment most likely to require service or repair will ensure adequate reliability.

The evidence shows that the project incorporates an appropriate redundancy of function. It consists of four combustion turbine generator sets operating in parallel as independent equipment trains. 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. 200, p. 5.4-4.)

The project owner will establish a maintenance program typical of the power generation industry and based on recommendations from the various equipment manufacturers. This will encompass both preventive and predictive maintenance techniques. Maintenance outages will be planned for periods of low electricity demand. The evidence establishes that the planned maintenance measures will ensure acceptable reliability. (*Id.*)

3. Fuel and Water Availability

For any power plant the long-term availability of fuel, and water for cooling or process use, is necessary to ensure reliability. The Canyon Project will burn natural gas supplied by Southern California Gas Company (SoCalGas). This fuel will be supplied via a new 12 inch, 3,240 foot long pipeline from SoCalGas' existing line L-1218. The evidence establishes that this line offers access to adequate supplies of gas to meet the project's needs. (Ex. 200, p. 5.4-4.)

The project will obtain recycled water from the Orange County Groundwater Replenishment System via a new 14-inch diameter, 2,185 foot long pipeline. This pipeline will receive water from a new booster pump station connecting to an existing 60-inch diameter Orange County Water District recycled water line. This water will be stored in a 350,000 gallon raw water storage tank and will serve as cooling tower makeup to cool the gas turbine inlet air chillers. A portion will be demineralized and stored in a 180,000 gallon demineralized water storage tank from which it will serve as gas turbine SPRINT injection water and combustor injection water.

Potable water from the City of Anaheim system will be used for safety and sanitary purposes (showers, safety showers, and eyewash stations) and for fire water, as well as function as a backup if the supply of recycled water is interrupted. The evidence establishes that these sources, combined with the on-site storage capacity, yield sufficient likelihood of a reliable supply of water. (Ex. 200, p. 5.4-5.)

4. Natural Hazards

The site lies in Seismic Risk Zone 4 and is located in an area of seismic activity. The project will be designed and constructed to the Seismic Zone 4 standards of the latest appropriate LORS. By implementing these seismic design criteria, this project will likely perform at least as well as, and perhaps better than, existing plants in the electric power system. We have adopted Conditions of Certification in the **FACILITY DESIGN** section to ensure this occurs.

The site also lies within a 500-year floodplain. With proper plant design, as ensured by the **FACILITY DESIGN** Conditions of Certification, the record establishes that there should be no significant concerns with the plant's functional reliability due to flooding. (Ex. 200, p. 5.4-5.)

5. Comparison to Industry Norms

The North American Electric Reliability Corporation (NERC) industry maintains statistics for availability factors and other related reliability data. NERC currently reports summary generating unit statistics for the years 2002 through 2006; these statistics demonstrate an equivalent availability factor of nearly 92 percent for gas turbine units 50 MW and larger. (Ex. 200, pp. 5.4-5 to 5.4-6.) The project's LM6000 gas turbines have been on the market for several years, with a documented annual availability of 97.8 percent. Thus, they may be expected to outperform many of the various gas turbines that make up the NERC figure. We are persuaded that the Canyon Project will likely exceed industry norms in this regard and reach its predicted annual availability factor approaching 98 percent.

Finally, the evidence shows that the Canyon Project will provide peaking power and intermediate duty generation to serve the City of Anaheim's needs, assist in meeting resource adequacy requirements, provide additional local generating capacity, act as a back- up to "as available" windpower, and offer ancillary services such as spinning reserve and Automated Generation Control to the CAISO. The evidence characterizes these factors as "noteworthy projects benefits." (Ex. 200, p. 5.4-6.)

FINDINGS OF FACT

Based on the uncontested evidence, we make the following findings:

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

2. A project's reliability is acceptable if it does not degrade the reliability of the utility system to which it is connected.

3. The North American Electric Reliability Corporation (NERC) reports that, for the years 2002 through 2006, gas turbine units of 50 MW or larger exhibited an availability factor of nearly 92 percent.

4. An availability factor approaching 98 percent is achievable by the Canyon Project.

5. Implementation of Quality Assurance/Quality Control (QA/QC) 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.

6. Appropriate Conditions of Certification included in the **FACILITY DESIGN** portion of this Decision ensure implementation of the QA/QC programs and conformance with seismic design criteria.

7. The project's fuel and water supply will be reliable.

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

9. The use of four combustion turbine generators, configured as independent equipment trains, provides the Canyon Project inherent reliability.

10. The project will provide peaking and intermediate power. Total operation will not exceed 4,320 machine-hours annually.

11. The project will serve the electrical needs of the City of Anaheim, assist in meeting resource adequacy requirements, provide additional local generating capacity, act as a back-up to wind generation, and offer ancillary services to the CAISO.

CONCLUSION OF LAW

1. We therefore conclude that the Canyon Project will meet industry norms and not degrade the overall reliability of the electrical system.

No Conditions of Certification are required for this topic area.

D. TRANSMISSION SYSTEM ENGINEERING

The Commission's jurisdiction includes "… any electric power line carrying electric power from a thermal power plant … to a point of junction with an interconnected transmission system." (Pub. Res. Code § 25107.) The Commission assesses the engineering and planning design of new transmission facilities associated with a proposed project to ensure compliance with applicable law. The record establishes that the Applicant in this case has adequately identified all necessary interconnection facilities based on the information currently available.

The evidence evaluated the power plant switchyard, outlet line, termination, and downstream facilities identified by the Applicant. In addition, under CEQA, the Commission must conduct an environmental review of the "whole of the action," which may include facilities not licensed by the Energy Commission (Cal. Code Regs., tit. 14 § 15378). The Commission must therefore identify the system impacts and necessary new or modified transmission facilities downstream of the proposed interconnection that are required for interconnection and that represent the whole of the action.

The record also includes Conditions of Certification to ensure the project complies with applicable laws during the design review, construction, operation, and potential closure of the project. Evidence regarding these matters is uncontroverted. (11/20/09 RT 5-6.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Transmission Facilities Description

The Canyon Power Plant proposal is to interconnect the 194.1 MW CPP project to Anaheim's Canyon 69-kV switchyard near the intersection of Miraloma Avenue and Kramer Boulevard in Anaheim, California. Each generating unit would be connected to the low side of its dedicated 13.8/69 kV generator step-up (GSU) transformer through 15-kV, 3,000-ampere metal-clad vacuum circuit breakers. The step-up transformers for the combustion turbine generating units would be rated at 13.8/69 kV and 39/52/65 megavolt ampere (MVA) at the temperature of 55 centigrade. The 69-kV side of each step-up transformer would be connected by 69-kV, 2,000-ampere underground cable conductors to a double bus, double breaker 69-kV switchyard at the plant site. (Exs 1, p. 4-1;. 200 p. 5.5-4.) The proposed transmission lines connect the project to the first point of

interconnection. Thus construction of the new transmission lines are direct project impacts and the CEC conducted environmental review and permitting of the lines.

The project's switchyard would use a double-bus double-breaker configuration with 9 bays and 5 positions for outgoing transmission lines. The switchyard consists of 69-kV, 2000 ampere circuit breakers, 69-kV no-load disconnect switches, and other switching gear that will allow delivery of the project's output to the Anaheim 69-kV grid. The Canyon Power Plant switchyard will be interconnected to Anaheim grid via two new underground 69-kV double-circuits. The first 69-kV double circuit would be installed underground and to the south side of East Miraloma Avenue approximately 100 feet then surface and connect to the existing 69-kV overhead Vermont-Yorba lines via two new 85 feet tall 69-kV transmission structures. The second 69-kV underground double circuit would proceed Eastward approximately 4,000 feet in East Miraloma Avenue, turn south on Miller, then proceed approximately 3,000 feet to connect to the Dowling-Yorba 69-kV line at East La Palma Avenue. (Ex. 200, p. 5.5-4). A figure illustrating the routes of transmission lines and other project-related linear facilities can be found in the section of this Decision entitled Project Description.

The 69-kV two underground double circuits would be constructed with 2,000 kcmil copper cable conductors and route through the 69-kV duct banks to interconnect the switchyard to the existing 69-kV Vermont-Yorba and Dowling-Yorba lines. Conditions of Certification **TSE 1** to **TSE 7** insure that the proposed facilities will be designed, built and operated in accordance with good utility practices and applicable LORS. (Exs. 1, 3, 12, 15, 19 72, 200.)

2. Transmission System Impacts Analysis

The proposed CPP project would deliver energy to the 230kV Southern California Edison (SCE) grid; hence SCE and the control area operator are responsible for ensuring grid reliability. These two entities determine the transmission system impacts of the proposed project and any mitigation measures needed to ensure system conformance with utility reliability criteria, NERC planning standards, WECC reliability criteria, and CAISO reliability criteria. System impact and facilities studies are used to determine the impacts of the proposed project on the transmission grid. The Commission relies on these studies and any review conducted by the CAISO to determine the effect of the project on the transmission grid and to identify any necessary downstream facilities or indirect

project impacts required to bring the transmission network into compliance with applicable reliability standards.

System impact and facilities studies analyze the grid both with and without the proposed project, under conditions specified in the planning standards and reliability criteria. If the studies show that the interconnection of the project causes the grid to be out of compliance with reliability standards, then the study will identify mitigation alternatives or ways in which the grid could be brought into compliance with reliability standards. If the identified mitigation measures may have a significant environmental impact, the Energy Commission analyzes those modifications or additions according to CEQA requirements.

Here the evidence contains two SIS from the Applicant. The first interconnection study, performed by the Anaheim Public Utilities Department, considered post project impacts that might occur within the Anaheim 69-kV system. The second impact study was performed by SCE to identify the transmission system impacts of CPP on SCE's 230/500-kV system. The project-related upgrades and modifications identified would occur within the fence line of the existing SCE substations and are not likely to cause any impacts requiring environmental review.

a. Anaheim System Study

The Anaheim system study included power flow, and short circuit studies of the Anaheim's 69-kV system. The study modeled the proposed project for a net output of 194.1 MW. (Ex. 200, p. 5.5-5.) The power flow study identified three, N-1 thermal overload criteria violations and three N-2 thermal overload criteria violations under the Summer Peak load conditions. As mitigation, the Applicant has proposed using a spare transformer bank and bringing one peaking unit on-line to mitigate the overload criteria violations. The power flow analysis also identified one N-2 thermal overload criteria violation under the spring off peak condition. Proposed mitigation for this overload would be implementing generation curtailment procedures. The analysis demonstrates that the Anaheim system was designed to withstand all the identified single contingencies and selected double contingency conditions. (Ex. 200, p. 5.5-6.)

b. SCE System Study

The Power Flow Study included power flow, sensitivity, and short circuit studies, and transient and post-transient analyses. The study conditions reflect the most

critical expected loading condition for the transmission system in SCE's area. The Power Flow Study assessed the project's impact on thermal loading of the transmission lines and equipment. Transient and post-transient studies were conducted for the CPP project using the 2013 heavy summer base case to determine whether the project would create instability in the transmission system following certain selected outages. Short circuit studies were conducted to determine if CPP would overstress existing substation facilities. For the Base Case Condition (N-0), the system impact study identified no post-project overload criteria violations in the SCE system area under the 2013 heavy summer and 2013 light spring conditions. Likewise for the Single Outage Contingency (N-1), no overloads were triggered or aggravated by the addition of the CPP project in the SCE system.

However, the system Impact study did identify five pre-existing overloads which were aggravated by the addition of the CPP project under the N-2 contingency. The 2013 heavy summer condition aggravated three pre-existing overloads out of the five revealed. Another N-2 contingency occurred in the 2013 light spring condition. The aggravated N-2 thermal overloads can be mitigated by implementing CAISO congestion management. (Exs 12; 200, 5.5-7.)

For the Transient Study, all outage cases were evaluated with the assumption that existing Special Protection Schemes (SPS) or Remedial Action Schemes (RAS) would operate as designed where required. The Transient Study indicates there would be no system performance issues caused by the CPP project. NERC/WECC planning standards require that the system maintain post-transient voltage stability when either critical path transfers or area loads increase by 5 percent for category "B" contingencies, and 2.5 percent for category "C" contingencies. The studies determined that the system remained stable under both single and double contingency outage conditions with the addition of the CPP project. (Ex. 200, p. 5.5-8.)

Short circuit studies were performed to determine the degree to which the addition of the CPP project increases fault duties at SCE's substations, adjacent utility substations, and the other 230-kV, and 500-kV busses within the study area. The SIS has identified that the Serrano 230-kV substation will need to be upgraded to 80 kA rating and multiple circuit breakers replaced throughout the SCE system. Additionally, the specific upgrades required in mitigating the fault duty violations would be addressed in the Facility Study phase. (Id).

FINDINGS OF FACT

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

1. Project transmission lines and equipment, both from the power plant up to the point of interconnection with the existing transmission network, as well as upgrades beyond the interconnection that are attributable to the project, have been evaluated in the evidentiary record.

2. The Applicant proposes to interconnect the 194.1 MW CPP project to Anaheim's Canyon 69-kV switchyard near the intersection of Miraloma Avenue and Kramer Boulevard in Anaheim, California.

3. The Canyon power plant switchyard will be interconnected to the Anaheim grid via two new underground 69-kV double-circuits.

4. The proposed CPP project would deliver energy to the 230kV SCE grid; hence SCE and the control area operator are responsible for ensuring grid reliability.

5. Project-related N-2 thermal overloads would be mitigated by implementing California ISO congestion management.

6. Transmission system engineering studies in the evidentiary record establish that the project interconnection would comply with NERC/WECC planning standards and CAISO reliability criteria.

7. The evidentiary record contains system impact and facilities studies which analyze the grid both with and without the proposed project, under conditions specified in accepted planning standards and reliability criteria.

8. The evidence includes two System Impact Studies. The first interconnection study, performed by the Anaheim Public Utilities Department, considered post project impacts that might occur within their 69-kV system. The second impact study was performed by SCE to identify the transmission system impacts of CPP on SCE's 230/500-kV system.

9. The SIS identified that the Serrano 230 kV substation will need to be upgraded to 80 kA rating and multiple circuit breakers will need to be replaced throughout the SCE system due to increase in fault currents.

10. Breaker upgrades related to the project would occur within the fence line of the existing SCE substations and would not result in any off-site impacts.

11. The Facility Study will determine the cost estimates and work scope for interconnection facilities and the transmission network upgrades of the SCE system.

12. The Anaheim system was designed to withstand all the single contingencies and selected double contingency conditions.

13. The specific upgrades required in mitigating the identified fault duty violations will be addressed in the Facility Study phase.

CONCLUSIONS OF LAW

1. We conclude that, assuming the proposed conditions of certification are satisfied, the project will be designed, constructed, and operated in conformance with the applicable laws, ordinances, regulations, and standards identified in the appropriate portion of **Appendix A** of this Decision.

2. With the implementation of the various mitigation measures specified in this Decision, and the Conditions of Certification which follow, the proposed transmission interconnection for the project will not contribute to significant direct, indirect, or cumulative impacts.

CONDITIONS OF CERTIFICATION

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

Verification: At least 60 days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CBO), 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.

TRANSMISSION SYSTEM ENGINEERING Table 1
Major Equipment List

Breakers
Step-Up Transformer
Switchyard
Busses
Surge Arrestors
Disconnects
Take Off Facilities
Electrical Control Building
Switchyard Control Building
Transmission Pole/Tower
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. (Business and Professions Code Sections 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 TSE facilities.

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

This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations.

The electrical engineer shall:

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 prior to the start of rough grading (or a lesser number of days mutually agreed to by the project owner and the CBO), 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 (California Building Code, 1998, Chapter 1, Section 108.4, Approval Required; Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, Section 3317.7, Notification of Noncompliance). The discrepancy documentation shall 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 obtaining 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:

1. Receipt or delay of major electrical equipment;

2. Testing or energization of major electrical equipment; and

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

Verification: At least 30 days prior to the start of each increment of construction (or a lesser number of days mutually agreed to by the project owner and the CBO), 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 as determined by the CBO.

1. The CPP project will be interconnected to the Anaheim grid via 69-kV, 2000kcmil copper cable conductors, underground, two double circuit tie lines. The proposed CPP switchyard would use a double bus double breaker configuration with 9-bays and 5 positions for outgoing 69-kV circuits.

2. The power plant outlet line shall meet or exceed the electrical, mechanical, civil, and structural requirements of CPUC General Order 95 and General Order 98 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”, California ISO standards, National Electric Code (NEC), and related industry standards.

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

4. 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.

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

6. Termination facilities shall comply with applicable Anaheim Utility interconnection standards.

7. The project owner shall provide to the CPM:

   a. The final Detailed Facility Study (DFS) including a description of facility upgrades, operational mitigation measures, and/or Special Protection System (SPS) sequencing and timing if applicable,

   b. Executed project owner and California ISO Facility Interconnection Agreement.

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

1. Design drawings, specifications, and calculations conforming with CPUC General Order 95 and General Order 98 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 for the poles/towers, foundations, anchor bolts, conductors, grounding systems, and major switchyard equipment.

2. 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," (worst-case conditions for the foundations 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.

3. 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 of **TSE-5** 1) through 5) above.

4. The final Detailed Facility Study, including a description of facility upgrades, operational mitigation measures, and/or SPS sequencing and timing if applicable, shall be provided concurrently to the CPM.

TSE-6 The project owner shall provide the following Notices to the 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 the 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 the 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. A report of the 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-7 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, CCR, 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:

1. "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"; applicable interconnection standards; NEC; and related industry standards, and these conditions shall be provided concurrently.

2. 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."

3. 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.

E. TRANSMISSION LINE SAFETY AND NUISANCE

The Canyon 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 for the transmission line to affect aviation safety and to create 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. (11/2/09 RT 5-6, 92-93; Exs. 1; 13; 64; 200, § 4.11.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project is located on a gated 10 acre parcel of land within an industrial area in the City of Anaheim. The site is currently paved and there are no residential buildings in the immediate vicinity. The transmission line will connect from an on-site 69-kV switchyard to the City's 69-kV transmission grid. The interconnection will be made using two double-circuit underground lines extending from the switchyard to their respective connection points on the existing 69-kV Vermont-Yorba and Dowling-Yorba lines. Two 90 foot, tubular steel riser poles will also be part of the interconnection. (Exs. 4; 5; 200, pp. 4.11-1, 4.11-3 to 4.11-4.)

The evidence shows that undergrounding the transmission line will prevent its associated electrical fields from penetrating the soil. Thus, the line will not cause radio frequency interference. (Ex. 200, p. 4.11-5.) Similarly, audible noise is not a concern since the project will not increase the electric field effects on the existing 69-kV lines due to their low corona design and minimized field strengths. (Ex. 200, p. 4.11-6.) The above-ground portion of the line, i.e., the riser poles, will not create an aviation hazard due to their height and distance from the nearest airport. (Ex. 200, p. 4.11-5.) The evidence also establishes that other potential concerns, such as fire hazards and electrical shocks, will be minimized through compliance with CPUC General Orders 95 and 128 GO-95, GO-128, and the requirements of Conditions **TLSN-1** and **-2**. (Ex. 200, pp. 4.11-6 to 4.11-7.)

The energized transmission line will create magnetic fields.[7] The possibility of deleterious health effects from exposure to electric and magnetic fields (EMF)

[7] The line actually creates both electric and magnetic fields. The electric fields, unlike the magnetic fields produced, cannot penetrate the soils and other materials covering an undergrounded line. (Ex. 200, p. 4.11-5.) Therefore, in this instance, only magnetic fields are addressed.

has raised public health concerns about living and working near high-voltage lines.[8] CPUC policy requires reduction of such fields, if feasible, without affecting the safety, efficiency, 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 Canyon Project's transmission line will be designed, constructed, and maintained in accordance with Southern California Edison's (SCE) practices. (Ex. 200, pp. 4.11-1, 4.11-4, 4.11-7 to 4.11.8.)

For Canyon's underground lines, the inability of electric fields to penetrate the overlying soil means that only magnetic field exposures would be potentially significant up to the point of connection to the existing lines. Exposures around these lines will result from the strengths of the fields from existing current flow and that added by the project. (Ex. 200, p. 4.11-9.) The evidence contains an assessment of the potential impacts of the Canyon Project which compares existing fields (at the points of maximum strengths) with total fields encountered after the project comes online. The magnetic field strength at the point of maximum impact for the existing 69-kV lines was calculated at 29.7 milligauss (mG) for a location on East Miraloma Avenue. Since the project's power will be directed to the existing Vermont-Dowling line as it also flows into the Vermont-Yorba line, the maximum magnetic fields during operation will decrease to 26 mG at the same maximum impact location. This shows that Canyon's operation will not significantly change the intensity of magnetic fields from the existing 69-kV lines. The magnetic field at the point of maximum intensity above the proposed underground lines was calculated as 24.4 mG, which is the lowest intensity possible from underground lines in this SCE utility service area. To further ensure accuracy, on-site measurement is required in Condition of Certification

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[8] While scientific research has not established a definitive correlation between EMF exposure and adverse health effects, the potential for EMF-related health hazards remains at issue. In this regard, the CPUC requires the regulated utilities, including SCE, to incorporate EMF-reducing measures in the design, construction, and maintenance of new or modified transmission facilities within their service areas. Publicly owned utilities, which are not under CPUC jurisdiction, voluntarily comply with these measures. (Ex. 200, pp. 4.11-7 to 4.11.8.) 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. (Ex. 200, p. 4.11-8.)

TLSN-3. The existing electric fields will remain the same at 0.08 kilovolt per meter (kV/m), which is too low for significant field effects. (Ex. 200, pp. 4.11-9 to 4.11-10.)

The evidence establishes that line undergrounding, as proposed for the Canyon Project, produces the lowest human exposure levels possible without affecting the safety, efficiency, reliability, or maintainability of the transmission grid. The evidence also firmly demonstrates that the transmission lines related to the project will not cause any significant adverse impacts to public health and safety.

Based on the uncontroverted evidence, we make the following findings and reach the following conclusions:

FINDINGS OF FACT

1. The Canyon Project will interconnect from an on-site switchyard to the City of Anaheim's existing 69-kV transmission system.

2. The new interconnection is contained entirely within an industrial area.

3. There are no residences along the route of the project's transmission line.

4. The new interconnection line will be undergrounded and constructed in accordance with standard SCE practices.

5. The underground transmission line will produce magnetic fields of the lowest intensity possible without affecting transmission grid safety, efficiency, reliability, or maintainability.

6. The project's transmission line will comply with existing LORS for public health and safety.

7. The project owner will provide field intensity measurements before and after line energization to assess EMF contributions from the project-related current flow.

8. The Canyon transmission line and its support structures will not result in significant adverse environmental impacts to public health and safety or cause significant direct, indirect, or cumulative impacts in the areas of aviation safety, audible noise, radio frequency communication, fire hazards, nuisance or hazardous shocks, or electric and magnetic field exposure.

CONCLUSION OF LAW

1. We therefore conclude that implementation of the Conditions of Certification, below, will ensure that the Canyon Project's transmission line complies with all applicable laws, ordinances, regulations, and standards relating to transmission line safety and nuisance as identified in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall construct the underground transmission lines and related riser poles according to the respective requirements of California Public Utility Commission's GO-128, GO-95, GO-52, GO-131-D, Title 8, and Group 2, High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Southern California Edison'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 lines will be constructed according to this condition.

TLSN-2 The project owner shall ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards.

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

TLSN-3 The project owner shall use a qualified individual to measure the strengths of the electric and magnetic fields from the proposed underground and existing overhead lines at the points of maximum intensity for which intensity estimates were provided by the applicant. The measurements shall be made before and after energization according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures. These measurements shall be completed not later than six months after the start of operations.

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

V. PUBLIC HEALTH AND SAFETY

Operation of the Canyon Power Plant Project (CPP) will create combustion products and utilize certain hazardous materials that could potentially cause adverse health effects to the general public and to the workers at the facility. The following sections describe the regulatory programs, standards, protocols, and analyses that address these issues.

A. GREENHOUSE GAS (GHG) EMISSIONS

1. Introduction and Summary

The generation of electricity using fossil fuels, such as the natural gas that the CPP Project will consume, produces both "criteria pollutants" and greenhouse gas (GHG) emissions. Criteria pollutants are emissions that are known to adversely affect public health and for which regulatory agencies have established legal "criteria," which limit both the amount of the pollutants that may be emitted as well as the concentrations of the pollutants in the air. The project's criteria pollutant emissions and its compliance with applicable air quality laws are discussed in the Air Quality section of this Decision. This section assesses the GHG emissions that are likely to result from the construction and the operation of the project.

The greenhouse gases are carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFC), and perflurocarbons (PFC). CO_2 emissions are far and away the most common of these emissions; as a result, even though the other GHGs have a greater impact on climate change on a per-unit basis, GHG emissions are often expressed in terms of "metric tons of CO_2-equivalent" ($MTCO_2e$) for simplicity. (Ex. 200, p. 4.1-88.)

Prevailing scientific opinion considers GHG emissions to be the cause of significant changes in climate over the past several decades, and that such emissions "if not sufficiently curtailed, are likely to contribute further to continued increases in global temperatures." (Ex. 200, p. 4.1-88.) Adding GHG to the atmosphere increases the insulating power of the air and thereby traps more heat at and near the earth's surface. The California Legislature has declared that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." (Health & Saf. Code, § 38501(a).)

In this part of the Decision we determine that:

- The CPP's GHG construction emissions will be insignificant;

- from a physical standpoint, the GHG emissions from a power plant's operation should be assessed not by treating the plant as a standalone facility operating in a vacuum, but rather in the context of the operation of the entire electricity system of which the plant is an integrated part;

- from a policy and regulatory standpoint, the GHG emissions from a power plant's operation should be assessed in the context of the state's GHG laws and policies, such as AB 32; and

- CPP's operation will be consistent with the state's GHG policies and will help achieve the state's GHG goals, by (1) causing a decrease in overall electricity system GHG emissions; and (2) fostering the addition of renewable generation into the system, which will further reduce system GHG emissions.

As a result we conclude that the CPP's GHG emissions will comply with all applicable LORS and will not result in any significant environmental impacts. We also conclude that the project will be consistent with California's ambitious GHG goals and policies.

2. Policy and Regulatory Framework

As the Legislature stated 35 years ago, "it is the responsibility of state government to ensure that a reliable supply of electrical energy is maintained at a level consistent with the need for such energy for protection of public health and safety, for promotion of the general welfare, and for environmental quality protection." (Pub. Res. Code, § 25001.) Today, as a result of legislation, the most resent aspect of "environmental quality protection" is the reduction of GHG emissions. Several laws and statements of policy are applicable.

a. AB 32

The organizing framework for California's GHG policy is set forth in the California Global Warming Solutions Act of 2006. [Assembly Bill 32, codified in Health & Saf. Code, § 38560 et seq. (hereinafter AB 32).] AB 32 requires the California Air Resources Board ("CARB") to adopt regulations that will reduce statewide GHG emissions, by the year 2020, to the level of statewide GHG emissions that existed in 1990. Gubernatorial Executive Order S-3-05 (June 1, 2005) requires a

further reduction, to a level 80 percent below the 1990 GHG emissions, by the year 2050.

Along with all other regulatory agencies in California, the Energy Commission recognizes that meeting the AB 32 goals is vital to the state's economic and environmental health. While AB 32 goals have yet to be translated into regulations that limit GHG emissions from generating facilities, the scoping plan adopted by ARB relies heavily on cost effective energy efficiency and demand response, renewable energy, and other priority resources in the loading order (discussed below) to achieve significant reductions of emissions in the electricity sector by 2020. Even more dramatic reductions in electricity sector emissions would likely be required to meet California's 2050 greenhouse gas reduction goal. Facilities under our jurisdiction, such as the CPP, must be consistent with these policies.[9]

In addition to AB 32, are several other important components of the GHG policy and regulatory structure.

b. Renewable Portfolio Standard

California statutory law requires the state's utilities to be providing at least 20 percent of their electricity supplies from renewable sources by the year 2020. (Pub. Util. Code, § 399.11 et seq.) Recent gubernatorial Executive Orders increase the requirement to 33 percent and require CARB to adopt regulations to achieve the goal. [Governor's Exec. Orders Nos. S-21-09 (Sept. 15, 2009), S-14-08 (Nov. 17, 2008).]

c. Emissions Performance Standard

Senate Bill (SB) 1368 of 2006, and regulations adopted by the Energy Commission and the Public Utilities Commission pursuant to the bill, prohibit utilities from entering into long-term commitments with any base load facilities (defined as having greater than or equal to a 60 percent capacity factor) that exceed an Emission Performance Standard (EPS) of 0.500 metric tonnes of CO_2 per megawatt-hour (this is the equivalent of 1100 pounds CO_2/MWh). (Pub. Util.

[9] This project and all other stationary sources will need to comply with any applicable GHG LORS that take effect in the future.

Code, § 8340 et seq.; Cal. Code Regs., tit. 20, § 2900 et seq.; CPUC D0701039.) Currently, the EPS is the only LORS that limits power plant emissions.

d. Loading Order

In 2003 the Energy Commission and the CPUC agreed on a "loading order" for meeting electricity needs: the first resources that should be added are energy efficiency and demand response (at the maximum level that is feasible and cost-effective); followed by renewables and distributed generation, and combined heat and power (also known as cogeneration); and finally efficient fossil sources and infrastructure development.[10] CARB's AB 32 Scoping Plan reflects these policy preferences. (California Air Resources Board, Climate Change Scoping Plan, December 2008.)

3. Construction Emissions

Power plant construction involves vehicles and other equipment that emit GHG. The CPP's construction emissions are projected at 1,235 metric tons of CO_2-equivalent GHG during the 12-month construction period. (Ex. 200, p. 4.1-89.) (By way of comparison, as discussed in the next section, CPP's GHG emissions from operations are estimated to be 121,874 metric tons annually, nearly 100 times the construction emissions.)

There is no adopted, enforceable federal or state LORS applicable to the CPP's construction emissions of GHG. Nor is there a quantitative threshold over which GHG emissions are considered "significant" under CEQA. Nevertheless, there is guidance from regulatory agencies on how the significance of such emissions should be assessed.

Thus, for example, the most recent guidance from CARB staff recommends a "best practices" threshold for construction emissions. (CARB, Preliminary Draft Staff Proposal, Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act (Oct. 24, 2008), p. 9 [available at: **www.arb.ca.gov/cc/localgov/-ceqa/meetings/102708/prelimdraftproposal102408.pdf**, last visited Jan. 26, 2010].) Such an approach is also recommended on an interim basis, or proposed, by major local air districts. (See, e.g.: **http://www.aqmd.gov/ceqa/handbook/GHG/2008/oct22mtg/GHGguidance-.pdf** [last visited Jan. 26, 2010]; **www.valleyair.org/Programs/CCAP/06-30-**

[10] California Energy Commission 2008, *2008 Integrated Energy Policy Report Update*, (IEPR) (CEC-100-2008-008-CMF.)

09/DRAFT%20CCAP%20GHG%20staff%20report_June%2030,%202009.pdf [last visited Jan. 26, 2010].)

We understand that "best practices" includes the imposition of all feasible methods to control construction-related GHG emissions. As the "best practices" approach is currently recommended by the state agency primarily responsible not only for air quality standards but also for GHG regulation, we will use it here to assess the GHG emissions from CPP's construction.

In order to limit vehicle emissions of both criteria pollutants and GHG during construction, the Applicant will use (1) operational measures, such as limiting vehicle idling time and shutting down equipment when not in use; (2) regular preventive maintenance to manufacturer specifications; and (3) use of low-emitting diesel engines meeting federal emissions standards for construction equipment, whenever available. These are the current "best practices" for limiting emissions from construction equipment; no party suggested otherwise. (Ex. 200, p. 4.1-92, Condition of Certification **AQ-SC5**.)

4. Emissions During Operation of the Facility

a. The Canyon Project's Emissions

The primary sources of GHG emissions during the CPP's operation will be from the natural gas-fired combustion turbines. There will also be a small amount of GHG emissions from the diesel fuel consumed in the new emergency black start engine, and sulfur hexafluoride emissions from electrical components. (Ex. 200, p. 4.1-90.) In operation, the project is – assuming 1,080 hours at 194 MW and 180 hours at 97 MW during startup and shutdowns -- expected to produce 121,874 metric tons of CO_2 equivalent annually. (Ex. 200, p. 4.1-90, Greenhouse Gas Table 3.)

The project's annual GHG emissions from operation equate to an emissions performance factor of 0.537 metric tons of CO_2 per megawatt hour. This is greater than the Emission Performance Standard (EPS) of 0.500 metric tons of CO_2 per megawatt-hour described above. However, that standard does not apply to this project, which has a capacity factor of less than 15 percent; only projects with capacity factors of 60 percent and greater are subject to the standard. (Ex. 200, pp. 4.1-89 – 4.1-90.) Therefore, under SB 1368 California utilities will be allowed to purchase power from CPP under long-term contracts (five or more years).

As we also noted above, the EPS is the only GHG LORS currently applicable to the CPP and determining compliance was easily calculated. Assessing whether the CPP's operational emissions are "significant" under CEQA is a more complicated matter.

b. Determining Significance: the Necessity of a System Approach

The process of electricity generation, production, and consumption has a unique physical reality. As a result, assessing the GHG impacts of power plants requires an approach that is different from the approach taken to analyze any other type of project, whether the analysis is scientific or legal.

In general, when an agency conducts a CEQA analysis of a proposed factory, shopping mall, or residential subdivision, it does not need to analyze how the operation of the proposed project is going to affect the entire system of factories, malls, or houses in a large multistate region. Rather, analyses of such projects are generally on a stand-alone basis. Power plants are different.

California's electricity system – which is actually a system serving the entire western region of the U.S., Canada, and Mexico – is large and complex. Hundreds of power plants, thousands of miles of transmission and distribution lines, and millions of points of electricity demand operate in an interconnected, integrated, and simultaneous fashion. Because the system is integrated, and because electricity is produced and consumed instantaneously, and will be unless and until large-scale electricity storage technologies are available, any change in demand and, most important for this analysis, any change in output from any generation source, is likely to affect the output from all generators. (Committee CEQA Guidance (*Committee Guidance on Fulfilling California Environmental Quality Act Responsibilities for Greenhouse Gas Impacts in Power Plant Siting Applications,* CEC-700-2009-004, pp. 20 to 22.)[11]

Not only is the electricity system integrated physically, but it is also operated as such. The California Independent System Operator (CAISO) is responsible for operating the system so that it provides power reliably and at the lowest cost. Thus the CAISO dispatches generating facilities generally in order of cheapest to operate (i.e., typically the most efficient) to most expensive (i.e., typically the least efficient). (Committee CEQA Guidance, p. 20.) Because operating cost is correlated with heat rate (the amount of fuel that it takes to generate a unit of

[11] The report was issued in March 2009 and is found on the Commission website at: **http://www.energy.ca.gov/2009publications/CEC-700-2009-004-CEC-700-2009-004.PDF**

electricity), and, in turn, heat rate is directly correlated with emissions (including GHG emissions), *when one power plant runs, it usually will take the place of another facility with higher emissions that otherwise would have operated*. (Ex. 200, p. 4.1-92; Committee CEQA Guidance, p. 20; *2007 IEPR*, p. 63.)

In sum, the unique way power plants operate in an integrated system means that we must assess their operational GHG emissions on a system-wide basis.

We now turn to the specifics of the project's operation.

c. The CPP's Effects on the Electricity System

(1) Providing Capacity and Ancillary Services

Power plants serve a variety of functions. Most obviously, they provide energy to keep lights shining and machinery working (typically referred to as "load"). But in order to keep the system functioning properly, they must also meet local needs for capacity and for the "ancillary services" of regulation, spinning reserve, non-spinning reserve, voltage support, and black start capability. (Ex. 200, p. 4.1-88.)

Even as more renewable generation is introduced into the system, gas-fired power plants such as CPP will be necessary to provide intermittent generation support, grid operations support, extreme load and system emergencies support, and general energy support, as well as meet local capacity requirements. At this time, gas-fired plants are better able to provide such services than are most renewables because they can be called upon when they are needed (dispatchable). (Ex. 200, p. 4.1-94.)

(2) Displacement of More-Costly, Less-Efficient, and Higher-Emitting Power Plants

The Canyon Power Plant Project will have a heat rate 9,907 Btu/kWhr. This heat rate is lower than the heat rates of most other peaking and boiler generating units in the area. Therefore, when the project operates, it will most likely displace one or more of those plants and reduce the GHG emissions that would otherwise occur. (Ex. 200, pp. 4.1-92 to 4.1-93.)

(3) Fostering Renewables Integration

Most new renewable generation in California will be wind and solar generated power. Unfortunately, the wind does not blow, nor does the sun shine, around the clock. As a result, in order to rely on such intermittent sources of power,

utilities must have available other generating resources or significant storage that can fill the gap when renewable generation decreases. Indeed, because of this need for backup generation, or if and when utility-scale storage becomes feasible and cost-effective, nonrenewable generation will have to increase in order for the state to meet the 20 percent renewable portfolio standard. (Ex. 200, p. 4.1-94.)

The CPP is such a resource. Because it can start quickly, it will provide flexible, dispatchable power necessary to integrate some of the growing generation from intermittent wind and solar generation. And it can do so more effectively than the more GHG efficient but slower reacting combined–cycle generators (Ex. 200, p. 4.1-94.)

d. The Limited Benefits of Natural Gas Power Plants

At present, the California electricity system needs new efficient gas-fired generation to displace and replace less efficient generation, and to help integrate additional intermittent renewable generation. But as new gas plants are built to meet those needs, the system will change; moreover, the specific location, type, operation, and timing of each plant will be different. As a result, each plant will have somewhat different impacts. Furthermore, future implementation of efficiency and demand response measures, and new technologies such as storage, smart grid, and distributed generation, may also significantly change the physical needs and operation of the electrical system.

Therefore, we cannot and should not continue adding gas-fired plants *ad infinitum*. To do so, the recently adopted Commission Decision approving the Avenal Energy Project (800-2009-006 CMF, 08-AFC-1) expressed the Energy Commission's intention to require that any new natural-gas-fired plant:

(1) not increase the overall system heat rate for natural gas plants;

(2) not interfere with generation from existing renewable facilities nor with the integration of new renewable generation; and

(3) take into account the factors listed in (1) and (2), reduce system-wide GHG emissions and support the goals and policies of AB 32.

Here the evidence establishes that the CPP will not increase the system heat rate as it has a lower heat rate than many of the generators in the greater Los Angeles area. (Compare the CPP heat rate of 9,907 Btu/kWhr with those in Ex. 200, Greenhouse Gas Table 4, p. 4.1-93.) As we describe above, it will support,

rather than interfere with, existing and new renewable generation. Finally, it will reduce system-wide GHG emissions and otherwise support the goals of AB 32.

FINDINGS OF FACT

1. The GHG emissions from the Canyon Power Plant Project construction are likely to be 1,235 $MTCO_2$ equivalent ("$MTCO_2E$") during the 12-month construction period.

2. There is no numerical threshold of significance under CEQA for construction-related GHG emissions.

3. Construction-related GHG emissions are less than significant if they are controlled with best practices.

4. The project will use best practices to control its construction-related GHG emissions.

5. State government has a responsibility to ensure a reliable electricity supply, consistent with environmental, economic, and health and safety goals.

6. California utilities are obligated to meet whatever demand exists from any and all customers.

7. The maximum annual CO_2 emissions from the CPP's operation will be 121,874 $MTCO_2$, which constitutes an emissions performance factor of 0.537 $MTCO_2$ / MWh.

8. Under SB 1368 and implementing regulations, California's electric utilities may not enter into long-term commitments with base load power plants with CO_2 emissions that exceed the Emissions Performance Standard ("EPS") of 0.500 $MTCO_2$ / MWh. A base load power plant is one with a capacity factor of 60 percent or greater. CPP's capacity factor is 15 percent and therefore EPS is inapplicable to the project.

9. AB 32 requires CARB to adopt regulations that will reduce statewide GHG emissions, by the year 2020, to the 1990 level. Executive Order S-3-05 requires a further reduction, by the year 2050, to 80 percent below the 1990 level.

10. The California Renewable Portfolio Standard (RPS) requires the state's electric utilities obtain at least 33 percent of the power supplies from renewable sources, by the year 2020.

11. California's power supply loading order requires California utilities to obtain their power first from the implementation of all feasible and cost-effective energy efficiency and demand response, then from renewables and distribution generation, and finally from efficient fossil-fired generation and infrastructure improvement.

12. Even as more renewable generation is added to the California electricity system, gas-fired power plants such as the CPP will be necessary to meet local capacity requirements and to provide intermittent generation support, grid operations support, extreme load and system emergencies support, and general energy support.

13. There is no evidence in the record that construction or operation of the CPP will be inconsistent with the loading order.

14. When it operates, the CPP will have a heat rate of 9,907 Btu/kWh.

15. When it operates, the CPP will displace generation from less-efficient (i.e., higher-heat-rate and therefore higher-GHG-emitting) power plants.

16. The CPP operation will reduce overall GHG emissions from the electricity system.

17. Intermittent solar and wind generation will account for most of the installation of renewables in the next few decades.

18. Intermittent generation needs dispatchable generation, such as the CPP, in order to be integrated effectively into the electricity system.

19. The CPP operation will foster the addition of renewable generation into the electricity system, which will further reduce system GHG emissions.

20. The CPP will not have a growth-inducing impact.

21. The addition of some efficient, dispatchable, natural-gas-fired generation will be necessary to integrate renewables into California's electricity system and meet the state's RPS and GHG goals, but the amount is not without limit.

CONCLUSIONS OF LAW

1. The CPP's construction-related GHG emissions will not cause a significant environmental impact.

2. The GHG emissions from a power plant's operation should be assessed in the context of the operation of the entire electricity system of which the plant is an integrated part.

3. The CPP's operational GHG emissions will not cause a significant environmental impact.

4. The CPP's GHG emissions will comply with the SB 1368 EPS.

5. The CPP's operation will help California utilities meet their RPS obligations.

6. The CPP's construction and operation will not be inconsistent with California's loading order for power supplies.

7. The CPP's operation will foster the achievement of the GHG goals of AB 32 and Executive Order S-3-05.

8. The GHG emissions of any power plant must be assessed within the system on a case-by-case basis.

9. The CPP project will not increase the overall system heat rate for natural gas plants.

10. The CPP project will not interfere with generation from existing renewables or with the integration of new renewable generation; and

11. Taking into account Conclusions of Law 9 and 10 above, the CPP project will reduce system-wide GHG emissions.

B. AIR QUALITY

Operation of the Canyon Power Plant (CPP) 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.

This section examines the expected air quality impacts of the emissions of criteria air pollutants resulting from construction and operation of the CPP Project. Criteria air pollutants are those air contaminants for which the state and/or federal government has established an ambient air quality standard to protect public health. The criteria pollutants analyzed are nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), and particulate matter (PM10 and PM2.5). In addition, volatile organic compounds (VOC) emissions are analyzed because they are precursors to both ozone (O_3) and particulate matter. Because NO_2 and SO_2 readily react in the atmosphere to form other oxides of nitrogen and sulfur respectively, the terms nitrogen oxides (NO_x) and sulfur oxides (SO_x) are also used when discussing these two pollutants. (Ex. 200, p. 4.1-1.)

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. (Ex. 200, pp. 4.1-1 to 4.1-2.)

The United States Environmental Protection Agency (U.S. EPA) and the California Air Resource Board (CARB) have both established allowable maximum ambient concentrations of criteria air pollutants based on public health impacts, called ambient air quality standards (AAQS). The state AAQS, established by CARB, are typically lower (more stringent) than the federal AAQS, established by the U.S. EPA. The state and federal air quality standards are listed in **AIR QUALITY Table 1.** As indicated, the averaging times for the various air quality standards (the duration over which all measurements taken are averaged) range from one hour to one year (annual). The standards are read as a concentration, in parts per million (ppm), or as a weighted mass of material per unit volume of air, in milligrams (10^{-3} g, 0.001 g, or mg) or micrograms (10^{-6} g, 0.000001 g, or µg) of pollutant in a cubic meter (m^3) of air, averaged over the applicable time period. (Ex. 200, p. 4.1-5.)

The ambient air quality standards shown in **AIR QUALITY Table 1** define the maximum amount of a pollutant that can be present in outdoor air without harm to the public's health. These standards are set at levels to adequately protect the health of all members of the public, including those most sensitive to adverse air quality impacts such as the aged, people with existing illnesses, children, and infants, and include a margin of safety.

AIR QUALITY Table 1
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard	Federal Standard
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	--
	8 Hour	0.07 ppm (140 µg/m^3)	0.075 ppm (157 µg/m^3)
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m^3	150 µg/m^3
	Annual	20 µg/m^3	--
Fine Particulate Matter (PM2.5)	24 Hour	--	35 µg/m^3
	Annual	12 µg/m^3	15 µg/m^3
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)
	8 Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m^3)	--
	Annual	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm (655 µg/m^3)	--
	3 Hour	--	0.5 ppm (1300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)
	Annual	--	0.03 ppm (80 µg/m^3)
Lead	30 Day Average	1.5 µg/m^3	--
	Calendar Quarter	--	1.5 µg/m^3
Sulfates	24 Hour	25 µg/m^3	--
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (42 µg/m^3)	--
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm (26 µg/m^3)	--
Visibility Reducing Particulates	24 hours	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.	--

(Ex 200, p. 4.1-6.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is located in the City of Anaheim, in the southwestern part of the South Coast Air Basin (Basin). The area surrounding the project site is primarily light industrial and commercial uses. Daily high temperatures average approximately 70 degrees F in the winter and 86 degrees F in the summer. The

diurnal temperature differences (the temperature difference between night and day) ranges normally from 19 to 24 degrees F. Annual precipitation totals approximately 11 inches, primarily in the winter months between November and March. (Ex. 200, pp. 4.1-4 – 4.1-5.)

The Canyon Power Plant Project site is under the jurisdiction of the South Coast Air Quality Management District ("SCAQMD," "the Air District," or "the District"). The entire area within the boundaries of an air district is usually evaluated to determine a district's attainment status. **AIR QUALITY Table 2** lists the attainment and non-attainment status of the District for each criteria pollutant for both the federal and state ambient air quality standards. (Ex. 200, p. 4.1-7.)

AIR QUALITY Table 2
Attainment / Non-Attainment Classification
South Coast Air Quality Management District (SCAQMD)

Pollutants	Federal Classification	State Classification
Ozone	Extreme Non-Attainment	Extreme Non-Attainment
PM10	Serious Non-Attainment	Non-Attainment
PM2.5	Non-Attainment	Non-Attainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment

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

1. SCAQMD's Final Determination of Compliance

SCAQMD released its Final Determination of Compliance (FDOC) on June 24, 2009. (Ex. 45.) 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. The District's permit conditions are incorporated into the Conditions of Certification, below.

In the power plant certification process, this Commission Decision 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. (Pub. Res. Code § 25500; Cal. Code Regs, tit. 20, §§ 1744.5, 1752.3.)

2. Ambient Air Quality

Ambient air quality data has been collected extensively in the air basin. The maximum ambient measurements for the years 1999 through 2005 show that ozone, PM10, and PM2.5 levels continue to violate applicable standards while CO, NO_2 and SO_2 levels do not violate the standards. The following discussion provides an overview of air quality conditions in the air basin and describes the issues addressed by the parties in consultation with the District. (Ex. 200, pp. 4.1-7 – 4.1-9.)

a. Attainment Criteria Pollutants

Although both NO_2 and SO_2 are classified as in attainment with all state and federal AAQS, they remain of significant concern since they are precursors to PM10, and NO_2 is a precursor to ozone. Because NO_2 and SO_2 are precursors to non-attainment pollutants, the District requires full offset mitigation for both.

Nitrogen Dioxide (NO_2)

Most combustion activities and engines emit significant quantities of nitrogen oxides (NOx), a term used in reference to combined quantities of nitrogen oxide (NO) and NO2. Most of the NOx emitted from combustion sources is NO. Although only NO_2 is a criteria pollutant, NO is readily oxidized in the atmosphere into NO_2. In urban areas, the ozone concentration level is typically high. That level will drop substantially at night as NO is oxidized into NO_2, and increase again in the daytime as sunlight disassociates NO_2 into NO and ozone. (Ex. 200, p. 4.1-9.)

Sulfur Dioxide (SO_2)

Sulfur dioxide is typically emitted as a result of the combustion of fuels containing sulfur. In significant ambient quantities, SO_2 can lead to acid rain and sulfite particulate formation. Natural gas contains very little sulfur and consequently results in very little SO_2 emissions when combusted. By contrast, fuels high in sulfur, such as lignite (a type of coal), emit large amounts of SO_2 when combusted. Sources of SO_2 emissions within the basin come from every economic sector and include a wide variety of gaseous, liquid and solid fuels. (Ex. 200, p. 4.1-10.)

Carbon Monoxide (CO)

CO is generated from most combustion engines and other combustion activities. CO is considered a local pollutant, as it will rapidly oxidize. It is thus found in high concentrations only near the source of emissions. Automobiles and other mobile sources are the principal source of CO emissions. High levels of CO emissions can also be generated from fireplaces and wood-burning stoves. Industrial sources, including power plants, typically constitute less than 10 percent of the ambient CO levels in the South Coast region.

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. Because the mobile sector (ships, cars, trucks, busses and other vehicles) is the main source of CO, ambient concentrations of CO are highly dependent on traffic patterns. Carbon monoxide concentrations in 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, all the counties in California are in compliance with the state CO AAQS. (Ex. 200, p. 4.1-10.)

b. Non-Attainment Criteria Pollutants

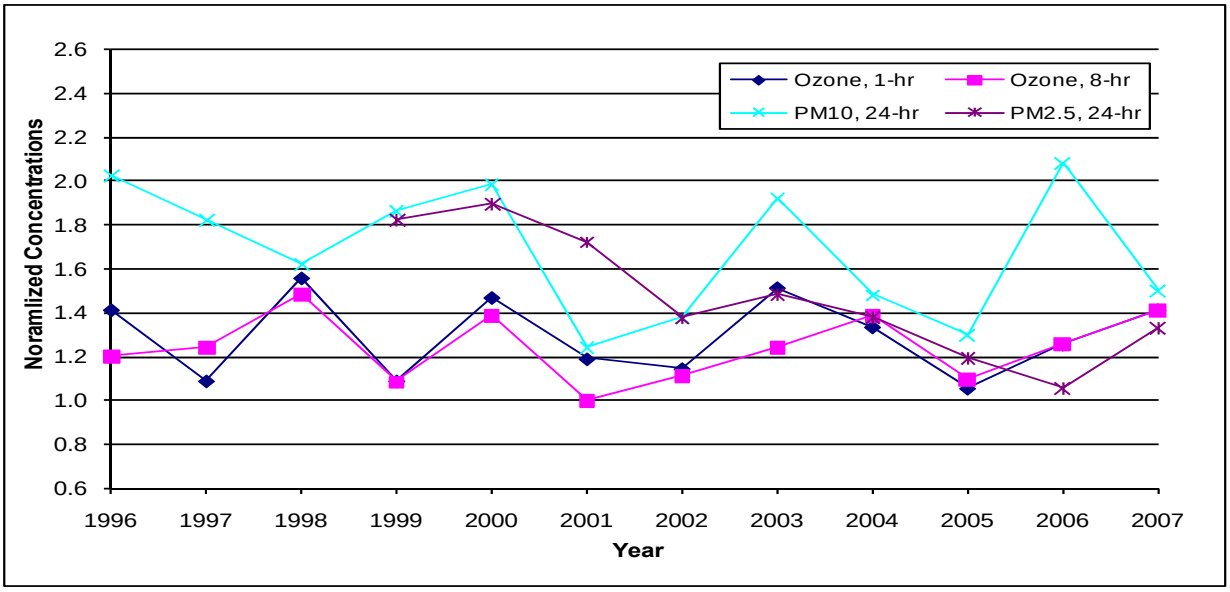
Ozone (O_3)

Ozone is not directly emitted from stationary or mobile sources, but is formed as the result of chemical reactions in the atmosphere between precursor air pollutants. The primary ozone precursors are NO_x and VOC, both of which interact in the presence of sunlight to form ozone.

The SCAQMD is being re-classified as a federal extreme non-attainment area and is classified as a state extreme non-attainment area for ozone (the worst possible classification). Efforts to achieve ozone attainment typically focus on controlling the ozone precursors NO_x and VOC. SCAQMD-published state implementation plans (SIP) rely on the ARB to control mobile sources, the U.S.EPA to control emission sources under federal jurisdiction, and SCAQMD to control local industrial sources. Through these control measures, California and the SCAQMD are expected to reach attainment of the federal ozone ambient air quality standard by 2024.

Exceedances of the federal and state ozone ambient air quality standards occur in the region both up wind and downwind of the project site. **Air Quality Figure 1** shows the highest measured ozone and particulate concentrations 1996 - 2007.

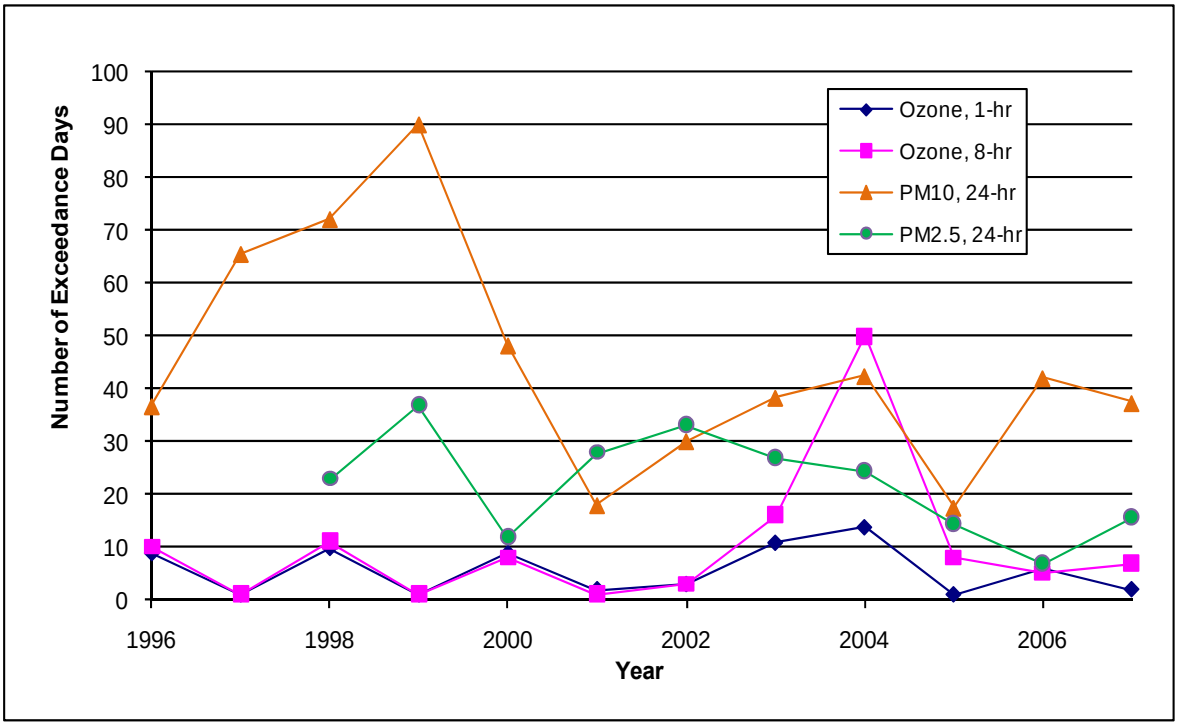
Air Quality Figure 1
1996-2007 Historical Ozone and PM Air Quality Data
Anaheim-Pampas Lane Monitoring Station, Orange County



Notes: The highest measured ambient concentrations were divided by their applicable standard and provided as a graphical point. Any point on the chart that is greater than one means that the measured concentrations of such air contaminant exceed the standard, and any point that is less than one means that the respective standard is not exceeded for that year. For example the 1-hour ozone concentration in 2007 is 0.127 ppm/0.09 ppm standard = 1.41. Data for the years 1996-2000, and 2001-2007 are from the Anaheim-Harbor Blvd monitoring station, and from the Anaheim-Pampas Lane monitoring station, respectively.
(Ex. 200, p. 4.1-9.)

Air Quality Figure 2 shows the number of days each year on which exceedances of the state 1-hour and 8-hour ozone standards, the 24-hour state PM10 standard, and the 24-hour federal PM2.5 standard occurred for the closest representative monitoring site.

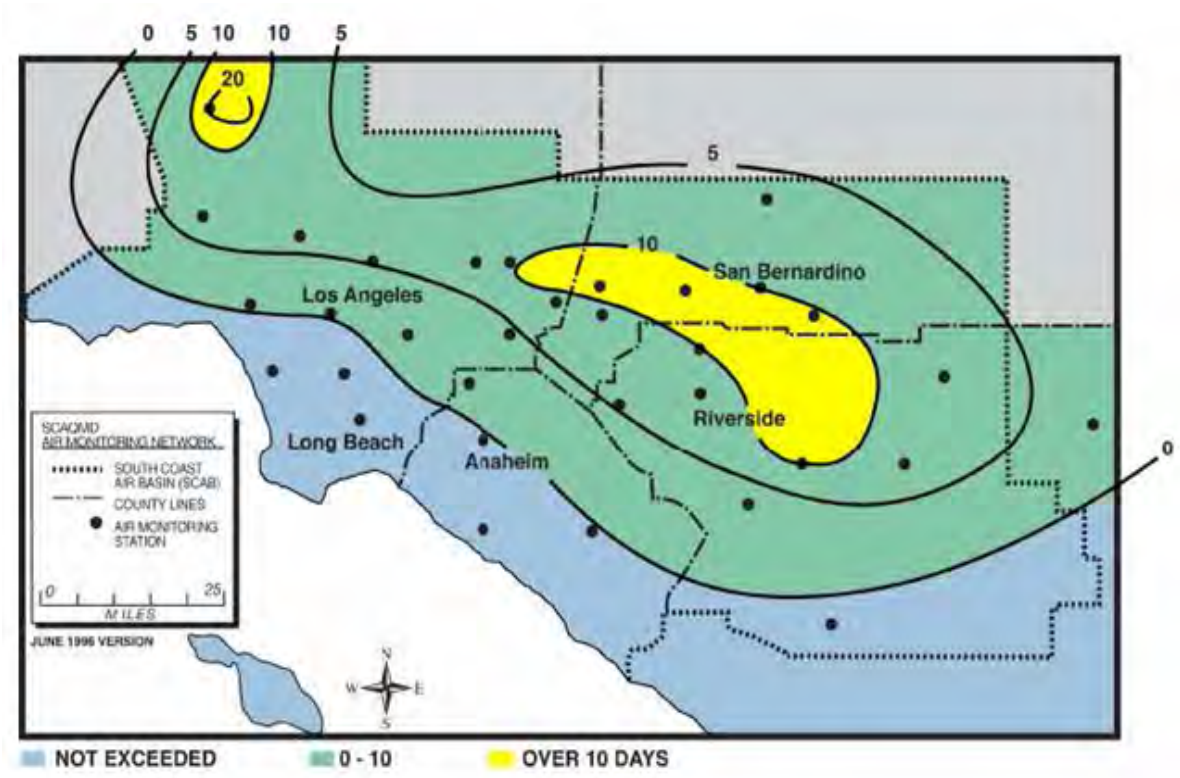
Air Quality Figure 2
Ozone, PM10 and PM2.5 1996-2007
Number of Days Exceeding the Ozone, PM10 State AAQS & PM2.5 Federal AAQS



(Ex. 200, p. 4.1-11)

The proposed project area is very near the coastal regions of the SCAQMD. The ambient air quality data in SCAQMD shows the characteristic trend to higher ambient ozone concentrations farther away from the coast, due to prevailing onshore airflow. **Air Quality Figure 3** provides a graphical representation of this effect for a single year, showing how the onshore airflow pushes pollution inland and thus focuses regional violations away from the coast. The project site is located approximately 5 miles east northeast of the Anaheim monitoring station shown in the figure and within the 0 to 5 day exceedance zone**.**

Air Quality Figure 3
Ozone – 2006
Number of Days Exceeding 1-hour Federal Standard
(1-hour average ozone > 0.12 ppm)



(Ex. 200, p. 4.1-12)

In recent years SCAQMD regulatory programs have significantly improved the air quality in spite of the growing population and industrial and commercial enterprises. However, **Air Quality Figure 1** shows limited improvement in peak ozone concentrations near the project site and the ozone component of overall ambient air quality in the area remains a concern. (Ex. 200, pp. 4.1-10 – 4.1-12.)

Respirable Particulate Matter (PM10)

PM10 is emitted directly and also generated downwind of a source when various emitted precursor pollutants chemically interact in the atmosphere to form solid precipitates, sometimes called secondary pollutants. Gaseous emissions of pollutants such as NO_x, SO_2, and VOC from turbines, and ammonia (NH_3) from NO_x control equipment can form particulate nitrates, sulfates, and organic solids.

The South Coast Air Basin has been designated a non-attainment zone for the federal annual PM10 ambient air quality standards for the state 24-hour and annual PM10 ambient air quality standards. **Air Quality Figure 2**, above, shows

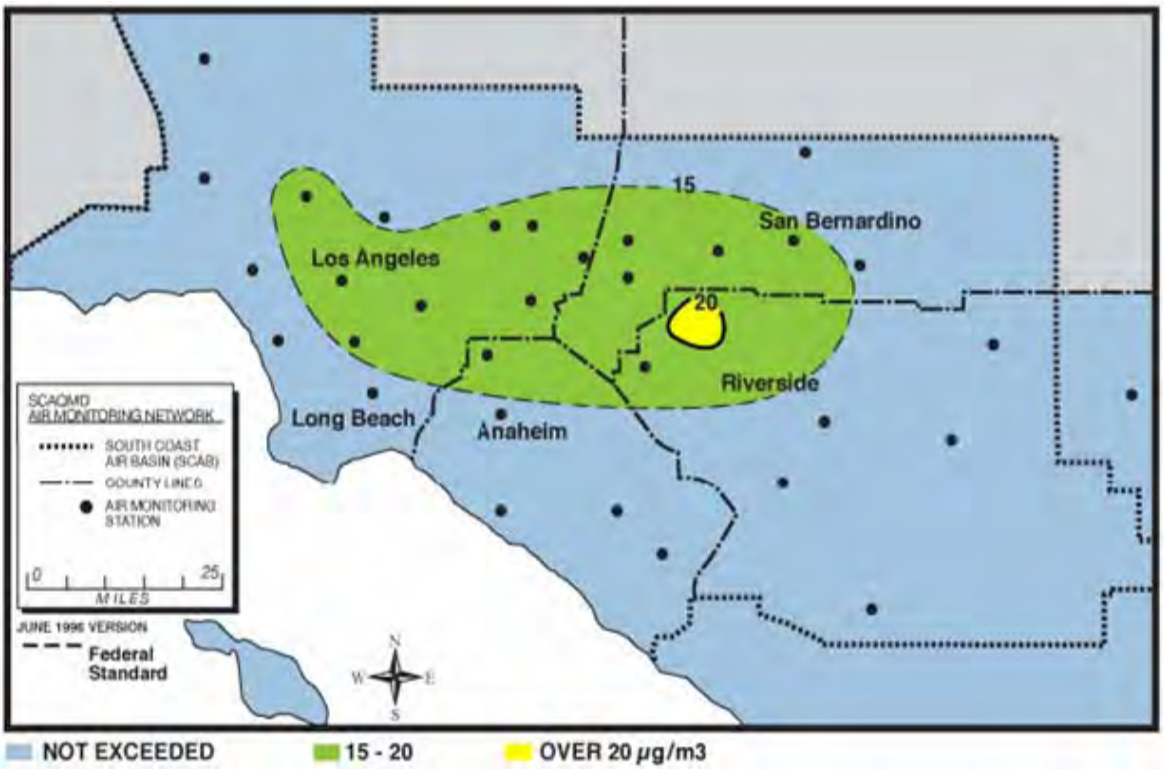
the number of days each year on which exceedances of the state 24-hour PM10 standard occurred for Anaheim-Pampas monitoring station. The data shows a fluctuating pattern, but overall PM10 concentration has decreased since 1999. (Ex. 200, pp. 4.1-12 – 4.1-13.)

Fine Particulate Matter (PM2.5)

PM2.5, a subset of PM10, consists of particles with an aerodynamic diameter of 2.5 microns or less. Particles within the PM2.5 fraction penetrate more deeply into the lungs, and can be much more damaging by weight than larger particulates. PM2.5 is primarily a product of combustion and secondary particulate formation and includes nitrates, sulfates, organic carbon (ultra fine dust) and elemental carbon (ultra fine soot). **Air Quality Figure 2,** above, shows the number of days each year on which exceedances of the federal 24-hour PM2.5 standard of 35 $\mu g/m^3$ (there is no separate short-term state standard) occurred for the Anaheim-Pampas monitoring station.

The highest concentrations of PM2.5 in the SCAQMD occur within the counties of San Bernardino and Riverside (similarly to PM10), with relatively lower concentrations extending west toward the project site located closer to the coastal region. This effect is shown graphically in **Air Quality Figure 4** below. The project site is located approximately 5 miles east northeast of the Anaheim monitoring station location shown on the figure and is within the 15 to 20 $\mu g/m^3$ area of **Air Quality Figure 4.** (15 $\mu g/m^3$ is the federal standard annual standard.)

Air Quality Figure 4
PM2.5 – 2006
Annual Arithmetic Mean, µg/m^3



Source: Ex. 200.

PM2.5 standards were first adopted by U.S.EPA in 1997. SCAQMD has submitted a PM2.5 SIP. Once the plan is approved by U.S.EPA, the District will prepare revised NSR rules that will likely require offsetting of PM2.5 emissions. (Ex. 200, pp. 4.1-13 – 4.1-14.)

<u>Summary</u>

Based upon the undisputed evidence discussed above, we accept the Staff Recommended Background Concentrations listed in **AIR QUALITY Table 3**, below, as representing an acceptable level of background concentrations for use in the Air Quality Impacts Analysis.

Air Quality Table 3
Background Concentrations (μg/m^3)

Pollutant	Averaging Time	Recommended Background	Limiting Standard	Percent of Standard
NO_2	1 hour	214.7	339	63%
	Annual	39.9	57	70%
CO	1 hour	5,175	23,000	23%
	8 hour	3,633	10,000	36%
PM10	24 hour	104	50	208%
	Annual	33.4	20	167%
PM2.5	24 hour	46.5	35	133%
	Annual	14.7	12	123%
SO_2	1 hour	31.4	655	5%
	24 hour	10.5	105	10%
	Annual	2.7	80	3%

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

3. Impacts Analysis

The proposed CPP project's major air emissions sources are:

- Four General Electric (GE) LM 6000PM Sprint Combustion Turbine generators (CTGs);
- Oxidation catalyst and selective catalytic reduction (SCR) equipment;
- A four-cell chiller cooling tower;
- A 1,141 hp black start diesel engine;
- A 10,000 gallon 19 percent aqueous ammonia tank;
- A 550 gallon underground oil/water separator;
- Linear Construction Elements consisting of:
  - 3,240 foot long (0.61 miles) natural gas pipeline;
  - 2,185 foot long (0.41 miles) process water supply pipeline;
  - 7,100 foot long (1.34 miles) electrical transmission line for interconnection;
  - 7,000 foot long (1.33 miles) fiber optic cable line.

The potential emissions from the facility are classified in three categories: construction, initial commissioning, and operation. (Ex. 200, p. 4.1-15.).

a. Construction Impacts

Facility construction is expected to take about 12 months. The power plant project construction consists of three major areas of activity: 1) the civil/structural construction 2) the mechanical construction, and 3) the electrical construction. (Ex. 200, p. 4.1-16.)

The maximum construction emissions for onsite construction would occur during Month 1 due to demolition of existing buildings and asphalt at the site, in addition to grading and drainage activities. The construction activities during the first month require the use of larger equipment, which has higher emission rates than any other construction month. The maximum emissions from linear line construction would occur during the 5th month, during which the gas pipeline would be constructed. The proposed natural gas pipeline would involve the use of jack and bore construction techniques under Carbon Creek, with the construction of one pit on each side of the creek to facilitate the operation of the jack and bore equipment. (Ex. 200, pp. 4.1-15 – 4.1-16.)

The construction air quality impact analyses prepared by the applicant considered both fugitive dust generated from the construction activity and combustion emissions produced by construction equipment for onsite construction work. The maximum short-term impacts were modeled based on the worst-case onsite emissions estimated by the applicant. Annual impacts were modeled with the combined emissions that would occur over the entire 12-month construction period. The construction modeling results were added to the assumed maximum background values and compared to the most restrictive AAQS, and are presented in **Air Quality Table 4**.

Air Quality Table 4
Maximum Construction Impacts (µg/m^3)

POLLUTANT	Averaging Time	Modeled Project Impact	Back-ground	Total Impact	Limiting Standard	Percent of Standard
NO_2	1 hour	105.2	214.7	319.9	339	94%
	Annual	5.8	39.9	45.7	57	80%
CO	1 hour	63.0	5,175	5238	23,000	23%
	8 hour	32.9	3,633	3665.9	10,000	37%
PM10	24 hour	43.7	104	147.7	50	295%
	Annual	2.4	33.4	35.8	20	179%
PM2.5	24 hour	10.11	46.5	56.6	35	162%
	Annual	0.75	14.7	15.5	12	129%
SO_2	1 hour	0.10	31.4	31.5	655	5%
	24 hour	0.02	10.5	10.5	105	10%
	Annual	0.006	2.7	2.7	80	3%

Ex. 200, p. 4.1-23.

As Air Quality Table 15 shows, the project's construction emissions would not cause a new violation of the NO_2, CO and SO_2 ambient air quality standards, and thus these impacts are not significant. The particulate emissions, however, create a potentially significant impact because they would contribute to existing violations of the annual and 24-hour standards for PM10 and PM2.5. (Ex. 200, p. 4.1-23 – 4.1-24.)

b. Construction Mitigation

The Applicant proposed a number of mitigation and emissions control measures for use during the construction of the project, specifically:

- Use of diesel fuel with an ultra-low fuel sulfur content of 0.0015 percent by weight (15 ppm) to control exhaust emissions from heavy diesel construction equipment.
- Maintain a dust control efficiency of 85 percent for activities on the project site by:
- Use of water or chemical dust suppressants on unpaved surfaces;
- Use of vacuum or water flushing on paved surfaces;
- Covering or maintaining freeboard on haul vehicles;
- Limiting traffic speed on unpaved areas to 15 mph;
- Installation of erosion control measures;
- Replanting of disturbed areas as soon as possible;
- Use of gravel pads and wheel washers as needed; and

- Use of wind breaks and dust suppression as needed to control wind erosion.

Commission staff agrees with the Applicant's proposed mitigation measures and has proposed additional measures, which are contained in Conditions of Certification **AQ-SC1** through **AQ-SC5**. They include modifications to the fugitive dust controls necessary to control the higher fugitive dust emission potential for this type of project, and modifications to the off-road equipment mitigation measure to update it to current staff standards.

Condition **AQ-SC1** requires an on-site construction mitigation manager who would be responsible for the implementation and compliance of the construction mitigation program. The documentation of implementation and compliance would be provided in the monthly construction compliance report required by Condition **AQ-SC2**. Condition **AQ-SC3** formalizes the fugitive dust control requirements. Condition **AQ-SC4** would limit the potential offsite impacts from visible dust emissions, to respond to situations when the control measures required by Condition **AQ-SC3** are not working effectively to prevent fugitive dust from leaving the construction site area.

Implementation of Condition **AQ-SC5** will mitigate the PM and NO_x emissions from the large diesel-fueled construction equipment. The Condition requires the use of U.S.EPA/ARB Tier 2 engine compliant equipment for equipment over 100 horsepower where available, a good faith effort to find and use available U.S.EPA/ARB Tier 3 engine compliant equipment over 100 horsepower, and 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. 4.1-24 – 4.1-25.)

Given the temporary 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 frame between completion of construction and the consistent production of electricity for sale on the market. Normal operating emission limits usually do not apply during initial commissioning procedures. The CPP project would go through several tests during initial commissioning. During the first set of tests, post-combustion controls would not be operational (i.e., the SCR and oxidation catalyst). (Condition of Certification **AQ-2**; Ex. 200, p. 4.1-27.)

A series of six commissioning activities was considered for the combustion turbine commissioning. Commissioning of each CTG would require maximum of 156 hours of operation, and total commissioning duration would be between 1 and 2.5 months as necessary to maintain monthly emissions below permitted limits. The Applicant proposes a commissioning period of approximately 6 months during which all installed equipment would be run and tested. The worst-case CTG commissioning emissions were conservatively estimated by assuming that the control efficiency of the applicable abatement systems would be essentially zero during the commissioning tests. Emissions of SO_2 are estimated by assuming full sulfur conversion in the natural gas to SO_2, and vary based on the amount of natural gas burned. Since the commissioning activities occur at low loads, SO_2 emissions would be higher from full load normal operations. The six different scenarios of commissioning emissions estimates and the maximum hourly commissioning emissions are presented in **Air Quality Tables 5 and 6**.

Air Quality Table 5
Estimated Initial Commissioning Emissions Per Turbine (lbs)

Activity	Hours	NOx	CO	VOC	SO_2	PM10
First fire the unit and then shutdown to check for leaks, etc.	24	200	822	27	1.4	12.3
Synchronization and check e-stop	18	150	617	20	1.0	9.2
Additional automatic voltage regulator (AVR) commissioning	18	261	329	8	1.3	11.4
Break-in-run	12	174	219	5	0.9	7.6
Dynamic commissioning of AVR and commission water injection and SPRINT	60	1,636	819	42	11.4	103.8
Base Load AVR commissioning	24	1,023	409	30	7.6	67.2
Total Commissioning Emissions	156	3,443	3,213	131	23.9	211.5

Ex. 200, p. 4.1-17.

The SCR and oxidation catalyst control systems for NOx and CO, respectively, may not be installed until very late in the commissioning period, and the applicant's assumed emission values shown in **Air Quality Table 5** do not assume control from these two devices. However, the SCR and Oxidation Catalyst will be installed, tested, and fully functional upon completion of the initial commissioning period for each turbine. (Ex. 200, pp. 4.1-16 – 4.1-17.)

Air Quality Table 6
Maximum Hourly Commissioning Emissions per Turbine (lbs/hr)

	NOx	CO	VOC	SO_2	PM10
Maximum Hourly Commissioning Emissions	42.63	34.27	1.25	0.32	2.8

Ex. 200, p. 4.1-17.

Impacts modeling analysis for commissioning was conducted for CO and NO_x, whose impacts would be expected to be significantly higher than during normal operations because the SCR and oxidation catalyst emission control systems may not be operating during portions of the commissioning tests. Modeling was conducted for the test that was expected to produce the highest off-site concentrations at ground level. For the CO maximum impacts, the activity labeled as "Synch and check e-stop" in **Air Quality Table 5** was used. In NO_x

maximum impacts modeling, the emissions rates during the activity labeled as "Base load AVR commissioning" in **Air Quality Table 5** was used.

The modeling was conservatively run to determine if all 4 CTGs could be tested simultaneously, and the results show that all four CTGs could undergo testing without causing the NO_2 or CO ambient standards to be exceeded. However, each CTG is expected to be tested individually. The commissioning modeling results demonstrate that when the maximum incremental commissioning impacts are added to applicable background concentrations and compared with the most stringent state or national ambient standards, no violation of the applicable AAQS for CO and NO_2 is predicted to occur. The modeling results estimated by AERMOD are presented in **Air Quality Table 7**. (Ex. 200, p. 27.)

Air Quality Table 7
CTG Commissioning Modeling
Maximum 1 hour Impacts – All Four Turbines (μg/m^3)

POLLUTANT	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
NO_2, 1-Hr	58.48	214.7	273.2	338	81%
CO, 1- Hr	122.5	5,175	5,298	23,000	23%
CO, 8- Hr	103.95	3,633	3,737	10,000	37%

Source: Ex. 200.

We find that these modeling results indicate that no significant impacts will occur during initial commissioning.

d. Operational Phase Impacts

The Canyon Power Plant Project's air pollutant emissions impacts will be reduced by using emission control equipment on the project and by providing emission offsets. Each CTG's exhaust would be treated by a selective catalytic reactor (SCR) system before release to the atmosphere. The SCR process chemically reduces NO_x to elemental nitrogen and water vapor by injecting ammonia into the flue gas stream in the presence of a catalyst and excess oxygen. VOC and CO would be controlled at the CTG combustor and by an oxidation catalyst in which organic compounds and CO chemically react with excess oxygen to form nontoxic carbon dioxide and water. Unlike the SCR system, an oxidation catalyst does not require any additional chemicals.

The exclusive use of natural gas, an inherently clean fuel that contains very little noncombustible solid residue, would limit the formation of SO_2 and PM10.

Natural gas does contain small amounts of naturally occurring reduced sulfur compounds, such as H_2S, and a sulfur-based scenting compound known as mercaptan which result in sulfur dioxide emissions when combusted. However, in comparison to other fuels used in modern thermal power plants, such as fuel oil or coal, the amount of sulfur dioxide produced from the combustion of natural gas is very low. Like SO_2, the emission level of PM10 from natural gas combustion is also very low compared to fuel oil or coal. The natural gas that will fuel CPP is expected to have a maximum short term sulfur content of 0.75 gr/100scf (grains per 100 cubic feet at standard temperature and pressure), and an annual average sulfur content of 0.25 gr/100scf.

The majority of the emissions from cooling towers are pure water vapor; however, a small amount of liquid water can escape and is known as "drift". Cooling tower drift consists of a mist of very small water droplets, which can generate particulate matter from the dissolved solids in the circulating water that remain after the water evaporates. To limit these particulate emissions, cooling towers use drift eliminators to capture these water droplets, and cooling tower operators are required to monitor the total dissolved solids (TDS) in the cooling tower recirculation water to ensure that it does not exceed a SCAQMD specified value. The Applicant intends to use drift eliminators on the cooling towers designed to limit drift to 0.001 percent of the circulating water. (Ex. 200, pp. 4.1-17 – 4.1-18.)

The Applicant estimated the maximum daily emissions for NO_x, CO, and VOC based on 2 startup/warmup events, 2 shutdown events, and remaining time at normal operation for 22 hours and 30 minutes. The maximum daily emission rates for PM10 and SO_2 were based instead on 24 hours of full load operation, since PM10 and SO_2 emissions are proportional to fuel use. The total project maximum daily emissions are then conservatively estimated as the sum of the emissions from all four CTGs, 24-hour operation of the cooling tower, and a single hour of black start engine operation for required testing purposes. These estimates are presented in **Air Quality Table 8** below.

Air Quality Table 8
Maximum Daily Emissions (lbs/day)

Process Description	NOx	CO	VOC	SO_2	PM10
Per Turbine					
Startup (lbs/day, per turbine)	20.18	8.12	1.58	--	--
Shutdown (lbs/day, per turbine)	1.38	1.24	0.54	--	--
Normal Operation (lbs/day, per turbine)	89.55	95.4	27	24.48	72
Total Facility					
Startup (lbs/day, for 4 CTGs)	80.72	32.48	6.32	--	--
Shutdown (lbs/day, for 4 CTGs)	5.52	4.96	2.16	--	--
Normal Operation (lbs/day, for 4 CTGs)	358.2	381.6	108	97.92	288.00
Black Start Engine	12.06	5.79	0.05	0.006	0.05
Cooling Towers (4 cells)	--	--	--	--	0.96
Total Facility Max. Daily Emission (lbs/day)	456.50	424.83	116.53	97.93	289.01

Source: Ex. 200, p. 4.1-20.

Air Quality Table 9 provides the SCAQMD's calculated 30 day average emissions per turbine that is used to determine District offset requirements for VOC, SO_2 and PM10.

Air Quality Table 9
SCAQMD 30-Day Average
Daily Emissions (lbs/day per turbine)

VOC	SO_2	PM10
4.31	1.13	9.98

Source: Ex. 200, p. 4.1-20.

The 30-day average daily emissions shown in **Air Quality Table 9**, even after multiplying by four to get an equivalent turbine number basis, are considerably lower than the maximum daily emissions shown in Air Quality Table 8 because the 30-day average daily emissions have been based on the applicant's proposed maximum operation limit of 90 hours of full-load operation and 20 startup and 20 shutdown events per month per turbine. This is equivalent to approximately 3 hours of full-load operation and 2/3rds of a startup and shutdown event per day, in comparison to the worst-case day assumptions of 22.5 hours of full-load operation and 2 startup and 2 shutdown events per day. (Ex. 200, p. 4.1-20.)

The Applicant provided a refined modeling analysis using the AERMOD model with OLM option to quantify the potential impacts of the project during both full

load operation and startup conditions. Startup impacts (NO_x and CO) are much larger than full load impacts not only because the emissions are greater, but also because the flue gas stream is at a lower velocity and temperature. This reduced emissions velocity means the pollutants will settle faster and thus have less time to dilute before reaching the ground. The modeling emission rate assumptions are very conservative, based on worst case startup emission estimates from the turbine manufacturer. Typical startup events are likely to generate significantly fewer emissions and impacts. This analysis is additionally conservative in regards to the assumed background measurements. The assumption is that the highest background measurements, from the last three years, coincide (in both location and timing) with the maximum project emission impacts. Because such a high background level is unlikely to occur at the same time and location as the maximum impacts from the project, these modeled conditions are considered worst case, conservative, and not likely to occur.

The worst case (maximum) results of this modeling analysis are shown in **Air Quality Table 10**.

Air Quality Table 10
Refined Modeling Maximum Operating Impacts (μg/m^3)

POLLUTANT	Averaging Time	Modeled Project Impact	Background	Total Impact	Limiting Standard	Percent of Standard
NO_2	1 hour	107.39	214.7	322.1	338	95%
	Annual	0.406	39.9	40.3	56	72%
CO	1 hour	77.37	5,175	5,252	23,000	23%
	8 hour	6.36	3,633	3,639	10,000	36%
PM10	24 hour	1.83	104	105.8	50	212%
	Annual	0.02	33.4	33.4	20	167%
PM2.5	24 hour	1.83	46.5	48.3	35	138%
	Annual	0.039	14.7	14.7	12	123%
SO_2	1 hour	2.28	31.4	33.7	655	5%
	24 hour	0.039	10.5	10.5	105	10%
	Annual	0.004	2.7	2.7	80	3%

Source: Ex. 200, p. 4.1-26

Air Quality Table 10 shows that during worst case startup and full load operations, the facility could contribute to the existing PM10 and PM2.5 violations. Thus, the project PM10/PM2.5 emission impacts are significant if left unmitigated. As the project's impacts alone do not cause a violation of any NO_2, CO, or SO_2 ambient air quality standards under such conservative assumptions, we conclude that the project's direct impacts for those pollutants are less than significant. However, in light of the existing PM10, PM2.5, and ozone non-

attainment status for the project area, and because NO_x, VOC, and SO_x are precursors to these non-attainment pollutants, we consider the potential operating emissions to be potentially significant and, therefore, accept Staff's recommendation that the NO_x, VOC, PM, and SO_x emissions be mitigated at a minimum 1:1 offset ratio. (Ex. 200, pp. 4.1-25 – 4.1-26.)

4. Emission Controls

The Applicant proposes the following emission controls on the stationary equipment associated with the Canyon operation:

a. Turbines

The Applicant's proposed Best Available Control Technology (BACT) for the four CTGs would include ultra-low NO_x burners, water injection, selective catalytic reduction (SCR) with ammonia injection (for NO_x), an oxidation catalyst, operating exclusively on pipeline quality natural gas (for VOC, PM and SO_x) to limit emission levels. The Applicant proposes, and the FDOC Conditions establish the following BACT emission limits, for each of the four CTGs:

NOx: 2.5 ppmvd at 15 percent O2, 3.98 lbs/hour (1-hour average) [12]
CO: 4.0 ppmvd at 15 percent O2, 4.24 lbs/hour (1-hour average)
VOC: 2.0 ppmvd at 15 percent O2, 1.20 lbs/hour (1-hour average)
PM10/PM2.5: 3.0 lbs/hour
SO_2: 1.02 lbs/hour for short term (at 0.75 grains sulfur/100 scf), 0.34 lbs/hour for long term (at 0.25 grains sulfur/100 scf)
NH_3: 5.0 ppmvd at 15 percent O2, 3.64 lbs/hour. (1-hour average)

b. Four Cell Cooling Tower:

Drift rate, percent of recirculation rate: 0.001 percent, using a mist eliminator
PM10: 0.009 lbs/hour per cell, 0.04 lbs/hour (24-hour average)

c. Emergency Engine:

The proposed 1,141-BHP emergency black start engine would be a Tier II engine.

NOx: 6.4 grams/kW-hour, 12.06 lbs/hour
CO: 3.5 grams/kW-hour, 5.79 lbs/hour

[12] The Applicant has proposed to meet a more stringent limit of 2.3 ppm, but the SCAQMD has established 2.5 ppm as the NO_x BACT level for this project.

VOC: 1.0 grams/kW-hour, 0.05 lbs/hour
PM10: 0.2 grams/kW-hour, 0.05 lbs/hour (24-hour average)
SO_2: Diesel fuel with sulfur content no greater than 0.0015 percent by weight, 0.006 lbs/hour

5. Emission Offsets

SCAQMD requires offsets for the project's annual emissions of NO_x, VOC, PM10 and SO_2. Offsets are not required for CO, because of the recent redesignation of the South Coast air basin to attainment for CO. **Air Quality Table 11**, shows the amount of RTC credits (lbs/year) and ERC credits (lbs/day) required by SCAQMD.

Air Quality Table 11
Canyon SCAQMD Offset Requirement Summary (lbs)

	NOx	VOC	SO_2	PM10
Reclaim Trading Credits (lbs/year)	29,956 [a]	--	--	--
Emission Reduction Credits (lbs/day) [b]	--	21	5	48

Notes:
a – The first commissioning year RTC credit requirement of 41,120 lbs is higher than the normal year requirement shown above.
b – The emission reduction credit requirements include the SCAQMD offset ratio of 1.2:1.

Ex. 200, p. 4.1-30

Air Quality Tables 12 through 14 provide the Applicant's proposed emission offset mitigation package. The Applicant has not yet procured the first year NO_x RTC credits and is not required to until before turbine first fires. SCAQMD requires a 1:1 RTC offset for all stationary source NO_x emissions which meets Commission staff CEQA recommended minimum offset ratio of 1:1 for all nonattainment pollutants and their precursors. For all other pollutants requiring District offsets, the Applicant is proposing to surrender emission reduction credits in quantities to meet District offset requirements.

Air Quality Table 12 provides the Applicant's currently proposed offset package for VOC.

Air Quality Table 12
VOC Offsets Proposed for Canyon

Offset Source Location	Method of Reduction	Date of Reduction	Credit Number	Amount
Ringier America, Inc. 1600 E Orangethorpe Ave, Fullerton, CA 92831	n/a	Jul. 2nd, 1991	AQ008840	10 lbs/day
Allied Signal, Inc.	Inactivation	Aug. 14th, 1991	AQ008842	10 lbs/day

850 S Sepulveda Blvd, El Segundo, CA 90245				
Total Daily ERC Holdings				20 lbs/day
SCAQMD ERCs Required [a]				21 lbs/day

Notes: n/a – not available
a – The ERC requirement includes the SCAQMD offset ratio of 1.2:1.

Ex. 200, p. 4.1-31

The total amount of proposed VOC ERCs (equivalent to 7,300 lbs/year), after District recalculation of offset requirements following publication of the PDOC, is now one pound short of meeting District requirements (21 lbs/day). The District will require the Applicant to obtain this additional pound of VOC ERCs before it issues the Permit to Construct for the project. The 21 lbs/day (7,665 lbs/year) of ERCs required for the project satisfies staff's recommended minimum offset ratio of 1:1 for all nonattainment pollutants and their precursors. The actual offset ratio is 1.24:1 based on maximum annual emissions of 6,192 lbs/year.

Air Quality Table 13 provides the Applicant's proposed offset package for PM10. The certificate numbers for the short-term and permanent credits from the same certificate source are combined in the table.

Air Quality Table 13
PM10 Offsets Proposed for Canyon

Offset Source Location	Method of Reduction	Date of Reduction	Credit Number	Amount
Pechiney Cast Plate Inc. 3200 Fruitland Ave, Vernon, CA 90058	Shutdown	Jan. 31st, 2006	AQ008907, AQ008909, AQ008911, AQ008913, AQ008915, AQ008917, AQ008919, AQ008921	1 lbs/day
Pechiney Cast Plate Inc. 3200 Fruitland Ave, Vernon, CA 90058	Shutdown	Jan. 31st, 2006	AQ008864, AQ008866, AQ008868, AQ008870, AQ008872, AQ008874, AQ008876, AQ008878	2 lbs/day
Intl. Light Metals Corp. 19200 S Western Ave, Torrance, CA 90509	Shutdown	Mar. 13th, 1992	AQ008844	4 lbs/day
Commercial Enameling Co. 6200-04 S Alameda St, Huntington Park, CA 90255	n/a	Sep. 15th, 1995	AQ008846	4 lbs/day
Los Angeles Export Terminal 750 Eldridge St, Terminal Island, CA 90731	Shutdown	May 19th, 2006	AQ009059, AQ009061, AQ009063, AQ009065, AQ009067, AQ009069, AQ009071, AQ009073	6 lbs/day
Pechiney Cast Plate Inc. 3200 Fruitland Ave, Vernon, CA 90058	Shutdown	Jan. 31st, 2006	AQ008891, AQ008893, AQ008895, AQ008897, AQ008899, AQ008901, AQ008903, AQ008905	7 lbs/day
Commonwealth Aluminum Concast 2211E Carson St. Long Beach, CA 90810	Shutdown	Feb. 25th, 2006	AQ009027, AQ009029, AQ009031, AQ009033, AQ009035, AQ009037, AQ009039, AQ009041	2 lbs/day
Commonwealth Aluminum Concast 2211E Carson St. Long Beach, CA 90810	Shutdown	Feb. 25th, 2006	AQ009043, AQ009045, AQ009047, AQ009049, AQ009051, AQ009053, AQ009055, AQ009057	19 lbs/day
Commonwealth Aluminum Concast 2211E Carson St. Long Beach, CA 90810	Shutdown	Feb. 25th, 2006	AQ009325, AQ009327, AQ009329, AQ009331, AQ009333, AQ009335, AQ009337, AQ009339	2 lbs/day
Deluxe Laboratories 1377 N Serrano Ave, Hollywood, CA 90027	n/a	Aug. 1st, 1991	AQ008838	1 lbs/day
Total Daily ERC Holdings				48 lbs/day
SCAQMD ERCs Required [a]				48 lbs/day

Note: n/a – not available
a – The ERC requirement includes the SCAQMD offset ratio of 1.2:1.

Ex. 200, p. 4.1-32

The total amount of proposed PM10 ERCs (equivalent to 17,520 lbs/year) meets the District requirements and also meets staff's recommended minimum offset ratio of 1:1 for all nonattainment pollutants and their precursors. The actual offset ratio is 1.21:1 based on maximum total project annual PM10 emissions of 14,536 lbs/year for all proposed stationary emissions sources (turbines, cooling tower, and emergency black start engine).

Air Quality Table 14 provides the Applicant's proposed offset package for SO_2.

Air Quality Table 14
SO_2 Offsets Proposed for Canyon

Offset Source Location	Method of Reduction	Date of Reduction	Credit Number	Amount
CBS Corp. 7800 Beverly Blvd, Los Angeles, CA 90036	n/a	Dec. 17th, 1990	AQ008862	4 lbs/day
SCAQMD ERCs Required [a]				5 lbs/day

Note: n/a – not available
a – The ERC requirement includes the SCAQMD offset ratio of 1.2:1.

Ex. 200, p. 4.1-33

The proposed SO_2 ERC (equivalent to 1,460 lbs/year), is now one pound short of meeting District requirements (5 lbs/day), which were recalculated following issuance of the PDOC. The District would require the Applicant to obtain this additional pound of SO_2 ERCs before it issues an ATC for the project. The 5 lbs/day (1,825 lbs/year) of ERCs required for the project satisfies Staff's recommended minimum offset ratio of 1:1 for all nonattainment pollutant and their precursors. The actual offset ratio, for comparison with the CEC staff recommended minimum offset ratio of 1:1, is 1.12:1 based on maximum annual emissions of 1,634 lbs/year. (Ex. 200, pp. 4.1-30 – 4.1-33.)

We adopt Condition **AQ-SC7**, which requires confirmation of the ERCs' surrender prior to first fire, and confirmation that the Applicant has provided the additional one pound of VOC and SO_2 ERCs prior to initiating construction. We also adopt Conditions **AQ-SC8** and **AQ-SC9** to ensure that the chiller cooling tower, which does not require a permit from SCAQMD, is operated under the emission limits proposed by the Applicant and described above.

a. Adequacy of Proposed Mitigation

Staff and the District testified that the project's proposed emission controls/emission levels for criteria pollutants meet BACT requirements and that the proposed emission levels, including ammonia slip, are reduced to the lowest technically feasible levels. Staff believes that the proposed emission controls and emission levels, along with the proposed emission offset package, with additional staff recommended compliance demonstration and monitoring would mitigate all project air quality impacts to less than significant.

While we would not normally accept an offset package that falls short of the required amounts, here the deficiency is minimal—one pound each of VOC and SO_2 ERCs—and results from a recalculation made by the District late in the analysis period. The remaining offsets appear to be obtainable, and must be identified before construction begins (Condition **AQ-SC7**). Under the circumstances, we do not find it necessary or appropriate to require that the additional offsets be identified prior to certification. This decision is specific to this project and these facts and is not intended to set a precedent for future decisions. (Exs. 45; 200, pp. 4.1-29 -- 4.1-34)

6. 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.

This air quality 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 "BACT" for new sources of emissions, and restrictions of emissions from existing sources of air pollution. (Ex. 200, p. 4.1-35.)

The SCAQMD is the agency with principal responsibility for analyzing and addressing cumulative air quality impacts, including the impacts of ambient ozone and particulate matter. The SCAQMD has summarized the cumulative impact of ozone and particulate matter on the air basin from the broad variety of its sources. Analyses of these cumulative impacts, as well as the measures the SCAQMD proposes to reduce impacts to air quality and public health, are

summarized in two publicly available documents that the SCAQMD has adopted. These adopted air quality plans are contained in the 2007 Air Quality Management Plan (adopted 6/1/2007) and the Final 2003 Air Quality Management Plan (adopted 12/10/1999). These plans are summarized in the Final Staff Assessment. (Ex. 200) at pages 4.1-35 through 4.1-39.

Since the power plant air quality impacts can be reasonably estimated through air dispersion modeling, the project's contributions to localized cumulative impacts can be estimated. To represent past and present projects that contribute to ambient air quality conditions, the parties work with the air district to identify all projects that have submitted, within the last year of monitoring data, new applications for an authority to construct (ATC) or permit to operate (PTO) and applications to modify an existing PTO within six miles of the project site. This effectively identifies all new emissions that emanate from a single point (e.g., a smoke stack), referred to as "point sources." The submittal of an air district application is a reasonable demarcation of what is "reasonably foreseeable". The evidence establishes that there is little or no measurable cumulative overlap between stationary emission sources beyond six miles.

Unlike point sources, area sources include sources like agricultural fields, residential developments or other such sources that do not have a distinct point of emission. New area sources are typically identified through draft or final Environmental Impact Reports (EIR) that are prepared for those sources. The initiation of the EIR process is a reasonable basis on which to determine what is "reasonably foreseeable" for new area sources.

The data submitted, or generated from the applications with the air district for point sources or initiating the EIR process for area sources provides enough information to include these new emission sources in air dispersion modeling.

Once the modeling results are produced, they are added to the background ambient air quality monitoring data and thus the modeling portion of the cumulative assessment is complete. Once the cumulative project emission impacts are determined, the necessity to mitigate the project emissions can be evaluated, and the mitigation itself can be proposed by the parties.

A search and analysis of 15 candidate projects for consideration as cumulative projects ultimately rejected all of the candidate projects on grounds that are described in the FSA. Therefore the emissions of the project for cumulative impact purposes are the same as its direct impacts. As those direct impacts are

mitigated to insignificant levels, so are the cumulative impacts. (Ex. 200, pp. 4.1-39 to 4.1-41.)

7. Compliance with LORS

The District is responsible for issuing the federal New Source Review (NSR) permit and has been delegated enforcement of the applicable New Source Performance Standards (Subpart IIII and KKKK) and other Federal Clean Air Act requirements applicable to this project.

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, and 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 as is required by District condition (**AQ-20**).

The District rules and regulations specify the emissions control and offset requirements for new sources such as the CPP. BACT would be implemented, emission reduction credits (ERCs) are required for all PM10, VOC, and SO_2 emissions based on an average daily emission rate for each emission source, and RECLAIM Trading Credits (RTCs) are required for all permitted NO_x emissions. 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.

The Applicant provided an air quality permit application to the SCAQMD in 2007 when the case was first initiated. Due to major issues with the District's offset program, including the federal courts invalidating both Rule 1309.1 priority reserve credits and later Rule 1304 offset exemptions, the project was first on hold for over a year and has undergone at least two major changes in the proposed operating profiles. The Applicant provided additional information to the District when they re-filed a revised application in September 2008, which relied on the Rule 1304 exemptions, and later provided additional information in December 2008 after they obtained enough traditional ERCs to offset the project to the current stipulated maximum monthly operating levels. The District has issued a PDOC (Ex. 30) on February 25, and an FDOC (Ex. 45) on June 26th, which states that the proposed project is expected to comply with all applicable District rules and regulations. The DOC evaluates whether and under what

conditions the proposed project would comply with the District's applicable rules and regulations, as described below.

a. SCAQMD Regulation II-Permits

RULE 212-STANDARDS FOR APPROVING PERMITS

Rule 212 requires that a person shall not build, erect, install, alter, or replace any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants without first obtaining written authorization for such construction from the Executive Officer. A public notice will be issued followed by a 30-day public comment period prior to issuance of a permit. Compliance is expected.

b. SCAQMD Regulation IV-Prohibitions

RULE 218-CONTINUOUS EMISSION MONITORING

This rule requires the applicant to submit an "Application for CEMS" for a CO CEMS for each CTG and adhere to retention of records and reporting requirements once approval to operate the CO CEMS is granted. Compliance is expected.

RULE 401-VISIBLE EMISSIONS

This rule limits visible emissions to an opacity of less than 20 percent (Ringlemann No.1), as published by the United States Bureau of Mines. It is unlikely, with the use of the SCR/CO catalyst configuration that there would be visible emissions. Compliance is expected.

RULE 402-NUISANCE

This rule requires that a person not 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 cause, or have a natural tendency to cause injury or damage to business or property. Compliance is expected.

RULE 403-FUGITIVE DUST

The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of man-made fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. The provisions of this rule apply to any activity or man-made condition capable of generating fugitive dust such as construction activities. This rule prohibits emissions of

fugitive dust beyond the property line of the emission source. The applicant would take steps to prevent and/or reduce or mitigate fugitive dust emissions from the project site. Such measures include covering loose material on haul vehicles, watering, and using chemical stabilizers when necessary. The installation and operation of the CTGs is expected to comply with this rule.

RULE 407-LIQUID AND GASEOUS AIR CONTAMINANTS

This rule limits CO emissions to 2,000 ppmvd and SO_2 emissions to 500 ppmvd, averaged over 15 minutes. For CO, the CTGs would meet the BACT limit of 4.0 ppmvd @ 15 percent O_2, 1-hr average, and the turbines would be conditioned as such. For SO_2, equipment which complies with Rule 431.1 is exempt from the SO_2 limit in Rule 407. The applicant would be required to comply with Rule 431.1 and thus the SO_2 limit in Rule 407 would not apply.

RULE 409-COMBUSTION CONTAMINANTS

This rule restricts the discharge of contaminants from the combustion of fuel to 0.1 grain per cubic foot of gas, calculated to 12 percent CO_2, averaged over 15 minutes. The equipment is expected to meet this limit.

RULE 431.1-SULFUR CONTENT OF GASEOUS FUELS

CPP would use pipeline quality natural gas which would comply with the 16 ppmv sulfur limit, calculated as H_2S, specified in this rule.

RULE 431.2-SULFUR CONTENT OF LIQUID FUELS

CPP would use California low sulfur diesel fuel for the black start engine which would comply with the 15 ppmv sulfur limit specified in this rule.

RULE 475-ELECTRIC POWER GENERATING EQUIPMENT

Requirements of the rule specify that the equipment must comply with a PM10 mass emission limit of 11 lbs/hr or a PM10 concentration limit of 0.01 grains/dscf. The PM10 mass emissions from the CPP project turbines are estimated to be 3 lbs/hr. Therefore, compliance is expected.

Regulation IX – Standards For Performance For New Stationary Sources

Regulates emissions and provides other operating and recordkeeping requirements for emergency black start engine and gas turbines.

Regulation XIII – New Source Review & Regulation XX RECALIM New Source Review

RULE 1303(A) AND RULE 2005(B)(1)(A)-BACT – LM 6000PM CTGS

These rules state that the Executive Officer shall deny the Permit to Construct for any new source which results in an emission increase of any non-attainment air contaminant, any ozone depleting compound, or ammonia unless the Applicant can demonstrate that BACT is employed for the new source. The Applicant has provided a performance warranty which accompanied the initial application package which indicates that each LM 6000PM can comply with, and for NOx, even exceed the BACT requirements (2.3 ppm vs. the 2.5 ppm BACT requirement). SCAQMD now considers the more restrictive 1-hour averaging times to be achieved in practice and CPP would therefore be required to comply with the 1-hour averages for NO_x, CO, and VOC as opposed to the three hour as was proposed. The proposed project emission characteristics are lower than that required by BACT for the combustion turbines, therefore compliance is expected.

RULE 1303(A) AND RULE 2005(B)(1)(A-)-BACT – BLACK START ENGINE

The black start engine is required to employ BACT because the maximum daily emissions from this source are expected to exceed 1 lbs/day. The Tier II BACT levels would apply to the emergency black start engine along with a diesel particulate filter to further control PM10/PM2.5 emissions. BACT for SOx emissions for black start engine is diesel fuel with a sulfur content no greater than 0.0015 percent by weight. The manufacturer has indicated that this engine would comply with the Tier II emission levels and the applicant would be allowed to use diesel fuel with a sulfur content of no greater than 0.0015 percent by weight. The emergency black start engine is expected to comply with BACT.

RULE 1303(A)-BACT – COOLING TOWER

Rule 219(e)(3) provides an exemption for water cooling towers and water cooling ponds not used for evaporative cooling of process water or not used for evaporative cooling of water from barometric jets or from barometric condensers and in which no chromium compounds are contained. The four cell cooling towers being proposed at CPP would meet the requirements of Rule 219(e)(3) and is therefore exempt from NSR. BACT therefore does not apply; however, the applicant has proposed the use of a mist eliminator that reduces drift to no more than 0.001 percent of the recirculating water flow meter.

RULE 1303(A)-BACT – AMMONIA STORAGE TANK

A pressure relief valve that would be set at no less than 25 psig would control ammonia emissions from the storage tank. In addition, a vapor return line would be used to control ammonia emissions during storage tank filling operations. Based on the above, compliance with BACT requirements is expected.

RULE 1303(B)(1) AND RULE 2005(B)(1)(B) - MODELING

The applicant has conducted air dispersion modeling using the U.S.EPA AERMOD air dispersion model. The applicant modeled both the cumulative and individual permit unit impacts for the project. No significant deficiencies in methodology were noted and the project would not create new violations or make significantly worse an existing violation of ambient air quality standards. Compliance with these rules is expected.

RULE 1303(B)(2) AND RULE 2005(B)(2)-OFFSETS – LM 6000PM CTGS

Since CPP is a new facility with an emissions increase, offsets would be required for all criteria pollutants. CPP would be included in NOx RECLAIM and as such, NOx increases would be offset with RTCs at a 1.0 to 1 ratio. Non-RECLAIM criteria pollutants (VOC, SOx, and PM10) would be offset by either the purchase of Emission Reduction Credits (ERCs) at a 1.2 to 1 ratio. CO emissions are not required to be offset since CO is an attainment pollutant. CPP has identified the VOC, PM10 and SO_x ERCs that would be used for the project. NOx RECALIM trading credits much be obtained by the applicant prior to the first fire of the turbines. Compliance with the offset requirements of Rules 1303(b)(2) and 2005(b)(2) is expected.

RULES 1303(B)(3)-SENSITIVE ZONE REQUIREMENTS AND 2005(E)-TRADING ZONE RESTRICTIONS

Both rules state that ERCs must be obtained from the appropriate trading zone. In the case of Rule 1303(b)(3), unless credits are obtained from the Priority Reserve, facilities located in the South Coast Air Basin are subject to the Sensitive Zone requirements specified in Health & Safety Code Section 40410.5. CPP is located in Zone 1 and is therefore eligible to obtain its ERCs only from within Zone 1. Similarly in the case of Rule 2005(e), CPP, because of its location may only obtain RECLAIM Trading Credits (RTCs) from Zone 1. All ERCs identified by the applicant are within Zone 1. Compliance is expected with both rules.

RULE 1303(B)(5)(A) AND RULE 2005(G)(2) – ALTERNATIVE ANALYSIS

The applicant is required to conduct an analysis of alternative sites, sizes, production processes, and environmental control techniques for the CPP project and to demonstrate that the benefits of the proposed project outweigh the environmental and social costs associated with this project. The applicant has performed a comparative evaluation of alternative sites as part of the AFC process and has concluded that the benefits of providing additional electricity and increased employment in the surrounding area would outweigh the environmental and social costs incurred in the construction and operation of the proposed facility. Compliance is expected.

RULE 1303(B)(5)(B) AND RULE 2005(G)(1) – STATEWIDE COMPLIANCE

The applicant has certified in the District's 400-A form that all major sources under its ownership or control in the State of California are in compliance with all federal, state, and local air quality rules and regulations. In addition, a letter from Steve Sciortino of the City of Anaheim, dated July 3, 2008, certified that all sources under common ownership within the District are in compliance with all the applicable District rules, variances, orders and settlement agreements. Therefore, compliance is expected.

RULE 1303(B)(5)(C) AND RULE 2005(G)(4) – PROTECTION OF VISIBILITY

Modeling is required if the source is within a Class I area and the NOx and PM10 emissions exceed 40 ton per year and 15 ton per year respectively. The project permitted emissions are below these levels so the provisions of this requirement are not applicable.

RULE 1303(B)(5)(D) – COMPLIANCE THROUGH CEQA

The Energy Commission is the Lead Agency under CEQA. Since the applicant is required to receive a certification from the Energy Commission, the applicable CEQA requirements and deficiencies will be addressed. Compliance is expected.

Regulation XIV – Toxics and Other Non-Criteria Pollutants

RULE 1401 – NEW SOURCE REVIEW OF TOXIC AIR CONTAMINANTS

RULE 2005(C) – RECLAIM RULE 1401 COMPLIANCE

Rule 1401 specifies limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permits that emit toxic air contaminants. The District's Health Risk Assessment (HRA) of the CPP found

that it would comply with the requirements of these risks. Please see the Public Health Section for additional discussion of the HRA.

RULE 1470 – REQUIREMENTS FOR STATIONARY DIESEL-FUELED INTERNAL COMBUSTION AND OTHER COMPRESSION IGNITION ENGINES

This rule applies to new and in-use prime and emergency stationary compression ignition (CI) engines rated at greater than 50 bhp. Rule 1470(c)(1)(A)(i) requires the use of ARB diesel fuel. Rule 1470(c)(1)(A)(i) limits the diesel PM to 1.5 g/bhp-hr and the PM emissions are expected to be 0.009 g/bhp-hr. Therefore compliance is expected. 1470(c)(2)(C)(i)(III) limits engine operation to no more than 50 hours for maintenance and testing.

Regulation XVII-Prevention of Significant Deterioration (PSD)

The District's PSD delegation was rescinded on 3/3/03 by USEPA, and on 7/25/07 USEPA and the District signed a new "Partial PSD Delegation Agreement", which for this project would delegate authority for PSD permitting to the District. However, the emissions from this project are well below PSD permit trigger levels so PSD permitting would not be required and this rule is not applicable CPP.

Regulation XX-RECLAIM (other Requirements)

RULE 2001 – APPLICABILITY

NOx emissions are anticipated to exceed 4 tons per year, and the applicant has opted into RECALIM program via an opt-in letter, dated March 26, 2008, from Steve Sciortino.

RULE 2005(H) – PUBLIC NOTICE

CPP would comply with the requirements for Public Notice found in Rule 212. Therefore compliance with Rule 2005(h) is demonstrated.

RULE 2005(J) – COMPLIANCE WITH STATE AND FEDERAL NSR.

CPP would comply with the provisions of this rule by having demonstrated compliance with SCAQMD NSR Regulations XIII and Rule 2005-NSR for RECLAIM.

.RULE 2012 – RECLAIM MONITORING RECORDING AND RECORDKEEPING REQUIREMENTS

This rule requires any NOx sources or process unit required to be monitored and to report emissions with a CEMS. Each CTG is required to be equipped with a CEMS to verify compliance with the NOx BACT limit. The rule also required the Facility Permit holder of a new facility which elects to enter RECLAIM or a facility that is required to enter RECLAIM shall install all required or elected monitoring, reporting, and recording systems no later than 12 months after entry into RECLAIM. Compliance is expected.

.Regulation XXX – Title V

CPP is a Title V facility because the cumulative emissions would exceed the Title V major source thresholds, would operate CTG rated over 25 MW and because it is also subject to the federal acid rain provisions. The applicant has provided the Title V permit applications and the initial Title V permit is being processed and the required public notice would be sent along with the Rule 212(g) Public Notice, which is also required for this project. The public and U.S.EPA are afforded the opportunity to review and comment on the project within a 30-day and 45-day review period, respectively. Compliance is expected.

.Regulation XXXI – Acid Rain Permit Program

The acid rain regulations are designed to control SO_2 and NOx emissions that would form acid rain. Title IV of the federal Clean Air Act provides for the issuance of acid rain permits for qualifying facilities. Regulation XXXI requires 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. Compliance is expected.

Ex. 200, pp. 4.1-41 – 4.1-47.

8. Response to Comments

Two public comments addressed to the merits of combined cycle, rather than the simple-cycle turbines chosen by the applicant, which touch upon air quality issues, are addressed in depth in the **Project Alternatives** section of this Decision.

FINDINGS OF FACT

Based on the evidence, we find as follows:

1. The proposed Canyon Power Plant Project is located within the jurisdiction of the South Coast Air Quality Management District.

2. The District is classified as non-attainment for the state and federal ozone, PM10, and PM2.5 standards. The District meets applicable standards for all other criteria pollutants.

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

4. Project nonattainment and nonattainment precursor criteria pollutant emissions will be fully offset.

5. Use of emission reduction credits in this case is appropriate, and is consistent with applicable federal and state emission control strategies.

6. The proposed emission offset package, along with the proposed emissions controls, will mitigate all project air quality impacts to a less than significant level.

7. The District issued a Final Determination of Compliance that finds the Project will comply with all applicable District rules for project operation.

8. The project's construction-related impacts are temporary and short-term in nature. They are mitigated to below a level of significance by measures identified in the Conditions of Certification.

9. The record contains an adequate analysis of the project's contributions to cumulative air quality impacts.

10. The project's offset package complies with Public Resources Code, Section 25523(d)(2) with the exception one missing pound each of VOC and SO_2 ERCs. Those missing ERCs are available and must be identified by the Applicant prior to initiation of construction (**AQ-SC7**).

CONCLUSIONS OF LAW

1. The mitigation measures imposed are sufficient to ensure that the Canyon Power Plant Project will conform with all applicable laws, ordinances, regulations, and standards relating to air quality.

2. Implementation of the Conditions of Certification listed below ensures that the Project will not result in any significant direct, indirect, or cumulative impacts to air quality.

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 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.

A. All unpaved roads and disturbed areas in the project and linear 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.

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

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

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

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

F. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.

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

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

I. All paved roads within the construction site shall be swept once daily (or less during periods of precipitation, or more often as determined necessary by the AQCMM as conditions warrant) on days when construction activity occurs to prevent the accumulation of dirt and debris.

J. At least the first 500 feet of any public roadway exiting from the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or runoff from the construction site is visible on the public roadways.

K. 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.

L. All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions from the material 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.

M. 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.

N. SCAQMD Rule 403 required mitigation measures shall apply when they are more stringent than measures a) through m).

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. A good faith effort shall be made to find and use off-road construction diesel equipment that has a rating of 100 hp to 750 hp and that meets the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines as specified in Title 13, California Code of Regulations section 2423(b)(1). This good faith effort 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 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

E. 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. Tier 1 equipment will be allowed on a case-by-case basis only when the project owner has documented that no Tier 2

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.

2. The construction equipment item is intended to be on site for five days or less.

3. Equipment owned by specialty subcontractors may be granted an exemption, for single equipment items on a case-by-case basis, if it can be demonstrated that extreme financial hardship would occur if the specialty subcontractor had to rent replacement equipment, or if it can be demonstrated that a specialized equipment item is not available by rental.

F. 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.

G. All diesel heavy construction equipment shall not remain running at idle for more than five minutes, to the extent practical.

H. 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 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 SCAQMD or U.S.EPA, and any revised permit issued by the SCAQMD 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-SC7 The project owner shall surrender the ERCs for SOx, VOC and PM10 as listed in the table below or a modified list, as allowed by this condition. An additional pound per day of VOC and SO_2 ERCs shall be identified prior to initiation of construction. If revised ERCs are submitted, the project owner shall submit an updated table including the revised ERCs to the CPM. The project owner shall request CPM approval for any substitutions or modifications of credits listed.

Certificate Number(s)	Amount (lbs/day)	Pollutant
AQ008840	10	VOC
AQ008842	10	VOC
AQ008862	4	SO_2
AQ008907, -09, -11, -13,-15, -17, -19, -21	1	PM10
AQ008864, -66, -68, -70, -72, -74, -76, -78	2	PM10
AQ008844	4	PM10
AQ008846	4	PM10
AQ009059, -61, -63, -65, -67, -69, -71, -73	6	PM10
AQ008891, -93, -95, -97, -99, -01, -03, -05	7	PM10
AQ009027, -29, -31, -33, -35, -37, -39, -41	2	PM10
AQ009043, -45, -47, -49, -51, -53, -55, -57	19	PM10
AQ009325, -27, -29, -31, -33, -35, -37,-39	2	PM10
AQ008838	1	PM10

The CPM, in consultation with the District, may approve any such change to the ERC list provided that the project remains in compliance with all Conditions of Certification, and applicable laws, ordinances, regulations, and standards, the requested change(s) will not cause the project to result in a significant environmental impact, and the SCAQMD confirms that each requested change is consistent with applicable federal and state laws and regulations.

Verification: The project owner shall provide the ERC certificate information for the additional pound per day of VOC and SO_2 ERCs as required by the District and this condition at least 30 days prior to initiating construction. This information will provide the following information for each of the additional ERC certificates: 1) the location/address of the reduction; 2) the date of reduction; and 3) the method of reduction,

The project owner shall submit to the CPM the NSR Ledger Account from the District, showing that the project's offset requirements have been met, 30 days

prior to turbine first fire for the traditional ERCs. If the CPM approves a substitution or modification of ERCs on the list, the CPM shall file a statement of the approval with the project owner and commission docket. The CPM shall maintain an updated list of approved ERCs for the project.

AQ-SC8 The project owner shall perform cooling tower recirculating water quality testing at least once during any quarter when the cooling tower has operated, or shall provide for continuous monitoring of conductivity as an indicator, for total dissolved solids content.

Verification: The project owner shall submit to the CPM cooling tower recirculating water quality tests or a summary of continuous monitoring results and daily recirculating water flow in the Quarterly Operation Report (**AQ-SC10**). If the project owner uses continuous monitoring of conductivity as an indicator for total dissolved solids content, the project owner shall submit data supporting the calibration of the conductivity meter and the correlation with total dissolved solids content at least once each year in a Quarterly Operation Report (**AQ-SC10**).

AQ-SC9 The cooling towers daily PM10 emissions shall be limited to 0.96 lbs/day in total for all four cooling tower cells. The cooling towers shall be equipped with a drift eliminator to control the drift fraction to no greater than 0.001 percent of the circulating water flow. The project owner shall estimate daily PM10 emissions from the cooling towers using the quarterly water quality testing data or continuous monitoring data and daily circulating water flow data. Compliance with the cooling tower PM10 emission limit shall be demonstrated as follows:

PM10 = cooling water recirculation rate (lbs/hr) * total dissolved solids concentration in the blowdown water (ppm/1,000,000) * design controlled drift rate (fraction).

Verification: The project owner shall submit the manufacturers guarantee for the drift eliminator demonstrating compliance with this condition at least 30 days before installation of the chiller cooling tower. The project owner shall submit cooling tower water quality sampling or continuous monitoring plan for approval by the CPM at least 30 days before first turbine fire. The project owner shall submit to the CPM daily cooling tower PM10 emission estimates in the Quarterly Operation Report (**AQ-SC10**) for all quarters during which the cooling tower was operated.

AQ-SC10 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 the District (if requested by the District) no later than 30 days following the end of each calendar quarter.

DISTRICT FINAL DETERMINATION OF COMPLIANCE CONDITIONS

Gas Turbines (D1, D7, D13 and D19)

AQ-1 The project owner shall limit emission from this equipment as follows:

CONTAMINANT	EMISSION LIMIT
VOC	Less than or equal to 129 lbs IN ANY CALENDAR MONTH
PM10	Less than or equal to 299 lbs IN ANY CALENDAR MONTH
SOx	Less than or equal to 34 lbs IN ANY CALENDAR MONTH

For the purposes of this condition, the above emission limits shall be based on the emissions from a single turbine.

The turbine shall not commence with normal operation until the commissioning process has been completed. Normal operation commences when the turbine is able to supply electrical energy to the power grid as required under contract with the relevant entities. The District shall be notified in writing once the commissioning process for each turbine is completed.

Normal operation may commence in the same calendar month as the completion of the commissioning process provided the turbine is in compliance with the above emission limits.

The project owner shall calculate the monthly emissions for VOC, PM10, and SOx using the equation below.

Monthly Emissions, lbs/month = (Monthly fuel usage in mmscf/month) * (Emission factors indicated below)

For commissioning, the emission factors shall be as follows: VOC, 3.76 lbs/mmcf; PM10, 6.03 lbs/mmcf; and SOx, 0.68 lbs/mmcf.

For normal operation, the emission factors shall be as follows: VOC, 2.59 lbs/mmcf; PM10, 6.03 lbs/mmcf; and SOx, 0.68 lbs/mmcf.

For a month during which both commissioning and normal operation take place, the monthly emissions shall be the total of the commissioning emissions and the normal operation emissions.

The project owner shall maintain records in a manner approved by the District to demonstrate compliance with this condition and the records shall be made available to District personnel upon request.

[RULE 1303(b)(2)–Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall submit all emission calculations, fuel use, CEM records and a summary demonstrating compliance of all emission limits stated in this Condition to the CPM in the Quarterly Operation Report (**AQ-SC10**).

AQ-2 The 2.5 ppm NOx, 4.0 ppm CO, and 2.0 ppm ROG emission limits shall not apply during turbine commissioning, start-up, and shutdown periods. Commissioning shall not exceed 156 hours total. Each start-up shall not exceed 35 minutes. Each shutdown shall not exceed 10 minutes. Each turbine shall be limited to a maximum of 240 start-ups per year.

NOx, CO, and ROG emissions for an hour that includes a full start-up sequence of 35 minutes, followed immediately by a turbine trip, a five minute purge period during which no fuel is burned, and the first 20 minutes of a restart sequence shall not exceed 14.27 lbs for NOx, 6.3 lbs for CO, and 1.29 lbs for ROG and for the hour which includes a shutdown 4.07 lbs for NOx, 4.15 for CO, and 1.27 lbs for ROG.

The project owner shall maintain records in a manner approved by the District to demonstrate compliance with this condition and the records shall be made available to District personnel upon request.

For the purposes of this condition, start-up shall be defined as the start -up process to bring the turbine to full successful operation.

[RULE 1703(a)(2) – PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005; RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall provide start-up and shutdown occurrence and duration data as part as part of the Quarterly Operation Report (**AQ-SC10**). The project owner shall make the site available for inspection of the commissioning and startup/shutdown records by representatives of the District, ARB and the Commission.

AQ-3 The 98.16 lbs/mmcf NOx emission limit(s) shall only apply during turbine commissioning and the 11.53 lbs/mmcf NOx emission limit(s) shall only apply after turbine commissioning during the interim reporting period to report RECLAIM emissions. The interim reporting period shall not exceed 12 months from entry into RECLAIM.

[RULE 2012, 5-6-2005]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: 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 this condition and the emission limits of Condition **AQ-1**, **AQ-2**, and **AQ-4** as appropriate. The monthly commissioning status report shall include criteria pollutant emission estimates for each commissioning activity and total commissioning emission estimates. The monthly commissioning status report shall be submitted to the CPM until the report includes the completion of the initial commissioning activities. The project owner shall make the site available for inspection of the commissioning and startup/shutdown records by representatives of the District, ARB and the Commission.

AQ-4 The 2.5 ppmv NOX emission limit(s) is averaged over 60 minutes at 15 percent O_2, dry.

The 4.0 ppmv CO emission limit(s) is averaged over 60 minutes at 15 percent O_2, dry.

The 2.0 ppmv ROG emission limit(s) is averaged over 60 minutes at 15 percent O_2, dry.

[RULE 1703(a)(2) – PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]

[RULE 1703(a)(2) – PSD-BACT, 10-7-1988]

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall submit to the CPM emissions data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC10**).

AQ-5 For the purpose of determining compliance with District Rule 475, combustion contaminant emissions may exceed the concentration limit or the mass emission limit listed, but not both limits at the same time.

[RULE 475, 10-8-1976; RULE 475, 8-7-1978]

[Devices subject to this condition: D1, D7, D13, D19]

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

AQ-6 The project owner shall not use natural gas containing the following specified compounds:

Compound	Range	Grain per 100 scf
H_2S	Greater than	0.25

This concentration limit is an annual average based on monthly samples of natural gas composition or gas supplier documentation. Gaseous fuel samples shall be tested using District Method 307-91 for total sulfur calculated as H_2S.

[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall submit fuel gas sulfur content records as part of the Quarterly Operation Report (**AQ-SC10**).

AQ-7 The project owner shall install and maintain a(n) flow meter to accurately indicate the fuel usage being supplied to the turbine.

The project owner shall also install and maintain a device to continuously record the parameter being measured.

[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 2012, 5-6-2005]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall submit fuel usage records on as part of the Quarterly Operation Report (**AQ-SC10**).

AQ-8 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant	Method	Averaging Time	Test Location
NOx	District Method 100.1	1 hour	Outlet of SCR
CO	District Method 100.1	1 hour	Outlet of SCR
SOx	AQMD Laboratory Method 307-91	N/A	Fuel Sample
VOC	District Method 25.3	1 hour	Outlet of SCR
PM10	District Method 5	4 hours	Outlet of SCR
Ammonia	District Method 207.1 and 5.3 or U.S.EPA Method 17	1 hour	Outlet of SCR

The test shall be conducted after AQMD approval of the source test protocol, but no later than 180 days after initial start-up. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted in accordance with AQMD approved test protocol. The protocol shall be submitted to the AQMD engineer no later than 45 days before the proposed test date and shall be approved by the AQMD before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the tests shall measure the fuel flow rate (cfh), the flue gas flow rate, and the turbine generating output in MW.

The test shall be conducted when this equipment is operating at loads of 100, 75, and 50 percent, with the exception of PM10 testing. For PM10, the test shall be conducted when this equipment is operating at a load of 100 percent.

For natural gas fired turbines only, VOC compliance shall be demonstrated as follows: a) Stack gas samples are extracted into Summa canisters maintaining a final canister pressure between 400-500 mm Hg absolute, b) Pressurization of canisters are done with zero gas analyzed/certified to contain less than 0.05 ppmv total hydrocarbon as carbon, and c) Analysis of canisters are per U.S.EPA Method TO-12 (with preconcentration) and temperature of canisters when extracting samples for analysis is not below 70 degrees F.

The use of this alternative method for VOC compliance determination does not mean that it is more accurate than AQMD Method 25.3, nor

does it mean that it may be used in lieu of AQMD Method 25.3 without prior approval except for the determination of compliance with the VOC BACT level of 2.0 ppmv calculated as carbon for natural gas fired turbines.

Because the VOC BACT level was set using data derived from various source test results, this alternate VOC compliance method provides a fair comparison and represents the best sampling and analysis technique for this purpose at this time. The test results shall be reported with two significant digits.

For the purpose of this condition, alternative test method may be allowed for each of the above pollutants upon concurrence of AQMD, U.S.EPA and ARB.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1703(a)(2)-PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall submit the proposed protocol for the initial source tests 45 days prior to the proposed source test date to both the SCAQMD and CPM for approval. The project owner shall submit source test results no later than 60 days following the source test date to both the SCAQMD and CPM. The project owner shall notify the SCAQMD and CPM no later than 10 days prior to the proposed initial source test date and time.

AQ-9 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant	Method	Averaging Time	Test Location
NH_3	District Method 207.1 and 5.3 or U.S.EPA Method 17	1 hour	Outlet of SCR

The test(s) shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

If the turbine is not in operation during one quarter, then no testing is required during that quarter.

The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is

inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the District within 60 days after the test date.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall submit the proposed protocol for the initial source tests 45 days prior to the proposed source test date to both the SCAQMD and CPM for approval. The project owner shall notify the SCAQMD and CPM no later than 10 days prior to the proposed source test date and time. The project owner shall submit source test results no later than 60 days following the source test date to both the SCAQMD and CPM.

AQ-10 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant	Method	Averaging Time	Test Location
SOx	AQMD Laboratory Method 307-91	N/A	Fuel Sample
VOC	District Method 25.3	1 hour	Outlet of SCR
PM10	District Method 5	4 hours	Outlet of SCR

The test shall be conducted at least once every three years. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the tests shall measure the fuel flow rate (cfh), the flue gas flow rate, and the turbine generating output in MW.

The test shall be conducted in accordance with AQMD approved test protocol. The protocol shall be submitted to the AQMD engineer no later than 45 days before the proposed test date and shall be approved by the AQMD before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted when this equipment is operating at loads of 100, 75, and 50 percent, with the exception of PM10 testing. For PM10, the test shall be conducted when this equipment is operating at a load of 100 percent.

For natural gas fired turbines only, VOC compliance shall be demonstrated as follows: a) Stack gas samples are extracted into Summa canisters maintaining a final canister pressure between 400-500 mm Hg absolute, b) Pressurization of canisters are done with zero gas analyzed/certified to contain less than 0.05 ppmv total hydrocarbon as carbon, and c) Analysis of canisters are per U.S.EPA Method TO-12 (with preconcentration) and temperature of canisters when extracting samples for analysis is not below 70 degrees F.

The use of this alternative method for VOC compliance determination does not mean that it is more accurate than AQMD Method 25.3, nor does it mean that it may be used in lieu of AQMD Method 25.3 without prior approval except for the determination of compliance with the VOC BACT level of 2.0 ppmv calculated as carbon for natural gas fired turbines.

Because the VOC BACT level was set using data derived from various source test results, this alternate VOC compliance method provides a fair comparison and represents the best sampling and analysis technique for this purpose at this time. The test results shall be reported with two significant digits.

For the purposes of this condition, alternative test method may be allowed for each of the above pollutants upon concurrence of AQMD, U.S.EPA, and ARB.

The test shall be conducted for compliance verification of the BACT VOC 2.0 ppmv limit.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1703(a)(2)-PSD-BACT, 10-7-1988]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall submit the proposed protocol for the source tests 45 days prior to the proposed source test date to both the SCAQMD and CPM for approval. The project owner shall notify the SCAQMD and CPM no later than 10 days prior to the proposed source test date and time. The project owner shall submit source test results no later than 60 days following the source test date to both the SCAQMD and CPM.

AQ-11 The project owner shall provide to the District a source test report in accordance with the following specifications:

Source test results shall be submitted to the District no later than 60 days after the source test was conducted.

Emission data shall be expressed in terms of concentration (ppmv) corrected to 15 percent oxygen (dry basis), mass rate (lbs/hr), and lbs/mmcf. In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains/dscf.

All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (dscfm) and dry actual cubic feet per minute (dacfm).

All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.

Source test results shall also include the oxygen levels in the exhaust, fuel flow rate (CFH), the heating content of the fuel, the flue gas temperature, and the generator power output (MW) under which the test was conducted.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1703(a)(2)-PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall submit source test results no later than 60 days following the source test date to both the SCAQMD and CPM. The project owner shall notify the SCAQMD and CPM no later than 10 days prior to the proposed source test date and time.

AQ-12 The project owner shall install and maintain a CEMS to measure the following parameters:

NOx concentration in ppmv and CO concentration in ppmv

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

The CO CEMS shall be installed and operating no later than 90 days after initial startup of the turbine, in accordance with an approved AQMD Rule 218 CEMS plan application. The project owner shall not install the CEMS prior to receiving initial approval from AQMD. Within two weeks of the turbine start-up, the project owner shall provide written notification to the District of the exact date of start-up.

The NOx CEMS shall be installed and operating no later than 90 days after initial start-up of the turbine and shall comply with the requirements of Rule 2012. During the interim period between the initial start-up and the provisional certification date of the CEMS, the project owner shall comply with the monitoring requirements of Rule 2012(h)(2) and 2012(h)(3). Within two weeks of the turbine start-up date, the project owner shall provide written notification to the District of the exact date of start-up.

The CO CEMS shall be installed and operated to measure CO concentrations over a 15 minute averaging time period.

The NOx CEMS shall be installed and operating (for BACT purposes only) no later than 90 days after initial start-up of the turbine.

[RULE 1703(a)(2)-PSD-BACT, 10-7-1988; RULE 218, 8-7-1981; RULE 218, 5-14-1999]

[RULE 1703(a)(2)-PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005; RULE 2012, 5-6-2005]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: Within 30 days of certification, the project owner shall notify the CPM of the completion of the certification process for the CEMS.

AQ-13 This equipment is subject to the applicable requirements of the following Rules or Regulations.

Contaminant	Rule	Rule/Subpart
NOx	40CFR60, SUBPART	KKKK
SOx	40CFR60, SUBPART	KKKK

[40 CFR 60 Subpart KKKK, 7-6-2006]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall provide appropriate records to show compliance with 40 CFR 60 Subpart KKKK as part of the Quarterly Operation Report (**AQ-SC10**).

AQ-14 This equipment shall not be operated unless the project owner demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the prorated annual emissions increase for the first compliance year of operation. In addition, this equipment shall not be operated unless the project owner demonstrates to the Executive Officer that, at the commencement of each compliance year after the

first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

To comply with this condition, the project owner shall prior to the 1st compliance year hold a minimum NOx RTCs of 9,677 lbs/yr. This condition shall apply during the 1st 12 months of operation, commencing with the initial operation of the gas turbine.

To comply with this condition, the project owner shall, prior to the beginning of all years subsequent to the 1st compliance year, hold a minimum of 6,886 lbs/yr of NOx RTCs for the operation of the gas turbine.

In accordance with Rule 2005(f), unused RTCs may be sold only during the reconciliation period for the fourth quarter of the applicable compliance year inclusive of the 1st compliance year.

The condition shall apply to each turbine individually.

[RULE 2005, 5-6-2007]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall provide confirmation from the District 30 days prior to first fire that sufficient RTCs to satisfy the District's requirements for the first year of operation as provided in this condition have been obtained. The project owner shall submit evidence of sufficient RTCs to the CPM demonstrating compliance with this condition for each compliance year after the 1st compliance year, at least 15 days prior to the commencement of that compliance year.

AQ-15 The project owner shall keep records in a manner approved by the District, for the following parameter(s) or item(s):

Natural gas fuel use during the commissioning period.

Natural gas fuel use after the commissioning period and prior to CEMS certification.

Natural gas fuel use after CEMS certification.

[RULE 2005, 5-6-2005]

[Devices subject to this condition: D1, D7, D13, D19]

Verification: The project owner shall submit all fuel usage records as part of the Quarterly Operation Report (**AQ-SC10**).

Selective Catalytic Reduction (SCR) Catalysts (C4, C10, C16, C22)

AQ-16 The 5 ppmv NH_3 emission limit(s) is averaged over 60 minutes at 15 percent O_2, dry basis. The project owner shall calculate and continuously record the NH_3 slip concentration using the following equation.

District Requirement

NH_3 (ppmv) = [a–b*c/1E6]*1E6/b; where

a = NH_3 injection rate (lbs/hr)/17(lbs/lbs-mol)

b = dry exhaust gas flow rate (scf/hr)/385.3 (scf/lbs-mol)

c = change in measured NOx across the SCR (ppmvd at 15 percent O_2)

The project owner shall install and maintain a NOx analyzer to measure the SCR inlet NOx ppmv accurate to plus or minus 5 percent calibrated at least once every twelve months.

The NOx analyzer shall be installed and operated within 90 days of initial start-up.

The project owner shall use the above described method or another alternative method approved by the District's Executive Officer.

The ammonia slip calculation procedures described above shall not be used for compliance determination or emission information without corroborative data using an approved reference method for the determination of ammonia.

[RULE 1303(a)(1) – BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: C4, C10, C16, C22]

Verification: The project owner shall include ammonia slip concentrations averaged on an hourly basis as part of the Quarterly Operation Report (**AQ-SC10**). The project owner shall submit all SCR inlet NOx analyzer calibration results to the CPM within 60 days of the calibration date. Exceedances of the ammonia limit shall be reported and chronic exceedances of the ammonia slip limit, defined as occurring more than 10 percent of the operation for any single turbine exhaust stack, shall be identified by the project owner and confirmed by the CPM within 60 days of the submitted Quarterly Operation Report (**AQ-SC10**) that indicates chronic exceedances. If a chronic exceedance is identified and confirmed, the project owner shall work in conjunction with the CPM to develop a reasonable compliance plan to investigate and redress the chronic exceedance of the ammonia slip limit within 60 days of the above confirmation.

AQ-17 The project owner shall install and maintain a(n) flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia.

The project owner shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The calibration records shall be kept on site and made available to District personnel upon request.

The ammonia injection system shall be placed in full operation as soon as the minimum temperature at the outlet to the SCR reactor is reached. The minimum temperature is 540 degrees F.

The ammonia injection rate shall remain between 6.83 gal/hr and 16 gal/hr.

Continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour.

[RULE 1303(a)(1) – BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1703(a)(2)-PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]

[Devices subject to this condition: C4, C10, C16, C22]

Verification: The project owner shall submit to the CPM no less than 30 days after installation, a written statement by a California registered Professional Engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate device has been installed and is functioning properly. The project owner shall submit annual calibration results within 30 days of their successful completion and shall make the records required under the condition available for inspection by representatives of the District, ARB, and the Commission.

AQ-18 The project owner shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the exhaust at the inlet to the SCR reactor.

The project owner shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The catalyst temperature range shall remain between 665 degrees F and 870 degrees F.

The catalyst inlet temperature shall not exceed 870 degrees F.

The temperature range requirement of this condition shall not apply during start-up conditions of the turbine not to exceed 35 minutes per start-up. For this condition, start-up shall be defined as the start-up process to bring the turbine to full successful operation.

Continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour.

[RULE 1303(a)(1) – BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1703(a)(2)-PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]

[Devices subject to this condition: C4, C10, C16, C22]

Verification: The project owner shall submit to the CPM no less than 30 days after installation, a written statement by a California registered Professional Engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate device has been installed and is functioning properly. The project owner shall submit annual calibration results within 30 days of their successful completion.

AQ-19 The project owner shall install and maintain a(n) pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches of water column.

The project owner shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

The pressure drop across the catalyst shall not exceed 6 inches water column.

Continuous record shall be defined as measuring at least once every month and shall be calculated based upon the average of the continuous monitoring for that month.

[RULE 1303(a)(1) – BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1703(a)(2)-PSD-BACT, 10-7-1988; RULE 2005, 5-6-2005]

[Devices subject to this condition: C4, C10, C16, C22]

Verification: The project owner shall submit to the CPM no less than 30 days after installation, a written statement by a California registered Professional Engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate device has been installed and is functioning properly. The project owner shall submit annual calibration results within 30 days of their successful completion.

Black Start Diesel Engine (D25)

AQ-20 The project owner shall limit the operating time to no more than 200 hour(s) in any one year.

The 200 hours in any one year shall include no more than 50 hours for maintenance and performance testing.

The duration of each test shall not exceed 38 minutes in any one hour.

[RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 3-7-2008; RULE 1470, 6-1-2007; RULE 2012, 5- 6-2005; CA PRC CEQA, 11-23-1970; CA PRC CEQA, 11-23-1970]

[Devices subject to this condition: D25]

Verification: The project owner shall submit all dates of operation, elapsed time in hours, and the reason for each operation in the Quarterly Operation Report (**AQ-SC10**).

AQ-21 The project owner shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[RULE 1110.2, 2-1-2008; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 3-7-2008; RULE 1470, 6-1-2007; RULE 2012, 5- 6-2005]

[Devices subject to this condition: D25]

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Commission. The project owner shall submit elapsed time in hours in the Quarterly Operation Report (**AQ-SC10**).

AQ-22 The project owner shall operate and maintain this equipment according to the following requirements:

The operation of this engine beyond the 50 hours per year allotted for maintenance and performance testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the utility distribution company has ordered

rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage.

Engine operation shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

This engine shall be operated for the primary purpose of providing a back up source of power to start a turbine.

[RULE 1110.2, 2-1-2008; RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 3-7-2008; RULE 1470, 6-1-2007; RULE 2012, 5- 6-2005]

[Devices subject to this condition: D25]

Verification: The project owner shall submit all dates of operation, elapsed time in hours, and the reason for each operation in the Quarterly Operation Report (**AQ-SC10**).

AQ-23 The project owner shall operate and maintain this equipment according to the following specifications:

The project owner shall operate the diesel particulate filter system only with an operational HiBACK data logging and alarm system with backpressure and temperature monitors.

The HiBACK data logging and alarm system shall be programmed to provide a red warning signal and an audible alarm, whenever the engine backpressure reaches the maximum allowable backpressure of 40 inches of water. The engine backpressure shall not exceed 40 inches of water in operation.

The engine shall be operated at the load level required to achieve an engine exhaust gas temperature of 572 degrees F (300 degrees C) for passive regeneration of the diesel particulate filter for at least 30 percent of the operating time.

The engine shall not be operated below the passive regeneration temperature of 572 degrees F for more than 240 consecutive minutes.

The project owner shall regenerate the diesel particulate filter after every 12 cold starts or whenever a yellow warning signal indicating the backpressure is 10 percent below the maximum allowable backpressure of 40 inches of water is received from the HiBACK alarm

system, whichever occurs first. Filter regeneration is complete when the backpressure monitoring system indicates a normal backpressure reading.

The engine shall be shut down and the diesel particulate filter shall be cleaned whenever the backpressure reaches the maximum backpressure limit of 40 inches water. Cleaning shall be performed according to the manufacturer's recommendations in the installation and maintenance manual.

After every 200 hours of normal engine operation, the project owner shall inspect the integrity of the diesel particulate filter and, if necessary, replace it.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D25]

Verification: The project owner shall submit to the CPM no less than 30 days after installation, a written statement by a California registered Professional Engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate devices have been installed and are functioning properly. The project owner shall maintain engine maintenance records tests how compliance with the maintenance requirements of this condition and shall make these records available for inspection by representatives of the District, ARB, and the Commission.

AQ-24 This equipment shall not be operated unless the project owner demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the prorated annual emissions increase for the first compliance year of operation. In addition, this equipment shall not be operated unless the project owner demonstrates to the Executive Officer that, at the commencement of each compliance year after the first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

To comply with this condition, the project owner shall prior to the 1st compliance year hold a minimum NOx RTCs of 2412 lbs/yr. This condition shall apply during the 1st 12 months of operation, commencing with the initial operation of the black start engine.

To comply with this condition, the project owner shall, prior to the beginning of all years subsequent to the 1st compliance year, hold a minimum of 2412 lbs/yr of NOx RTCs for operation of the black start engine.

In accordance with Rule 2005(f), unused RTC's may be sold only during the reconciliation period for the fourth quarter of the applicable compliance year inclusive of the 1st compliance year.

[RULE 2005, 5-6-2005]

[Devices subject to this condition: D25]

Verification: The project owner shall provide confirmation from the District 30 days prior to first fire that sufficient RTCs to satisfy the District's requirements for the first year of operation as provided in this condition have been obtained. The project owner shall submit evidence of sufficient RTCs to the CPM demonstrating compliance with this condition for each compliance year after the 1st compliance year, at least 15 days prior to the commencement of that compliance year.

AQ-25 The project owner shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

An engine operating log shall be maintained which on a monthly basis shall list all engine operations in each of the following areas:

A. Emergency use hours of operation,

B. Maintenance and testing hours, and

C. Other operating hours, with a description of the reason for operation.

In addition, each time the engine is started manually, the log shall include the date of operation and the timer reading in hours at the beginning and end of operation. The log shall be kept for a minimum of five calendar years prior to the current year and made available to District personnel upon request. The total hours of operation for the previous calendar year shall be recorded some time during the first 15 days of January each year.

[RULE 1110.2, 2-1-2008]

[Devices subject to this condition: D25]

Verification: The project owner shall make records required by this condition available for inspection by representatives of the District, ARB, and the Commission.

AQ-26 The project owner shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

The project owner shall maintain records of diesel particulate filter inspections, replacements, and cleaning.

The project owner shall maintain monthly records of the exhaust temperature, engine backpressure, and date and time for the duty cycle of the engine as downloaded from the HiBACK data logging and alarm system.

All records shall be maintained on file for a minimum of five years and made available to District personnel upon request.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D25]

Verification: The project owner shall make records required by this condition available for inspection by representatives of the District, ARB, and the Commission.

Ammonia Tank (D28)

AQ-27 The project owner shall install and maintain a pressure relief valve set at 25 psig.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D28]

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

AQ-28 The project owner shall vent this equipment, during filling, only to the vessel from which it is being filled.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D28]

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

AQ-29 The project owner shall keep records in a manner approved by the Executive Officer, for the following parameter(s) or item(s):

The project owner shall document an inspection each time the tank is filled to ensure the vapor recovery equipment is consistently and properly used.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition: D28]

Verification: The project owner shall make the records required under this condition by representatives of the District, ARB and the Commission.

Facility Conditions

AQ-30 Except for open abrasive blasting operations, the project owner shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

A. As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

B. Of such opacity as to obscure an observer' s view to a degree equal to or greater than does smoke described in subparagraph (a) of this condition.

[RULE 401, 3-2-1984; RULE 401, 11-9-2001]

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

AQ-31 The project owner shall not use diesel fuel containing sulfur compounds in excess of 15 ppm by weight as supplied by the supplier.

Material safety data sheets for the diesel fuel shall be kept current and made available to District personnel upon request.

[RULE 431.2, 5-4-1990; RULE 431.2, 9-15-2000]

Verification: The project owner shall make the diesel fuel material data sheets available for inspection by representatives of the District, ARB, and the Energy Commission.

C. 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 public health impacts or violate standards for public health protection.[13]

The evidence on this topic was undisputed. (Ex. 1, § 6.16, Appendix I; Ex. 17, Data Responses AIR 1-5; Exs. 22, 24, 25, 30, 45, and 60; Ex. 200, p. 4.7-1 et seq.; 11/02/09 RT 59-63, 92-93.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project construction and operation will result in routine emissions of toxic air contaminants. These substances are categorized as noncriteria pollutants because there are no ambient air quality standards established to regulate their emissions.[14] In the absence of standards, state and federal regulatory agencies have developed health risk assessment procedures to evaluate potential health effects due to toxic air contaminants. The risk assessment requirements for this project are specified in South Coast Air Quality Management District (SCAQMD) Rules 1401, 212, and 3503.

The health risk assessment consists of the following steps:

- Identify the types and amounts of hazardous substances that the Canyon Power Plant could emit into the environment;

- Estimate worst-case concentrations of project emissions into the environment using dispersion modeling;

[13] This Decision discusses other potential public health concerns under the following topics. The accidental release of hazardous materials is discussed in **HAZARDOUS MATERIALS MANAGEMENT** and **WORKER SAFETY AND FIRE PROTECTION**. Electromagnetic fields are discussed in **TRANSMISSION LINE SAFETY AND NUISANCE**. Potential impacts to soils and surface water sources are discussed in the **SOIL AND WATER RESOURCES** section. Potential exposure to contaminated soils and hazardous wastes is described in **WASTE MANAGEMENT**. (Ex. 200, p. 4.7-9.)

[14] Criteria pollutants are discussed in the **AIR QUALITY** section of this Decision, *ante.*

- Estimate amounts of pollutants to which people could be exposed through inhalation, ingestion, and dermal contact;[15] and

- Characterize potential health risks by comparing worst-case exposure from the project with the scientific safety standards based on known health effects. (Ex. 200, p. 4.7-5.)

Typically, the initial health risk analysis is performed at a "screening level," which is designed to estimate *potential* health risks. The risks for screening purposes are based on examining conditions that would lead to the highest, or worst-case, risks and then modeling those conditions to analyze results. Such health risks include:

- Using the highest levels of pollutants that could be emitted from the power 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 addresses three categories of potential health impacts:

1. acute (short-term) health effects;
2. chronic (long-term) non-cancer effects; and
3. cancer risk (also long-term).

Acute health effects result from short-term (one-hour) exposure to relatively high concentrations of pollutants. Chronic non-cancer health effects occur as a result

[15] 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.

of long-term exposure (8 to 70 years) to lower concentrations of pollutants. (Ex. 200, p. 4.7-6.)

The analysis for acute and chronic health effects compares the maximum project contaminant levels to safe levels called “reference exposure levels” or RELs. These exposure levels are designed to protect the most sensitive individuals in the population such as infants, elderly seniors, and people suffering from illness or disease, which make them more susceptible to the effects of toxic substance exposure. The RELs are based on the most sensitive adverse health effects reported, and include margins of safety. (Ex. 200, p. 4.7-7.)

For carcinogenic substances, the health assessment considers the total risk from all cancer-causing chemicals from the source of emissions. The calculated risk is not meant to predict the *actual* expected incidence of cancer, but is rather a *theoretical* estimate based on worst-case assumptions. (Ex. 200, pp. 4.7-7 to 4.7-9.)

Cancer risk is expressed in cases 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. The State of California has established “the risk level which represents no significant risk […] is calculated to result in one excess case of cancer in an exposed population of 100,000, assuming lifetime exposure.” (Cal. Code Regs., tit. 22, § 12703(b).) This risk level is equivalent to a cancer risk of 10 in one million, or 10×10^{-6}. The conservative nature of the screening assumptions means that actual cancer risks due to project emissions are likely to be considerably lower than those estimated. (Ex. 200, pp. 4.7-8 and 4.7-9; Ex. 1, § 6.16.2.9.)

If the screening analysis predicts no significant risks, then no further analysis is required. However, if the predicted risk is significant, then further analysis using more realistic, site-specific assumptions is performed to obtain a more accurate assessment of potential health risks. If the site-specific analysis confirms that the risk exceeds the significance level, then appropriate mitigation measures are necessary to reduce the risk to less than significant. If a refined analysis identifies a cancer risk that exceeds the significance level after all risk reduction measures have been considered, then Staff would not recommend approval of the project. (Ex. 200, p. 4.7-9.)

Applicant and Staff analyzed the project’s toxic emissions that are expected to occur during construction and operation to determine the potential cancer and

non-cancer health risks to the public. (Ex. 1, § 6.16.2.1 et seq.; Ex 200, pp. 4.7-5 to 4.7-17.)

Construction. Potential construction-phase health impacts could occur from exposure to windblown dust from site excavation and grading. (Ex. 200, p. 4.7-10.) Conditions of Certification **AQ-SC3** and **AQ-SC4** in the **Air Quality** section, *ante*, require the project owner to implement several mitigation measures that are designed to minimize construction-related fugitive dust and to protect on-site workers and members of the public from exposure to the dust.

Particulate emissions from diesel-fueled construction equipment could result in potential carcinogenic health effects. (Ex. 200, pp. 4.7-9 and 4.7-10; Ex. 1, § 6.2, Tables 6.2-10 – 6.2-13, Appendix B-2.) According to Applicant, however, the relatively short duration of project construction (estimated at 12 months) will not result in significant long-term public health effects (8 to 70 years) from exposure to diesel emissions. (Ex. 1, § 6.16.2.2.)

To reduce exposure to diesel emissions from construction equipment, Condition of Certification **AQ-SC5** in the **Air Quality** section, *ante*, requires the use of ultra-low sulfur diesel fuel and Tier 2 or Tier 1 California Emission Standards for Off-Road Compression-Ignition Engines, or the installation of an oxidation catalyst and soot filters on diesel equipment. (Ex. 200, p. 4.7-10.) In addition, worker exposure to diesel emissions will be limited by implementation of the safe work practices described in the **Fire Protection and Worker Safety** section of this Decision.

Operation. During operation, the project's emission sources include four natural gas-fired combustion turbines, a four-cell cooling tower, and a diesel fuel-fired emergency engine, for a total of nine emitting sources. The evidence explains the methodology used in identifying and quantifying the emission rates of the toxic non-criteria pollutants that could adversely affect public health. (Ex. 1, § 6.16.2.3 et seq., Ex. 25; Ex. 17, Data Response AIR-1; Ex. 200, pp. 4.7-11 to 4.7-13.)

The Applicant's estimates of the project's potential contribution to the area's carcinogenic and non-carcinogenic pollutants are based on a screening-level health risk assessment conducted according to procedures specified in the Office of Environmental Health Hazard Assessment (OEHHA) Hotspots Analysis and Reporting Program (HARP) and the California Air Resources Board (CARB) Air Toxics Hot Spots Program Risk Assessment Guidelines as required by SCAQMD rules. (Ex. 1, § 6.16.2.1; Ex. 200, p. 4.7-13.)

The following receptor locations were identified in Applicant's health risk assessment:

- Point of Maximum Impact (PMI) for 70 year residential scenario:
  - PMI for cancer (located at the northern property boundary near the eastern edge of the site)
  - PMI for chronic noncancer hazard (also located at the northern property boundary)
  - PMI for acute noncancer hazard (located approximately 3 km southeast of the site)
- Maximally Exposed Residential Receptor for 70 year residential scenario:
  - For cancer, this receptor is located at a residence approximately 700 m southwest of the fenceline
  - For chronic noncancer hazard, this receptor is located at a residence approximately 500 m east of the fenceline
  - For acute noncancer hazard, this receptor is located at Placentia Veterinary Clinic, approximately 3.3 km north of the facility. (Ex. 25; Ex. 1, §§ 6.16.2.4, 6.16.2.5; Ex. 200, p. 4.7-14.)

In addition, SCAQMD Rule 1401.1 requires stringent health-based criteria for projects within 1,000 feet of a school. The nearest school is Melrose Elementary, located about 3,000 feet from the stacks. Although the school is beyond the SCAQMD's 1,000-foot threshold, the health risk assessment includes results for potential impacts at the school, which were significantly less than the maximum impacts identified at the PMIs described above. (Ex. 1, § 6.16.2.7, Table 6.16-6; Ex. 25.)

Staff conducted a quantitative evaluation of Applicant's risk assessment assumptions and results. (*Id*., pp. 4.7-13 to 4.7-17.) The risk assessment results, expressed as the Hazard Index (HI), include emissions from all sources and show that both acute and chronic HIs are less than 1.0, indicating that no short- or long-term adverse health effects are expected. The total worst-case individual cancer risk was calculated at less than 10 in one million at the PMI, which falls below the significance level.[16] (Ex. 1, § 6.16.2.7, Table 6.16-6; Ex. 25.)

[16] Cancer and non-cancer risk estimates represent incremental risks due only to project sources and do not include potential health risks posed by existing background concentrations. The HARP model performs all the necessary calculations to estimate the potential lifetime cancer risk and non-cancer HIs posed by project emissions. (Ex. 1, § 6.16.2.5.)

Staff's quantitative evaluation confirmed the Applicant's results as shown below in Staff's **Public Health Table 1**.

Public Health Table 1
Results of Staff's Analysis and the Applicant's Analysis for Cancer Risk and Chronic Hazard

	Staff's Analysis			**Applicant's Analysis**		
	Cancer Risk (per million)	Chronic HI	Acute HI	Cancer Risk (per million)	Chronic HI	Acute HI
PMI	0.82	0.017	0.0047	0.63	0.0074	0.017
Nearest residence	0.089	0.0017	0.0048	0.10	0.0014	0.016

Source: Ex. 200, p. 4.7-16.

The SCAQMD independently reviewed the modeling assumptions used in the Applicant's risk assessment analysis and concluded that the results were acceptable. (Exs. 30 and 45; Ex. 200, p. 4.7-17.)

Cooling Tower. The cooling tower is a source of toxic air contaminants (included in the modeling assumptions described above) and is also a potential source of Legionella, a bacterium that is ubiquitous in natural aquatic environments and widely distributed in man-made water systems. Legionella is the principal cause of legionellosis, or Legionnaires' Disease, which is similar to pneumonia. Transmission occurs mainly from inhalation or aspiration of aerosolized contaminated water from inadequately treated cooling systems, such as industrial cooling towers and building heating, ventilating, and air conditioning systems. (Ex. 200, pp. 4.7-27 to 4.7-19.)

To ensure that Legionella growth in the cooling tower is controlled to protect workers and members of the public, Condition of Certification **Public Health-1** requires the project owner to implement a biocide and anti-biofilm agent monitoring program to reduce the presence of Legionella to insignificant levels. (Ex. 200, p. 4.7-19.)

Cumulative Impacts. Staff examined the incremental impact of emissions from the project. Since the project's contributions to health risks are well below the level of significance, the project is not expected to contribute significantly to a cumulative health impact. (Ex. 200, p. 4.7-19.) See the **Air Quality** section, *ante,* for further discussion.

Public Comment. Representatives from the Cities of Yorba Linda and Placentia expressed concerns that prevailing winds from the project could carry the exhaust plume across neighboring communities, which include schools, hospitals, and low-income housing. They requested Staff to conduct an independent evaluation of the risks to residents and workers in the area. (Ex. 4.7-21.)

According to the record, an additional evaluation requested by the cities was not necessary because Staff's quantitative evaluation of Applicant's risk assessment already addressed the potential risks to residents and workers in the project area, including Anaheim, Placentia, and Yorba Linda. Air dispersion modeling and the health risk assessment were conducted according to Cal-EPA and USEPA protocols, which assume worst-case exposure to the most sensitive individuals. Since the risk assessment found that health hazards at the PMIs were well below the level of significance, impacts at more distant receptors in the Cities of Yorba Linda and Placentia would be at least 10 times more attenuated and therefore, would not result in public health risks to residents or workers in those locations. (Ex. 200, p. 4.7-21.)

The Commission makes the following findings and conclusions:

FINDINGS OF FACT

1. Construction and 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. Exposure to diesel particulate emissions from construction equipment is short-term and will not result in long-term carcinogenic or non-cancer effects.

3. Exposure to construction-related diesel particulates will be mitigated to the extent feasible by implementing measures to reduce equipment emissions.

4. Exposure to fugitive dust due to excavation and construction activities will be mitigated to insignificant levels by implementing measures to reduce dust production and dispersal.

5. During operation, the project's emission sources include four natural gas-fired combustion turbines, a four-cell cooling tower, and a diesel fuel-fired emergency engine, for a total of nine emitting sources

6. Emissions of criteria pollutants, as discussed in the **AIR QUALITY** section of this Decision, will be mitigated to levels consistent with applicable state and federal standards.

7. Emissions of noncriteria pollutants or toxic air contaminants are assessed according to procedures developed by state and federal regulatory agencies to evaluate potential health effects.

8. Applicant performed a screening health risk assessment of the project's potential health effects due to emissions of toxic air contaminants.

9. The health risk assessment assumes worst-case exposure to toxic air contaminants by the most sensitive receptors such as children, the elderly, and those with pre-existing health conditions.

10. Emissions of toxic air contaminants from the project will not cause acute or chronic non-cancer adverse public health effects or long-term carcinogenic effects at the points of maximum impact.

11. The points of maximum impact for acute, chronic, and carcinogenic effects are near the project fenceline and do not extend to sensitive receptor locations.

12. The maximum cancer and non-cancer health risks associated with the project are substantially below the significance thresholds commonly accepted for risk analysis purposes.

13. The South Coast Air Quality Management District reviewed the modeling assumptions used in the Applicant's risk assessment analysis and concluded that the results were acceptable.

14. Implementation of a biocide and anti-biofilm agent monitoring program required by Condition of Certification **Public Health-1** will reduce the growth of Legionella in the cooling tower to insignificant levels.

15. Since the project's contributions to health risks are well below the significance level, the project is not expected to contribute significantly to a cumulative health impact.

CONCLUSIONS OF LAW

1. Project emissions of toxic air contaminants do not pose a significant direct, indirect, or cumulative adverse public health risk.

2. With the implementation of Condition of Certification **Public Health-1**, below, and the Conditions of Certification listed in the **Air Quality** section of this

3. 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 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. The Cooling Water Management Plan shall be implemented appropriately and testing results shall be submitted to the CPM according to the Plan.

D. 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 are in accordance with all applicable LORS and thus will be adequate to protect industrial workers. The record also addresses the availability and adequacy of fire protection and emergency response services, as well as potential site contamination concerns. The evidence on this topic was uncontested. (11/02/09 RT 5 - 6, 92 - 93; Exs. 1 § 6 and Appendix Q; 9; 10; 13; 67; 200, § 4.14.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Site and Soil Contamination

Contaminated soils may be exposed during site preparation. The Phase I Environmental Site Assessment (ESA) recommended further sampling due to potential contamination. The Phase II ESA performed in 2007 recommended that underground structures be removed prior to site development, that a soil management plan be prepared to address contaminated soil remediation, and that a post-excavation sampling plan be prepared to assure that all contaminated soil is properly removed. (Exs. 9; 10; 200, p. 4.14-3.) We have required these measures in Condition **WORKER SAFETY-6**. Condition **WASTE-1** and Condition **WASTE-2** also bolster remediation efforts by requiring the availability of a registered professional engineer or geologist during soil excavation and grading.[17] The evidence shows that this will assist in ensuring proper handling and disposal of contaminated soil.

2. Worker Safety

Industrial environments are potentially dangerous during construction, operation, and demolition activities. Workers at the Canyon 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, electrical sparks, and electrocution. Thus, it is important for the project to have well-defined policies

[17] The **WASTE MANAGEMENT** portion of this Decision contains a more detailed analysis of the matter.

and procedures, training, and hazard recognition and controls to minimize injuries and protect workers. (Ex. 200, p. 4.14-4.)

The evidence 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. 4.14-4 to 4.14-8.) For example, the project owner will develop and implement a "Construction Safety and Health Program" and an "Operations and Maintenance Safety and Health Program," both of which must be reviewed by the Compliance Project Manager prior to project construction and operation. A separate "Injury and Illness Prevention Program," a "Personal Protective Equipment Program," an "Emergency Action Plan," a "Fire Protection and Prevention Plan," and other general safety procedures will be prepared for both the construction and operation phases of the project. (*Id.*) 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 relating to specific project operations, and has authority to take appropriate action. To implement the intent to provide a safe work place during power plant construction 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. (Ex. 200, pp. 4.14-9 to 4.14-10.)

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, as well as ensure that safety procedures and practices are fully implemented. (Ex. 200, pp. 4.14-10 to 4.14-11.) Condition **WORKER SAFETY-4** describes the role of the Safety Monitor.

The project owner will also maintain an automatic, portable defibrillator on-site to provide immediate response in the event of a medical emergency.[18] Condition **WORKER SAFETY-5** requires the project owner to ensure this device is available during construction and operation, and that appropriate personnel are trained to use it. (Ex. 200, p. 4.14-12.)

3. 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 project will rely upon both on-site and local fire protection services.

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 and detail measures to minimize the likelihood of fires during construction. These measures include the placement of portable fire extinguishers, small hose lines, fixed fire suppression equipment, and an on-site water supply. (Ex. 200, p. 4.4-11.)

During operation, 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 municipal water supply system near East Miraloma Avenue will provide fire water through two independent points connected to the fire loop. This loop will supply the sprinkler system, water deluge system, and the fire hydrants with a 1,500 gallons per minute water flow. (Ex. 200, p. 4.14-11.) A fixed water sprinkler system will be installed in areas of risk and in administrative buildings in accordance with NFPA requirements. A dry pipe pre-action sprinkler system will be installed in the control room. A carbon dioxide fire protection system will be provided for each of the combustion turbine generators. The CTG auxiliary equipment and transformers will each be contained in a

[18] 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. 4.14-12.)

separate concrete berm and protected with a water deluge system. Chemical and gas extinguishers will be installed in areas of risk where water is ineffective as a fire suppressant. Other plant equipment such as electrical enclosures and the switchyard will be protected with a dry-type and/or a Dupont FE-25 type fire suppression system. (Ex. 200, pp. 4.14-11 to 4.14-12.)

The fire protection system will have fire detection sensors that trigger alarms and alert the control room as well as the Anaheim Fire Department (AFD). In addition to the fixed fire protection system, appropriate class-of-service portable extinguishers and fire hydrants will be located throughout the facility at code-approved intervals. The evidence shows that these measures will ensure adequate fire protection. (*Id*.) Conditions of Certification **WORKER SAFETY-1** and **-2** require the project owner, prior to construction and operation of the project, to provide the final Fire Protection and Prevention Program to the Compliance Project Manager and to the AFD to confirm the adequacy of the proposed fire protection measures.

Local fire protection is under the jurisdiction of the AFD. According to the AFD, the closest station to the project is the Kraemer Station, located at 1154 N. Kraemer Street (approximately 0.43 miles away) with a response time of one minute. The next nearest stations are the Lakeview Station and the Stadium Station, located at 4555 E. Riverdale (approximately 3.78 miles away) and 2222 E. Ball Road (approximately 5.18 miles away), respectively. The response time from these stations is about 6 minutes from Lakeview and 7 minutes from Stadium. The AFD is also the first responder for hazardous materials incidents. Backup support will be provided by Hazmat response teams from Irvine, Santa Ana, and Huntington Beach through mutual aid agreements with the AFD. (Ex. 200, p. 4.14-3.)

Finally, the evidence establishes that the Canyon Project has only minimal potential to increase the burden on AFD services. The evidence shows that the lack of unique fire hazards associated with a modern gas-fired power plant, the presence of multiple on-site manual and automated fire detection and suppression systems, and the measures contained in the Construction and the Operations Fire Protection and Prevention Plans reasonably assure that the project will not place any significant incremental burden upon local fire protection services. (Ex. 200, p. 4.14-13.)

FINDINGS OF FACT

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 Canyon Project will include on-site fire protection and suppression systems as the first line of defense in the event of a fire.

5. The City of Aneheim Fire Department (AFD) will provide fire protection and emergency response services to the project.

6. Existing fire and emergency service resources are adequate to meet project needs.

CONCLUSION OF LAW

1. We therefore conclude that the Canyon Project will not create significant health and safety impacts to workers, and will comply with all applicable laws, ordinances, regulations, and standards listed in the appropriate portion of **Appendix A** of this Decision.

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:

A. a Construction Personal Protective Equipment Program;

B. a Construction Exposure Monitoring Program;

C. a Construction Injury and Illness Prevention Program;

D. a Construction Emergency Action Plan; and

E. 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 Anaheim Fire Department 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 a letter to the CPM from the Anaheim Fire Department stating the Fire Department's comments on the Construction Fire Prevention Plan and the Emergency Action Plan.

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

A. an Operation Injury and Illness Prevention Plan;

B. an Emergency Action Plan;

C. a Hazardous Materials Management Program;

D. an Operation Fire Prevention Program (8 CCR § 3221); and

E. a Personal Protective Equipment Program (8 CCR §§ 3401-3411).

The Operation Injury and Illness Prevention Plan, the Emergency Action Plan, and the 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 Anaheim Fire Department 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 a letter to the CPM from the Anaheim Fire Department stating 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:

A. have overall authority for coordination and implementation of all occupational safety and health practices, policies, and programs;

B. assure that the safety program for the project complies with Cal/OSHA and federal regulations related to power plant projects;

C. assure that all construction and commissioning workers and supervisors receive adequate safety training;

D. complete accident and safety-related incident investigations and emergency response reports for injuries and inform the CPM of safety-related incidents; and

E. 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 to include:

- 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 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: At least 30 days 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 The project owner shall ensure that workers are not exposed to harmful levels of contaminants in soils on the site during site preparation, demolition, and construction by either: removing contaminated soil down to depths where workers would be exposed; or showing that the site has been remediated to levels of contaminants that will not cause a significant risk to worker health.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM a letter from the Orange County Health Care

Agency Environmental Health Division that the site has been properly characterized and remediated.

E. HAZARDOUS MATERIALS MANAGEMENT

This section considers whether the construction and operation of the Canyon Project will create significant impacts to public health and safety resulting from the use, handling, transportation, or storage of hazardous materials.[19] Several locational factors affect the potential for project-related hazardous materials to cause adverse impacts. These include meteorological conditions, terrain characteristics, any special site factors, and the proximity of population centers and sensitive receptors. (Ex. 200, p. 4.4-5.) In addition, sensitive subgroups such as the young, the elderly, and those with existing conditions may be at heightened risk from exposure to emitted pollutants.

The evidence presented on this topic was uncontested. (11/02/2009 RT 7, 37-38, 92-93; Exs. 1, § 6.15; 17; 19; 38; 40; 56; 57; 200, § 4.4.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Potential Risks

The evidence chronicles the method used to assess risks posed by hazardous materials. This method included the following elements:

- A review of chemicals, 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 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.

[19] The **WORKER SAFETY AND FIRE PROTECTION** portion of this Decision addresses the protection of workers from such risks.

- An analysis of the theoretical impacts on the public of a worst-case spill of hazardous materials even with the mitigation measures in place. (Ex. 200, pp. 4.4-6 to 4.4-7.)

Hazardous materials used during construction will include gasoline, diesel fuel, motor oil, hydraulic fluid, welding gases, lubricants, solvents, paint, and paint thinner. No acutely toxic materials will be used on-site during construction. Hazardous materials will be used or stored during operation only in small quantities. (Ex. 200, p. 4.4-2.)

Attachment A (incorporated in Condition of Certification **HAZ-1** at the end of this section and as reflected in Ex. 57) lists the hazardous materials that will be used and stored on-site. Condition **HAZ-1** prohibits the project owner from using hazardous materials not listed in Attachment A, or storing them in greater quantities than specified, without prior approval of the Energy Commission's Compliance Project Manager. None of these materials, except for natural gas and aqueous ammonia as discussed below, 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. (Ex. 200, p. 4.4-7.)

a. Natural Gas

Project operations will involve the handling – but not storage – of large quantities of natural gas. The evidence shows that, while natural gas poses some risk of both fire and explosion, this risk can be reduced to insignificant levels through adherence to applicable codes and the development and implementation of effective safety management practices. For example, National Fire Protection Association (NFPA) Code 85A requires both the use of double-block and bleed valves for gas shut-off and automated combustion controls. These measures significantly reduce the likelihood of an explosion in gas-fired equipment. Additionally, air purging of the gas turbines is required prior to start-up, thereby precluding the presence of an explosive mixture. The safety management plan must address the handling and use of natural gas, and the evidence establishes that it will significantly reduce the potential for equipment failure because of either improper maintenance or human error. (Ex. 200, pp. 4.4-2, 4.4-7 to 4.4-8.)

The project will connect to SoCalGas' existing natural gas line L-1218 on east Orangethorpe Avenue. The pipeline will go 580 feet east from the site on Miraloma Avenue to Kraemer Boulevard, then north for 2,660 feet on Kraemer Boulevard to the interconnection. (*Id*.) Various laws and codes govern the construction of natural gas pipelines. These are intended to minimize the risk to public health and safety from pipeline accidents such as rupture and explosion.

For example, current codes address: corrosion failures by requiring the use of corrosion resistant coatings and cathodic corrosion protection; damage from excavation activities by requiring clear marking of the pipeline route; seismic hazards by requiring design and construction in accord with up-to-date standards; and faulty welds by requiring the use of high quality arc welding techniques by certified welders as well as the inspection of such welds. (Ex. 200, p. 4.4-8.)

More specifically, these codes ensure that the following safety features will be incorporated into the design and operation of the natural gas pipeline (as required by current federal and state codes): (1) while the pipeline will be designed, constructed, and tested to carry natural gas at a certain pressure, the working pressure will be less than the design pressure; (2) butt welds will be X-rayed and the pipeline will be tested with water prior to the introduction of natural gas into the line; (3) the pipeline will be surveyed for leakage annually; (4) the pipeline will be marked to prevent rupture by heavy equipment excavating in the area; and (5) valves at the meter will be installed to isolate the line if a leak occurs. (Ex. 200, p. 4.4-10.)

The evidence establishes that conformance with existing codes will ensure minimal risks of pipeline failure.

b. Aqueous Ammonia

The use of aqueous ammonia is necessary to control oxides of nitrogen (NO_x) emissions resulting from natural gas combustion. The evidence is in accord that aqueous ammonia is the only hazardous material that could realistically, without proper mitigation, pose a significant risk of off-site impact. This could result from the release of ammonia vapor in the event of a spill. (Ex. 200, p. 4.4-11.) The evidence contains a detailed analysis of both the potential impacts resulting from an ammonia spill and the adequacy of measures available to limit the severity of any impacts.

2. Risk Mitigation

The use of aqueous ammonia rather than anhydrous ammonia significantly reduces off-site risks. Anhydrous ammonia is stored as a liquefied gas at high pressure and could explode in an accidental release, resulting in high downwind concentrations. Aqueous ammonia spills are much easier to contain, and

emissions from such spills are limited by the slow mass transfer from the surface of the spilled material. (Ex. 200, pp. 4.4-1 to 4.4-2.)

The project will store aqueous ammonia (in a 19 percent solution) in an above-ground stainless steel ammonia tank with a maximum capacity of 10,000 gallons.[20] The tank will be surrounded by a secondary containment basin capable of holding the full contents of the tank plus the rainfall associated with a 24-hour, 25-year storm. A screen cover (containing 204 six-inch diameter drain holes) for the containment basin will reduce ammonia evaporation. The truck unloading area will have a sloped concrete pad which drains into a separate containment area. (Ex. 200, p. 4.4-11.)

To assess the potential off-site impacts associated with an accidental release of aqueous ammonia, Staff used several benchmark exposure levels. (Ex. 200, pp. 4.4-11 to 4.4-12.) These include:

- the lowest concentration posing a risk of lethality, i.e. 2,000 parts per million (ppm);
- the concentration immediately dangerous to life and health, a level of 300 ppm;
- the emergency response planning guideline level 2 of 150 ppm; and
- the level of 75 ppm, considered by the Energy Commission staff to be without serious adverse effects on the public for a one-time exposure.

If the exposure associated with a potential release exceeds 75 ppm at any public receptor, Staff also assesses the probability of occurrence of the release, the severity of the consequences, and the nature of the potentially exposed population in determining whether the likelihood and extent of exposure would be significant.[21] (*Id*.)

In addition, Applicant performed an off-site consequence analysis (OCA) for the worst-case release scenario. This involved the failure and complete discharge of the storage tank, as well as an alternative release scenario involving a spill

[20] Seismic criteria governing storage tanks is addressed in the **FACILITY DESIGN** section of this Decision.

[21] Staff's Hazardous Materials Appendix A (Ex. 200, pp. 4.4-33 to 4.4-34) discusses the criteria for ammonia exposure guidelines, their applicability to sensitive populations, and exposure-specific conditions.

during truck unloading. Ammonia emissions from the two potential release scenarios were calculated following methods provided by USEPA guidance. (Exs.1, § 6.15.2.3.1; 200, pp. 4.4-11 to 4.4-12.)

The evidence establishes that no ammonia concentrations exceeding 200 ppm would extend beyond the facility's fence line, and that concentrations exceeding 75 ppm would not occur off-site in either worst-case scenario. Thus, no threats to the public are posed. (Ex. 200, p. 4.4-12.)

a. Transportation Risk Reduction

The evidence shows that transport of aqueous ammonia poses the predominant risk to off-site receptors. Ammonia can be released during a transportation accident; the extent of impact depends upon the location of the accident and the rate of dispersion of ammonia vapor from the surface of the aqueous ammonia pool. The actual likelihood of an accidental release during transport depends upon the tanker driver's skill, the type of transport vehicle, and accident rates. (Ex. 200, pp. 4.4-14 to 4.4-15.)

Aqueous ammonia will be delivered to the facility in DOT-certified vehicles with design capacities of 6,500 gallons. These high-integrity vehicles are designed to DOT Code MC-307, and are suitable for hauling caustic materials such as ammonia. Condition of Certification **HAZ-5** ensures that only tankers which meet or exceed these specifications will be used for ammonia deliveries. (Ex. 200, p. 4.4-15.)

Trucks will travel approximately 0.8 miles from SR-91 along Kraemer Boulevard and Miraloma Avenue to the power plant.[22] The facility will require about eight tanker truck deliveries of aqueous ammonia annually. This will result in about 6.4 miles of tanker truck delivery travel in the project area per year. (Ex. 200, p. 4.4-15.)

Data show that the actual risk of a release from hazardous material transportation is between 0.06 and 0.19 releases per 1,000,000 miles traveled. Staff's transportation risk assessment model shows that there is a total annual risk of 0.4 in 1,000,000 for one trip and a total annual risk of 3.3 in 1,000,000 for 8 deliveries for an accident which results in the release of a hazardous material.

[22] Condition of Certification **HAZ-6** requires the use of this, the shortest route from SR-91 to the project. (Ex. 200, p. 4.4-16.)

Given the inherent conservatism of the assumptions used, the evidence supports the conclusion that the risk of a transportation accident resulting in the release of a hazardous material is insignificant. (Ex. 200, pp. 4.4-15 to 4.4-16.)

b. Engineering and Administrative Controls

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. Timely and adequate emergency spill response is also a crucial factor. (Ex. 200, pp. 4.4-6.)

The engineered safety features which will be used at the Canyon Project include:

- Storage of containerized hazardous materials in their original containers which are designed to prevent releases and are appropriately labeled;

- Construction of secondary containment areas surrounding each of the hazardous materials storage areas designed to contain accidental releases that might happen during storage or delivery;

- Physical separation of stored chemicals in isolated containment areas in order to prevent accidental mixing of incompatible materials which could result in the evolution and release of toxic gases or fumes;

- Construction of a covered containment area surrounding the aqueous ammonia storage tank capable of holding the contents of the tank plus the volume of rainfall associated with a 24-hour, 25-year storm event;

- A sloped concrete pad surrounding the aqueous ammonia truck unloading area that drains into a secondary containment structure; and

- Process protective systems including continuous tank level monitors with automatic alarms that are triggered at set high and low level points, automatic leak detectors, temperature and pressure monitors, alarms, and emergency block valves. (Ex. 200, p. 4.4-13.)

Administrative controls also help prevent accidents and releases (spills) from moving off-site and affecting neighboring communities. These include those

required in Conditions of Certification **HAZ-1** (limitations on the use and storage of hazardous materials and their strength and volume), Condition **HAZ-2** (Risk Management Plan for aqueous ammonia), Condition **HAZ-3** (development of a safety management plan) and **HAZ-4** (design parameters for ammonia tank). (Ex. 200, p. 4.4-13.)

Worker training programs, process safety management programs, and compliance with all applicable health and safety laws, ordinances, and standards will also reduce risks. The project owner's worker health and safety program will include (but not be limited to) the following elements:

- Worker training regarding chemical hazards, health and safety issues, and hazard communications;
- Procedures to ensure the proper use of personal protective equipment;
- Safety operating procedures for the operation and maintenance of systems utilizing hazardous materials;
- Fire safety and prevention; and
- Emergency response actions including facility evacuation, hazardous material spill clean-up, and fire prevention. (Ex. 200, p. 4.4-13.)

In order to address the issue of spill response, the project owner will prepare and implement an emergency response plan that includes information on hazardous materials contingency and emergency response procedures, spill containment and prevention systems, personnel training, spill notification and on-site containment, as well as other elements. Emergency procedures will include evacuation, spill cleanup, hazard prevention, and emergency response. The project owner will prepare a risk management plan for aqueous ammonia. A hazardous materials business plan incorporating requirements for the handling of hazardous materials will also be prepared. (Ex. 200, p. 4.4-14.)

The Anaheim Fire Department (AFD) will be the first responder for hazardous materials incidents. The AFD has a six-person Type 1 Hazardous Materials Response Team. Backup support will be provided by Hazmat response teams from Irvine, Santa Ana, and Huntington Beach through mutual aid agreements. The evidence indicates that these organizations are capable of handling any hazardous materials related incident posed by the Canyon Project. (*Id.)*

Overall, the evidence conclusively establishes that the project's use and storage of hazardous materials, including natural gas and aqueous ammonia, poses a less than significant risk to public health and safety.

3. Site Security

The hazardous materials used by the Canyon Project are listed by several federal agencies (USEPA, Homeland Security, DOE) in Vulnerability Assessments requiring special site security measures to prevent unauthorized access. (Ex. 200, p. 4.4-17.) This project as categorized as "low vulnerability". (Ex. 200, p. 4.4-18.) A minimum level of security measures is appropriate in order to protect California's electrical infrastructure from malicious mischief, vandalism, or terrorist attack. Those measures include a 20-foot-tall masonry wall surrounding the perimeter, a remote-controlled hydraulic security gate at the plant's main entrance equipped with a video surveillance system that enables operators to monitor access to the site from the control room, and additional video cameras throughout the plant to monitor critical plant structures. (Exs. 1, § 3.5.11; 200, p. 4.4-17.).

Furthermore, breach detectors and alarms will be present and site access procedures for employees and vendors, as well as site personnel background checks will be used. Site access for vendors will be strictly controlled. Consistent with current state and federal regulations governing the transport of hazardous materials, hazardous materials vendors will have to maintain their transport vehicle fleet and employ only properly licensed and trained drivers. The project owner is required, through the use of contractual language with vendors, to ensure that vendors supplying hazardous materials strictly adhere to the U.S. DOT requirements for hazardous materials vendors to prepare and implement security plans and to ensure that all hazardous materials drivers are in compliance through personnel background security checks. The compliance project manager (CPM) may authorize modifications to these measures or may require additional measures in response to guidance provided by the U.S. Department of Homeland Security, the U.S. DOE, or the NERC after consultation with both appropriate law enforcement agencies and the project owner. (Ex. 200, p. 4.4-18.)

Conditions of Certification **HAZ-7** and **HAZ-8** embody these requirements.

4. Cumulative Risks

Finally, the evidence contains an analysis of potential cumulative impacts. For present purposes, a significant cumulative impact is basically the simultaneous uncontrolled release of hazardous materials from multiple locations in a form (gas or liquid) that could cause a significant impact. The Canyon facility poses a minimal risk of off-site impacts from an accidental release. There are no known existing or planned facilities within the area which use or store hazardous materials which could possibly contribute to a cumulative impact. Moreover, it is unlikely that an accidental release, which has a very low probability of occurring, would independently occur at the project and at another facility at the same time. (Ex. 200, p. 4.4-18.)

The evidence establishes that the project owner will develop a hazardous materials handling program and that the project, as mitigated, poses only a minimal risk of an accidental release of hazardous materials. We therefore conclude that the Canyon facility will not cause, or contribute to, a significant cumulative impact.

FINDINGS OF FACT

1. The Canyon Project will use hazardous materials during construction and operation, including aqueous ammonia and natural gas.

2. The major public health and safety dangers associated with these hazardous materials include the accidental release of aqueous ammonia as well as fire and explosion from natural gas.

3. Staff's independent analysis indicated that appropriate design measures to contain spilled ammonia are necessary to ensure that no significant off-site public health consequences will result from an accidental ammonia release.

4. A concentration of 75 ppm or less of aqueous ammonia will not cause significant impacts. A worst-case catastrophic release of aqueous ammonia from the Canyon facility will not pose a hazard to the public, nor result in off-site concentrations of greater than 75.

5. Compliance with appropriate engineering and regulatory requirements for safe transportation, delivery, handling, and storage of ammonia will reduce potential risks of accidental release to insignificant levels.

6. 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.

7. Potential impacts from the other hazardous substances used on-site are not significant since quantities will be limited and appropriate storage will be maintained in accordance with applicable law.

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

9. The project owner will ensure that truck deliveries of aqueous ammonia are restricted to the delivery route specified in Condition of Certification **HAZ-6**, below.

10. The likelihood of cumulative impacts originating from simultaneous releases of hazardous materials from the Canyon Project and nearby facilities is statistically remote and considered insignificant.

11. No other existing or planned projects are close enough to the Canyon Project to create a credible possibility of cumulative impacts from a simultaneous release of hazardous materials.

12. Implementation of the mitigation measures described in the evidence and contained in the Conditions of Certification, below, ensures that the project will not cause significant impacts to public health and safety as the result of handling, use, storage, or transportation of hazardous materials.

CONCLUSIONS OF LAW

1. With implementation of the Conditions of Certification, below, the Canyon 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.

2. The storage, use, and transportation of hazardous materials associated with the Canyon Project will not result in any significant direct or cumulative adverse public health and safety impacts.

CONDITIONS OF CERTIFICATION

HAZ-1 The project owner shall not use any hazardous materials not listed in **ATTACHMENT A**, below, or in greater quantities or strengths than those identified by chemical name in **ATTACHMENT A**, 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 concurrently provide a Business Plan and a Risk Management Plan (RMP) prepared pursuant to the California Accidental Release Program (CalARP) to the Anaheim Fire Department (AFD) and the CPM for review. After receiving comments from the AFD 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 AFD 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.

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, 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% 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. The project owner shall provide this direction in a letter to the vendor(s) at least 30 days prior to the receipt of aqueous ammonia on-site.

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. Trucks will travel on SR-91 to Kraemer Blvd. to Miraloma Avenue to the plant site. The project owner shall obtain approval of the CPM if an alternate route is desired.

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 notices to hazardous materials vendors describing the required transportation route.

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 8 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 B**), 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 C**), 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 D**), 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) 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 24 hours per day, 7 days per week, **or** if power plant personnel are not on-site 24 hours per day, 7 days per week, all plant alarms, intrusion detectors, and CCTV systems shall be monitored at all times from a remote location when the site is unmanned, and **all** of the following:

        1. the CCTV monitoring system required in item 9, above, shall include cameras able to pan, tilt, and zoom; have low-light capability; are recordable; and are able to view 100% 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 project owner.

Verification: At least 30 days prior to the initial receipt of hazardous materials on-site, the project owner shall notify the CPM that a site-specific operations 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.

HAZARDOUS MATERIALS
ATTACHMENT A
Hazardous Materials Proposed for Use at the Canyon Energy Project

Hazardous Materials ATTACHMENT A
Hazardous Materials Used and Stored On-site at the Canyon Energy Project

Material	CAS No.	Application	Hazardous Characteristics	Maximum Quantity On Site
Acetylene	74-86-2	Welding	Health: hazardous if inhaled Physical: combustible, flammable	270 cubic feet
Antiscalent (neat) acrylate polymers	mixture	RO System	Health: None Physical: None	400 gallons
Aqueous Ammonia 19% Solution	7664-41-7	NO_X reduction in SCR	Health: irritation to permanent damage from inhalation, ingestion, and skin contact Physical: reactive, vapor is combustible	10,000 gallons
Diesel Fuel	Mixture	Black start generator	Health: Low-toxicity Physical: Flammable liquid	500 gallons
Dispersant/ Corrosion Inhibitor (neat) acrylic polymer	9011-14-7	Scale/corrosion control (cooling tower, circulating water)	Health: None Physical: None	400 gallons
Dryer Desiccant	Silica, Amorphous 7631-86-9	Instrument air	Health: Dust may cause irritation, dust is irritant to respiratory tract. Expected to be hazardous if ingested. Possible cancer hazard. Physical: Not regulated	300 pounds
Hydraulic fluid	Mixture	Rotating equipment	Health: hazardous if ingested Physical: may be flammable/combustible	200 gallons
Lubrication Oil (turbine synthetic lube oil and generator mineral lube oil)	None	Rotating equipment	Health: hazardous if ingested Physical: may be flammable/combustible	2,600 gallons
Mineral Oil	8042-47-5	Transformers	Health: eye and skin irritant, inhalation of mist may cause lung irritation Physical: None	40,000 gallons
Motor Oil	64742-47-8	Construction vehicles and equipment	Health: hazardous Physical: None	110 gallons
Natural Gas (Methane)	74-82-8	Fuel for power plant	Health: Asphyxiant. Effects are due to lack of oxygen. Physical: flammable gasses	N/A
Non-oxidizing Biocide (Isothiazolin)	26172-55-4	Biocide for cooling system	Health: None Physical: None	400 gallons
Paint	Mixture	Painting	Health: various Physical: various	50 gallons

Propane	74-98-6	Miscellaneous heating activities	Health: low toxicity Physical: flammable	75 pounds
RO Membrane Cleaners (Tetrasodium EDTA)	64-02-8	RO system	Health: None Physical: None	400 gallons
Sodium Bisulfite (38%)	7631-90-5	Dechlorination (RO system)	Health: Harmful if swallowed. Contacts with acids liberates toxic gas. Irritating to eyes, respiratory system, and skin. Possible sensitizer. Physical: Corrosive	400 gallons
Sodium Hypochlorite (12%)	7681-52-9	Biocide/biofilm control (raw water tank, cooling tower circulating water)	Health: toxic and corrosive Physical: corrosive	400 gallons
Sulfur Hexaflouride	2551-62-4	Switchyard breakers	Health: asphyxiant, effects are due to lack of oxygen Physical: non-flammable	6,000 pounds
Sulfuric Acid (93%)	7664-93-9	pH control (cooling tower circulating water, RO system)	Health: irritant to eyes, poisonous if inhaled, extreme irritant, corrosive, and toxic to tissue Physical: corrosive	400 gallons
Transmission Fluid	None	Construction vehicles and equipment	Health: None Physical: None	100 gallons
Unleaded Gasoline	Mixture	Construction vehicles	Health: irritant Physical: flammable liquid	200 gallons
Various Detergents	None	Combustion turbine cleaning	Health: None Physical: None	220 gallons
Waste Fluids (i.e. motor oil, transmission fluid, hydraulic fluid, and antifreeze)	None		Health: None Physical: None	45 gallons
Waste Paint, Thinners, and Solvents	None		Health: None Physical: None	45 gallons
Waste Welding Materials	None		Health: None Physical: None	45 pounds
Hydrochloric Acid 38%	7647-01-0	pH Control	Corrosive	400 gallons
Sodium Hydroxide 50%	1310-73-2	Water treatment pH control	Corrosive	400 gallons
Propylene glycol	57-55-6		Low Toxicity	3,000 gallons (initial fill)

a. Reportable quantities for a pure chemical, per the Comprehensive Environmental Response, Compensation, and Liability Act.

Source: Exhibit 57.

SAMPLE CERTIFICATIONS

(Attachments B, C, and D)

SAMPLE CERTIFICATION (Attachment B)

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 C)

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 D)

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.

F. WASTE MANAGEMENT

The Canyon Power Plant will generate hazardous and nonhazardous 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 hazardous and nonhazardous wastes. The evidence on this topic was undisputed. (11/02/09 RT 76-77. 92-93; Ex. 1, § 6.14; Exs. 8, 9, 10, 17 (Data Responses 51-55), 49, 51, 66; Ex. 200, p. 4.13-1 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).[23] State law requires hazardous waste generators to obtain U.S. EPA identification numbers and to 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.)

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.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Site Excavation

The certification process requires a Phase I Environmental Site Assessment (ESA) to provide the history of how the site has been used and a list of hazardous waste releases on or near the site to document the presence of any actual or potential soil or water contamination. If the Phase I ESA finds a reasonable likelihood that the site contains hazardous substances, a Phase II ESA must be conducted to analyze the contamination and to establish a remediation plan. (Ex. 200, pp. 4.13-6-- 4.13-7.)

Applicant's Phase I ESA, dated November 20, 2006, was performed in accordance with the American Society for Testing and Materials (ASTM) Standard Practice E 1527-05 for ESAs. (Ex. 1, Appendix M; Ex. 8.) The Phase I

[23] 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.

ESA identified several recognized environmental conditions (RECs) at the site,[24] including a 500-gallon waste oil underground storage tank (UST), a 500-gallon UST containing waste food, multiple leaking chemical storage containers, four subsurface clarifiers, active truck maintenance operations, and staining on asphalt pavement, soil, and concrete throughout the project site.[25] As a result of these findings, a Phase II ESA dated December 1, 2006, and two supplemental ESA reports, dated May 4, 2007, and November 14, 2007, were conducted to evaluate the nature and extent of potential contamination caused by the RECs.

The Phase II ESA reports found that site soils were impacted with arsenic, metals, semi-volatile organic compounds (SVOCs), and/or total petroleum hydrocarbons (TPH-cc) at concentrations greater than the threshold significance levels established by state and federal law. In addition, the reports found that shallow soils, where residential properties had been located, contain lead in excess of the soluble threshold limits and should be removed as hazardous waste. (Ex. 1, § 6.14.1.1, Appen. M, Exs. 8, 9, and 10; Ex. 200, pp. 4.13-8 to 4.13-9.)

To ensure that the public and construction workers are protected from exposure to contaminated soils and other hazardous chemicals at the site, Condition **WASTE-1** requires the Project Owner to develop a Corrective Action Plan in consultation with the Orange County Health Care Agency Environmental Health Division (OCHCA) and to remediate the site prior to excavation in accordance with the Corrective Action Plan and applicable LORS. According to Staff, the Corrective Action Plan will be consistent with the DTSC's comments regarding the project's site evaluation and remediation procedures. (Ex. 200, p. 4.13-15, DTSC Letter to Staff, dated May 27, 2009.) In addition, Condition **WASTE-2** requires the project owner to consult with and obtain approval from the Anaheim Fire Department Hazardous Materials Section to remove the USTs prior to commencing excavation.

Condition **WASTE-3** requires that an experienced Professional Engineer or Professional Geologist be available for consultation in the event that contaminated soil is encountered during excavation and construction. **WASTE-4**

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[24] An REC is considered to be the presence or likely presence of any hazardous substances or petroleum products on a property under the conditions that indicated an existing release, past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the property or in the ground, groundwater, or surface water of the property.

[25] Prior to site development, the USTs, septic tanks, clarifiers, and hydraulic hoists will be removed and disposed of in accordance with applicable law. (Ex. 1 § 6.14.1.1.)

requires the Professional Engineer or Professional Geologist to inspect the site for contamination and to temporarily halt excavation or construction, if necessary, until remediation can be accomplished. These measures ensure that identification and removal of previously unknown soil contamination will be addressed to protect the public and construction workers from exposure. (Ex. 200, pp. 4.13-9 – 4.13-10.)

The Phase II ESA also indicates that groundwater beneath the project site contains TPH at concentrations exceeding levels protective of groundwater. However, as discussed in the **Soil and Water** section of this Decision, groundwater will not be encountered during project construction or operation. (Ex. 200, p. 4.13-9.)

2. Construction

Site preparation and construction of the power plant and its associated facilities will generate both hazardous and nonhazardous wastes in solid and liquid forms. (Ex. 1, § 6.14.2.1.1; Ex. 200, p. 4.13-10.) Condition **WASTE-5** requires the Project Owner to develop and implement a Demolition and Construction Waste Management Plan that identifies all waste streams and the methods of managing each waste.

a. Nonhazardous Wastes

During demolition, the project will generate 50 tons of non-recyclable waste and 3,000 tons of reusable nonhazardous waste. Approximately 13 tons of waste metal and 34 tons of excess concrete will be generated during construction. Other nonhazardous solid wastes generated during construction include approximately 10 tons of scrap wood, concrete, steel/metal, paper, glass, and plastic waste. All nonhazardous wastes will be recycled to the extent possible and non-recyclable wastes will be collected by a licensed hauler and deposited at a solid waste disposal facility in accordance with applicable law. (Ex. 200, p. 4.13-10; Ex. 1, § 6.14.2.1.1, Table 6.14-2.)

Nonhazardous liquid wastes generated during construction include sanitary wastes, dust suppression drainage, and equipment wash water. Depending on the chemical quality of the wastewater, it could be classified as hazardous or nonhazardous. Sanitary wastes will be collected in portable, self-contained toilets and transported for disposal at an appropriate facility. Stormwater runoff will be managed in accordance with the project's Drainage, Erosion and

Sediment Control Plan and Stormwater Pollution Prevention Plan as described in the **Soil and Water Resources** section of this Decision. (Ex. 200, p. 4.13-8; Ex. 1, § 6.14.2.1.2, Appendix N.)

b. Hazardous Wastes

Demolition of the existing buildings at the site will involve the removal of building materials that are considered hazardous, including treated wood, paint and coatings, plumbing and pipes, fluorescent lamps, batteries, thermostats and switches that may contain asbestos, arsenic, lead, mercury or polychlorinated biphenyls (PCBs). These wastes will be recycled, if feasible, or transported to a Class I disposal facility. (Ex. 200, p. 4.13-10; Ex.17, Data Response 55.)

Approximately 12,330 square feet of asbestos tiles will be removed during demolition. The South Coast Air Quality Management District (SCAQMD) restricts asbestos emissions during the removal and associated disturbance of asbestos containing materials (ACM). Under SCAQMD rules, the project owner must submit an Asbestos Demolition Notification Form, which includes an asbestos survey, notification process, asbestos removal procedures, time schedules, handling and cleanup procedures, and storage, disposal and landfill requirements. Condition **WASTE-6** requires the project owner to obtain SCAQMD approval of the ACM removal plan described in the Asbestos Demolition Notification Form and to remove all ACM from the site in accordance with applicable law. Asbestos collected during demolition activities will be deposited as hazardous waste at the Class I landfill located in Azusa, California. (Ex. 200, pp. 4.13-10 to 4.13-11; Ex. 17, Data Response 55.)

Other hazardous wastes generated during construction include welding materials, paint, flushing and cleaning fluids, batteries, and solvents. The amount of waste generated is considered minimal if handled in the manner described in the evidence. Many of these wastes will be recycled under the "excludable recyclable" provisions of Title 22 of the California Health and Safety Code. (Ex. 200, p. 4.13-11; Ex. 1, § 6.14.2.1.2, Table 6.14-2.)

Hazardous wastes which cannot be recycled will be accumulated onsite for less than 90 days and then manifested, transported, and deposited at a permitted Class I hazardous waste management facility by licensed hazardous waste collection and disposal companies in accordance with all applicable LORS. (Ex. 200, p. 4.13-11; Ex. 1, § 6.14.2.1.2, Table 6.14-2.)

Condition of Certification **WASTE-7** requires the Project Owner to obtain a unique hazardous waste generator identification number for the site prior to construction. Condition **WASTE-8** requires the Project Owner to notify the Energy Commission's Compliance Project Manager (CPM) whenever a regulatory agency initiates any waste management enforcement action relating to the Canyon Power Plant or its waste disposal contractors. (Ex. 200, p. 4.13-11.)

3. Operation

Condition **WASTE-9** 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

Nonhazardous solid wastes generated during project operation include 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 wastes will be recycled to the extent possible, and non-recyclable wastes will be regularly transported off site 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. 1, § 6.14.2.2.1, Table 6.14-3.)

200 pounds per year of cooling tower basin sludge will be generated during operation. To ensure proper disposal of the sludge, Condition **WASTE-10** requires the project owner to properly classify the waste as hazardous or nonhazardous and to determine the appropriate method of disposal in accordance with applicable LORS. (Ex. 200, p. 4.13-12.)

b. Hazardous Wastes

Condition **WASTE-7**, which requires the Project Owner to obtain a hazardous waste generator identification number, continues to apply during project operation. Hazardous solid wastes generated during routine project operation will include oil filters and oily rags, spent Selective Catalytic Reduction (SCR) and oxidation catalysts, waste paint and empty containers, as well as batteries, fluorescent light tubes, and similar items. Hazardous liquid wastes include used crankcase oil, used hydraulic oil, chemical cleaning solutions, spent solvents,

combustion turbine generator wash water and hydrocarbon contaminated water reclaimed from the oil/water separator. (Ex. 1, § 6.14.2.2.3, Table 6.14-3.)

The amount of hazardous waste generated during project operation is considered low due to source reduction and recycling when feasible. Hazardous wastes will be temporarily stored onsite and transported by licensed hazardous waste haulers to authorized disposal facilities in accordance with LORS applicable to generators of hazardous waste. Condition **WASTE-8** requires the Project Owner to report any waste management-related enforcement action during project operations. (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-11** 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, pp. 4.13-12 – 4.13-13.)

4. Potential Impacts on Waste Disposal Facilities

Applicant's **Waste Table 6.14-1** identifies two local Class III waste disposal facilities that could potentially receive the nonhazardous construction and operation wastes generated by the project.[26] (Ex. 1, § 6.14.4.3, **Table 6.14-1**.) The combined remaining capacity for these landfills is over 56 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. Thus, disposal of the solid wastes generated by the Canyon Power Plant will not significantly impact the capacity or remaining life of any of these facilities. (Ex. 200, pp. 4.13-11-- 4.13-12.)

Hazardous wastes are eligible for transport to two of California's available Class I landfills: Clean Harbors Buttonwillow Landfill in Kern County and the Chemical Waste Management Kettleman Hills Landfill in Kings County. The Kettleman Hills facility also accepts Class II, and III waste. In addition, there are several other certified hazardous waste disposal facilities throughout California. Evidence indicates there is sufficient capacity at these facilities to handle the

[26] The facilities include the Bowerman Sanitary Landfill in Irvine and the Prima Deshecha Sanitary Landfill in San Juan Capistrano. Another local landfill identified by Applicant (Olinda Alpha located in Brea) is scheduled to close in 2013. (Ex. 1, § 6.14.1.3, **Table 6.14-1**.)

project's hazardous wastes during its operating lifetime. (Ex. 1, § 6.14.1.4, Table 6.14-1; Ex. 200, p. 4.13-13.)

The DeMenno/Kerdoon wastewater treatment and recycling facility located in the City of Compton has sufficient capacity to accept both hazardous and nonhazardous wastewater from the project. (Ex. 1, § 6.14.1.5.)

Regarding potential cumulative impacts, the quantities of hazardous and nonhazardous wastes generated by the Canyon Power Plant will add to the total quantities of waste generated by new residential and commercial development in the local area. However, the 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 hazardous and nonhazardous waste disposal. (Ex. 200, pp. 4.13-13 to 4.13-14.)

FINDINGS OF FACT

1. The Applicant's Phase I Environmental Site Assessment (ESA), dated November 20, 2006, identified several recognized environmental conditions (RECs) at the project site.

2. A Phase II ESA dated December 1, 2006, and two supplemental Phase II ESA reports, dated May 4, 2007, and November 14, 2007, found that site soils were impacted with hazardous metals and chemicals at concentrations greater than the threshold significance levels established by state and federal law.

3. To ensure that the public and construction workers are protected from exposure to contaminated soils at the site and along the linear corridors, the project owner will develop a Corrective Action Plan in consultation with the Orange County Health Care Agency Environmental Health Division.

4. The Project Owner will implement appropriate characterization, disposal, and remediation measures in accordance with the approved Corrective Action Plan and applicable law to ensure that the risk of exposure to contaminated soils at the site and along the linear corridors is reduced to insignificant levels.

5. The project will generate hazardous and nonhazardous wastes during demolition, excavation, construction, and operation.

6. The project will recycle hazardous and nonhazardous wastes to the extent feasible and in compliance with applicable law.

7. Hazardous wastes that cannot be recycled will be transported by registered hazardous waste transporters to appropriate Class I landfills.

8. Solid nonhazardous wastes that cannot be recycled will be deposited at Class II and III landfills in the local area.

9. Liquid wastes will be classified for appropriate disposal and managed in accordance with the Conditions of Certification listed in the **Soil and Water Resources** section of this Decision.

10. Disposal of project wastes will not result in any significant direct, indirect, or cumulative impacts on existing waste disposal facilities.

CONCLUSIONS OF LAW

1. Implementation of the Conditions of Certification, below, and the waste management practices described in the evidence will reduce potential impacts to insignificant levels and ensure that project wastes are handled in an environmentally safe manner.

2. 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 ensure that the Canyon Power Plant project site is properly characterized and remediated as necessary pursuant to a Corrective Action Plan consistent with requirements of the California Department of Toxic Substances Control and approved by the Orange County Health Care Agency Environmental Health Division (OCHCA). The Corrective Action Plan shall incorporate a Soil Management Plan that characterizes site soils impacted with hazardous chemicals and a Site Remediation Plan to remove hazardous chemicals in compliance with applicable law. The Corrective Action Plan shall also include a Post-Excavation Confirmation Sampling Plan to ensure that impacted soils were properly removed prior to excavation. In no event shall project excavation or construction commence in areas requiring characterization and remediation until OCHCA has determined that all necessary remediation has been accomplished.

Verification: The project owner shall submit to the CPM copies of all pertinent correspondence, work plans, agreements, and authorizations between

Canyon Power Plant and OCHCA regarding the Corrective Action Plan requirements and activities at the Canyon Power Plant project site. The CPM shall review and comment on the Corrective Action Plan before it is approved by the OCHCA. At least 60 days prior to the start of site mobilization, the project owner shall provide to the CPM written notice from OCHCA that the project site has been investigated and remediated as necessary in compliance with the Corrective Action Plan and applicable law.

WASTE-2 Prior to removal of the underground storage tanks (USTs), septic tanks, and other storage containers, the project owner shall obtain a permit from the Anaheim Fire Department. The CPM and the Public Works and Planning Departments shall review and approve the UST removal plans prior to permit issuance. After receiving approval from the CPM, the project owner shall obtain the required permit for removal of all USTs.

Verification: At least 60 days prior to the start of site mobilization, the project owner shall provide the plans to remove the USTs to the CPM for review and approval. The project owner shall include in the monthly compliance reports to the CPM updates on the UST removal process and the date when all USTs have been removed from the site

WASTE-3 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, 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-4 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, OCHCA, 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 OCHCA for guidance and oversight.

Verification: The project owner shall submit any reports filed by the professional engineer or professional geologist to the CPM within 5 days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

WASTE-5 The project owner shall prepare a Demolition and Construction Waste Management Plan for all wastes generated during demolition and 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:

A. a description of all construction waste streams, including projections of frequency, amounts generated, and hazard classifications;

B. a survey of structures to be demolished that identifies the types of waste to be managed; and

C. management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to ensure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans.

Verification: The project owner shall submit the Demolition and Construction Waste Management Plan to the CPM for approval at least 30 days prior to the initiation of demolition activities at the site.

WASTE-6 Prior to demolition of existing structures, the project owner shall complete and submit a copy of a SCAQMD Asbestos Demolition Notification Plan to the CPM and SCAQMD for approval. After receiving approval, the project owner shall remove all Asbestos Containing Material (ACM) from the site prior to demolition in accordance with all applicable LORS.

Verification: At least 60 days prior to commencement of structure demolition, the project owner shall provide the Asbestos Demolition Notification Plan to the CPM and SCAQMD for review and approval. The project owner shall inform the CPM via the monthly compliance report, of the date when all ACM is removed from the site.

WASTE-7 The project owner shall obtain a hazardous waste generator identification number from the United States Environmental Protection Agency prior to commencing demolition activities that generate any hazardous waste and the identification number shall remain in effect during demolition, construction, and operation activities.

Verification: At least 30 days prior to commencing demolition activities, the project owner shall provide a copy of the identification number to the CPM and shall keep a copy of the identification number on file for inspection at the project site during demolition, construction, and operation of the project.

WASTE-8 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-9 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:

A. a detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications;

B. management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to ensure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans;

C. 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;

D. 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

E. 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 at least 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- 10 The project owner shall ensure that the cooling tower sludge is tested pursuant to Title 22, California Code of Regulations, and section 66262.10 and report the findings to the CPM.

Verification: No later than 30 days after commencing commercial operations, the project shall include the results of sludge testing in a report provided to the CPM. If two consecutive tests show that the sludge is non-hazardous, the project owner may apply to the CPM to discontinue testing.

WASTE-11 The project owner shall ensure that all spills or releases of hazardous substances, materials, or waste are reported, cleaned up, and remediated as necessary, in accordance with all applicable federal, state, and local LORS and 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 been 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 biological concern such as unique habitats. The review contained in the record describes the biological resources in the vicinity of the project site and linear facilities, assesses the potential for adverse impacts, and determines what measures are necessary to mitigate impacts and ensure compliance with applicable laws, ordinances, regulations, and standards (LORS). (Ex. 200, p. 4.2-1.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Site and Vicinity Description

The Canyon Power Plant (CPP) project is located in Orange County, in the City of Anaheim, California. The City of Anaheim is located on the coastal plain of the Los Angeles Basin and is bordered on the north by the City of Placentia, and on the south by the Santa Ana River Corridor, the City of Orange, and an unincorporated area of Orange County. The City contains a mixture of industrial, commercial, light agriculture, and residential districts, as well as entertainment parks. (Ex. 200, p. 4.2-4.)

The 10-acre project site includes a power plant and laydown areas, in addition to three linear facilities: a water line, a natural gas line, and a 69 kilovolt (kV) switchyard to connect with off-site transmission lines. (Exs. 1, p. 6.6-1; 200, p. 4.2-8 to 4.2-10.) The project site is within a designated industrial zone and surrounded by industrial and commercial development. (Ex. 1, p. 6.6-5; Ex. 200, pp. 4.2-1, 4.2-4.)

The project site is predominantly paved with concrete and asphalt. (Ex. 1, p. 6.6-1; Ex. 200, p. 4.2-5.) A small disturbed portion of the site consists of exposed soil and weeds. (Ex. 200, p. 4.2-8.)

2. Habitats and Wildlife

a. Plant and Wildlife Species

Special status species include state- or federally listed species, state fully protected species, candidates for state or federal listing, and species of special concern. **Biological Resources Table 1,** below, identifies the special status species known to occur in the general project vicinity. (Ex. 200, p. 4.2-5.)

Significant impacts to biological resources would occur if special status species are likely to be impacted by construction or operation of the CPP project. Such impacts include interruption of species migration, reduction of native fish, wildlife, and plant habitat, causing a fish or wildlife population to drop fall below self-sustaining levels, and disturbance of wetlands, marshes, riparian areas, or other wildlife habitat. (Ex. 200, p. 4.2-5.)

Historically, the Los Angeles Basin native habitat included native woodlands, coastal scrubs, chaparrals, and grasslands that have been replaced over time by non-native vegetation or urban development. (Ex. 200, p. 4.2-4.)

Any special status plant or animal species formerly associated with the natural habitats historically found in the CPP project area have been eliminated by extensive urbanization. (Ex. 200, p. 4.2-5.) Further, Staff consultations with the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) and area surveys confirmed that the CPP project will not impact federal or state listed species or their designated critical habitat. (Exs. 1, pp. 6.6-3 to 6.6-10; 200, p. 4.2-8.)

The evidence thus shows that the conditions of the project site do not provide significant habitat value or other resources for common or special species plants or animals. (Ex. 200, p. 4.2-8.)

b. Aquatic and Riparian Habitat

The CPP project is not located adjacent to any riparian habitat or sensitive natural communities that exist in the region and there are no federally protected wetlands either within or immediately adjacent to the project site, nor does the site have any biological resources of commercial or recreational value. (Ex. 200, p. 4.2-12.)

Biological Resources Table 1
Special Status Species Potentially Occurring in CPP Project Area

Plants	**Scientific Name**	**Status***
Chaparral sand-verbena	*Abronia villosa* var. *aurita*	__/__/1.B1
Braunton's milk-vetch	*Astragalus brauntonii*	FE/__/1B.1
Thread-leaved brodiaea	*Brodiaea filifolia*	FT/SE/1B.1
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	FC/SE/1B.1
Southern tarplant	*Centromadia parryi* ssp. *australis*	__/__/1B.1
Santa Ana River wollystar	Eriastrum densifolium ssp. sanctorum	FE/SE/1B.1
Fish		
Santa Ana sucker	Catostomus santaanae	FT/CSC
Santa Ana speckled dace	Rhinichythys osculus ssp. 3	__/CSC
Crustaceans		
San Diego fairy shrimp	*Branchinecta sandiegoensis*	FE/__
Riverside fairy shrimp	*Streotocephalus woottoni*	FE/__
Amphibians		
Arroyo toad	*Bufo californicus*	FE/CSC
Reptiles		
Southwestern pond turtle	*Actinemys marmorata pallida*	__/CSC
Orange-throated whiptail	*Aspidoscelis hyperythra*	__/CSC
Coast (San Diego) horned lizard	*Phrynosoma coronatum*	__/CSC
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	__/CSC
Birds		
Cooper's hawk	*Accipiter cooperi*	__/CSC
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	__/CSC
Bell's sage sparrow	*Amphispiza belli belli*	__/CSC
Golden eagle	*Aquila chrysaetos*	__/CSC
Long-eared owl	*Asio otus*	__CSC
Burrowing owl	*Athene cunicularia*	__/CSC
Coastal cactus wren	*Campylorhynchus brunneicapillus sandigensis*	__/CSC
Western snowy plover	*Charadrius alexandrinus nivosus*	FT/CSC
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC/SE
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE/SE
Yellow-breasted chat	*Icteria virens*	__/CSC
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	_/SE
Coastal California gnatcatcher	*Polioptila californica californica*	FT/CSC
Light-footed clapper rail	*Rallus longirostris levipes*	FE/SE
Least Bell's vireo	*Vireo bellii pusillus*	FE/SE
Mammals		
Western mastiff bat	*Eumopos perotis californicus*	__/CSC
Pacific pocket mouse	*Perognathus longimembris pacificus*	FE/CSC
American badger	*Taxidea taxus*	__/CSC

***-Status Legend** (Federal/State/California Native Plant Society (CNPS) lists, CNPS list is for plants only):

FE = Federally listed Endangered; **FT** = Federally listed Threatened; **FC** = Candidate Species for Listing; **SE** = State-listed Endangered; **ST** = State-listed Threatened; **CSC =** California Species of Concern; **List 1B** = Rare or Endangered in California and elsewhere; **.1 =** Very endangered in California; __ = not listed in that category. (Sources: VPP 2006a; CDFG 2007a, 2007b; CNPS 2007). (Ex. 200.)

3. Construction Impacts and Mitigation

a. Construction Laydown Area, Parking Area, and Power Plant Site

As discussed above, specified sensitive plant and wildlife species were historically found in the project area, but because of the highly developed nature of the project site and surrounding industrial and commercial uses, there is no suitable habitat on the site, including the construction laydown and parking areas, for the identified species. (Ex. 200, p. 4.2-8.)

b. Transmission Lines

The CPP project includes four offsite underground transmission lines. Two lines run to the south side of East Miraloma Avenue to connect with existing overhead 69kV Vermont-Yorba lines. (Ex. 200, p. 4.2-8.) The other two lines initially run east 4,000 feet on East Miraloma Avenue and ultimately connect to the existing Dowling-Yorba 69-kV line at East La Palma Avenue. (Exs. 200, p. 4.2-8.) The east running lines would be installed using a jack and bore drilling technique under the Carbon Creek Channel at the East Mira Loma Avenue crossing. (Exs. 17; 19; 200, p. 4.2-8 to 4.2-9.)

The biological concern identified with this drilling activity is limited to the potential for unexpected and temporary impacts of frac-out, which occurs when the drilling fluid inadvertently escapes and moves up through the soil into the creek. (Exs. 17, 19, 200, p. 4.2-9.) To avoid these impacts to the Carbon Creek Channel, Condition of Certification **BIO–1**, requires a Biological Monitor, who will visually inspect the drill path, monitor the creek for evidence of drilling fluid release, examine the drilling fluid pressures and return flows, approve drilling setup locations, and verify that the perimeter of the work site is adequately flagged prior to equipment set up. The Biological Monitor may halt any drilling if the operations lead to frac-out or the drilling fluid pressures and return flows drop. (Ex. 200, pp. 4.2-8 – 4.2-9, 4.2-13.)

Finally, Condition of Certification **Soil&Water-2**, included in this Decision under the Soil and Water discussion, requires the development and implementation of a frac-out plan and obtain required permits. (Ex. 200, pp. 4.2-9, 4.9-24.)

c. Pipelines.

Natural Gas Pipeline. A new pipeline which will supply natural gas for the CPP project will be constructed in paved roadways. Embedding the pipeline in the roadway will avoid impacts to Carbon Creek and the need for a CDFG Streambed Alteration Agreement. (Ex. 200, pp. 4.2-9 – 4.2-10.)

Sewer Pipeline. A new sewer line will be installed on-site and connect to Orange County Sanitation District facilities through an nearby sewer connection. (Ex. 200, p. 4.2-10.)

Water Supply Pipeline. The new water supply pipeline will be constructed in paved roadways. (Exs. 1, p. 6.6-2, 200, p. 4.2-10.)

All of these project components will be constructed in currently disturbed areas in which there are no sensitive biological resources and none are expected to occur. (Ex. 220, p. 4.2-10.)

d. Construction Lighting and Noise

Under certain circumstances, lights can disorient migratory birds flying at night, or attract wildlife such as insects and insect-eaters. Project construction will slightly increase the existing light and glare. (Ex. 200, p. 4.2-10.) However, as discussed above, no sensitive species were found on the project site or adjacent areas that could be impacted by additional lighting from the CPP project. With respect to the wildlife in the area, the evidence of record shows that animals in this area have become acclimated to the existing level of lighting from industrial uses, including night lighting, so that the additional light from the project is not expected to affect them.

The project will increase the noise level in the area, but not in amount to exceed 65dBA. As previously discussed, the CPP is located within a highly developed area and no sensitive wildlife receptors are present on the project site or nearby. (Ex. 200, p. 4.2-10.) Further, most of the wildlife observed in the project area includes species that are often found in disturbed or developed areas and are expected to adapt to the noise levels. (Ex. 1, pp. 6.6-12 – 6.6-13;, 200, p. 4.2-10.)

4. Operation Impacts and Mitigation

Potential operation-related impacts include impacts to birds due to collision with and/or electrocution by the transmission line and disturbance to wildlife due to increased noise and lighting.

a. Avian Collisions and Electrocutions

Birds are known to collide with above ground transmission lines, exhaust stacks, and other structures, causing them injury and mortality. The threat is greater, for instance, where transmission lines are in a migratory pathway or adjacent to a water body with large flocks of birds. However, the CPP project area lacks large concentrations of birds and is not within migratory paths. Moreover, the new transmission lines will be underground, thus, the CPP transmission lines will not pose a significant collision threat to resident or migratory bird populations. Further, with respect to resident birds, they are expected to have adapted, or be able to adapt, to tall urban structures. (Exs. 1, p. 6.6-13, 200, pp. 4.2-9, 4.2.-11.)

b. Noise and Lighting

CPP operations will create additional noise above that currently existing in the project area; however, the noise will not exceed 65 decibels “A” scaled (dBA) and the CPP site is located in an industrial area that already has a steady level of noise. A slight increase in light and glare is also expected to occur during operation of the CPP facility.

Because no sensitive species were found in the project area that will be impacted by operational noise lighting, there will be no significant impacts to sensitive species from the minimal amount of lighting associated with operation of the new facility. Further, due to the lack of natural habitats in the area, it is likely that any resident animals in the area have previously habituated to the continual, routine noise and lighting conditions of the area. (Ex. 200, p. 4.2-11.)

c. Storm water and Wastewater Impacts

The project will convey storm water over land by sheet flow and collect it in a network of catch basins with underground piping to a collection vault. Without intervention by the project owner, storm water drainage from the project could contain pollutants that would affect the water quality in the area. To avoid potential impacts to water quality, the storm water that comes into contact with plant equipment will be sent thought an underground piping system and

treatment device to remove the sedimentation, coarse materials, and oil from the water before it enters an underground percolation vault. Storm water that does not come into contact with plant equipment will not require treatment and instead, will flow directly into the underground vault for percolation back into the soil. (Exs. 1, p. 3-4; 200, pp. 4.2-11, 4.9-6.)

The **Soil and Water Resources** section of this Decision provides further discussion and analysis regarding storm water discharge and related permitting requirements.

d. Cumulative Impacts

A project could result in a significant cumulative impact when 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, other current projects, and probable future projects. (Code Cal. Regs, tit. 14, §§ 15130, 15355.) The CPP will only affect previously developed land in an industrial area that does not have significant biological resources onsite or nearby and therefore would not cause any cumulative impacts. (Ex. 200, p. 4.2-12.)

5. LORS Compliance

The evidence shows that the project will be in compliance with all federal, state, and local LORS during construction and operation. (See, e.g., 4.2-1 to 4.2-3, 4.2-9, 4.2-10, 4.2-12.)

FINDINGS OF FACT

1. The CPP site does not provide suitable habitat for either common or special status animal and plant species.

2. Several special-status species are known to occur in the general area of the project, but due to lack of suitable habitat on the project site and adjacent areas, none are known to occur, and are not likely to occur.

3. There are no sensitive vegetation communities in the vicinity of the project area.

4. The CPP project is not located adjacent to any riparian habitat or sensitive natural communities that exist in the region.

5. There are no federally protected wetlands either within or immediately adjacent to the project site.

6. There will be no significant impacts to biological resources from construction or operational noise because the animals in this area have become habituated to this level of noise.

7. There will be no significant impacts to biological resources from construction or operational light because the animals in this area have become habituated to this level of light.

8. The construction of underground transmission lines will minimize bird collisions and electrocutions.

9. Conditions of Certification **BIO-1** and **Soil & Water-2** will mitigate all potential unexpected, temporary construction and operations related impacts to biological resources.

10. With implementation of the Conditions of Certification below, the CPP project will comply with all applicable laws, ordinances, regulations, and standards related to biological resources as identified in the evidentiary record.

CONCLUSION OF LAW

1. With implementation of the Condition of Certification set forth below and **Condition Soil & Water-2**, construction and operation of Canyon Power Plant Project will not create any significant direct, indirect, or cumulative impacts to biological resources and the Project will conform to all applicable laws, ordinances, regulations, and standards relating to biological resources as identified in the pertinent portions of **Appendix A** of this Decision.

CONDITION OF CERTIFICATION

Jack and Bore Drilling Best Management Practices

BIO-1 During construction using jack and bore drilling techniques, a Biological Monitor must be present at all times. The Biological Monitor must be allowed to monitor all activities pertaining to drilling under Carbon Creek Channel, including but not limited to:

A. visually inspect the drill path,

B. monitor the creek for evidence of frac-out or drilling fluid release,

C. examining the drilling fluid pressures and return flows,

D. approval of the drilling setup locations,

E. verifying the perimeter of the work site is adequately flagged proper to equipment setup, and

F. having the authority to halt any drilling if the operations lead to frac-out or the drilling fluid pressures and return flows drop.

Verification: The Biological Monitor must notify the Compliance Project Manager (CPM) and California Department of Fish and Game (CDFG) (no later than the following morning of the incident, or Monday morning in the case of a weekend) in the event of frac-out. The CPM and CDFG must also be notified of any non-compliance or a halt of any jack and bore drilling operations. The project owner shall notify the CPM and CDFG of the circumstances and actions being taken to resolve the problem.

Whenever corrective action is taken by the project owner, a determination of success or failure will be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

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 applicable laws, ordinances, regulations, and standards.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Soil Resources

The Canyon Power Plant project site and its surroundings soils consist of Quaternary Age alluvial deposits of loose to moderately dense, unconsolidated sand, sandy silt, and silt from the Santa Ana River. They are considered floodplain deposits. A geotechnical investigation found that the project site is underlain by approximately 2,000 feet of unconsolidated, stratified silt, sand, and gravel deposits. Shallow soil at the CPP site consists of fill within the upper three to five feet composed of silty sand.

Beneath the fill, native soils are of the Metz Series—medium dense to very dense silty sand and poorly graded sand with some isolated layers of sandy silt. This soil series is formed in mixed alluvium and consists of somewhat excessively drained soils. The Metz Series soil found at the CPP site and linears is designated as Metz loamy sand. (Ex. 200, p. 4.9-3.)

The project site, due to the soil type and protection from winds afforded by nearby development, is not subject to a significant threat of wind or water erosion during construction and operation. Use of Best Management Practices during project construction, required as part of the plans required by Condition of Certification **SOIL&WATER-1**, will reduce any potential impacts to insignificant levels. The possibility of off-site transportation of existing soils contaimined by hydrocarbons, volital organic carbons, and heavy metals is addressed by the requirement of Condition of Certification **WASTE-1** that the contaminated soils be remediated under the oversight of the Orange County Health Care Agency Environmental Health Division. (Ex. 200, pp. 4.9-8 to 4.9-10.)

The project requires water, sewer, and natural gas pipelines as well as underground transmission and communications cables. With the exception of a portion of the natural gas pipeline, all other pipelines or underground cables would be constructed exclusively

within City streets, and potential impacts to soil and water resources would be mitigated through the preparation and implementation of the construction Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP).

The natural gas pipeline would cross under Carbon Creek at the intersection of East Orangethorpe Avenue and Kraemer Boulevard. SCPPA proposes a jack and bore construction operation to drill under Carbon Creek to install the natural gas pipeline. The jack and bore drilling process can cause unexpected and temporary impacts if drilling mud flows through soil fractures to the surface and into Carbon Creek. To mitigate the potential impact, Condition **SOIL&WATER-2** requires the preparation of a Frac-Out Plan prior to the commencement of the jack and bore operation. This plan will specify emergency and remedial actions to protect Carbon Creek in the event drilling mud is released to the creek or creek bed.

To minimize impacts to Carbon Creek from pit excavation and drilling, Condition **SOIL&WATER-2** also requires consultation with the U.S. Army Corps of Engineers and the Santa Ana Regional Water Quality Control Board regarding Clean Water Act, section 404 and 401 permits and with the Department of Fish and Game for a Streambed Alteration Agreement. (Ex. 200, p. 4.9-10.)

Once constructed, the entire site would be covered with impervious material, gravel, or landscaping that will minimize the exposure of on-site soil to wind or water erosion. Preparation and implementation of a site-specific WQMP as required by the Orange County Municipal Separate Storm Sewer System (MS4) permit, required by Condition **SOIL&WATER-**4, will further reduce the potential for offsite soil transportation to insignificant levels. (Ex. 200, p. 4.9-12.)

.2. Groundwater

The CPP site is located within the lower Santa Ana River watershed and Orange County Groundwater Basin, an area of approximately 350 square miles underlying the north half of the County. The basin is over 2,000 feet deep and forms a complex series of interconnected sand and gravel deposits. The total capacity of the basin is 38,000,000 acre-feet (AF). As of 1998, storage of fresh water within the basin was estimated to be 37,700,000 AF. The basin is managed by the Orange County Water District (OCWD) for the benefit of municipal, agricultural, and private groundwater users

During the Phase I environmental investigation, groundwater beneath the CPP site was found at depths from 83.40 to 87.10 feet below ground surface. Groundwater flows in a west-southwest direction as the topography slopes down towards the Pacific Ocean.

Although soil contamination was found on site during a Phase II Environmental Site Assessment, given the depth to groundwater, no contact with the groundwater table would occur during construction. (Ex. 200, pp. 4.9-3 to 4.9-4.) Preparation and implementation of the site-specific WQMP required by Condition of Certification **SOIL&WATER-4**, will reduce any potential for operation activities and storm flows to impact groundwater resources to insignificant levels. (Ex. 200, pp. 4.9-12 to 4.9-13.)

3. Surface Hydrology

The COA is located within portions of four watersheds. The Santa Ana River watershed is the largest, covering 153.2-square miles. The Santa Ana River begins 75-miles from the Pacific Ocean in the San Bernardino Mountains and flows through the eastern portion of Anaheim, approximately 1.5-miles south of the project site. The river is improved to provide flood control and groundwater recharge. River flows near the CPP site consist of natural runoff, recycled water, and imported water.

Carbon Creek is just north of the CPP site downstream of the Carbon Canyon Diversion Channel. The Carbon Creek watershed is 21.4-square miles in area. It is highly urbanized with residential, commercial, and industrial development. There are currently no impaired water bodies within the Carbon Creek watershed; however, Carbon Creek is tributary to the San Gabriel River, which is listed as an impaired water body by the Los Angeles Regional Water Quality Control Board.

The Carbon Canyon Diversion Channel is located approximately 2,500-feet east of the CPP site and provides flood control. It is a partially rock-lined flood control channel that drains into the Kraemer Basin facility and is hydrologically connected to the Santa Ana River. The CPP site is adjacent to the Kraemer Basin facility, which is part of OCWD's Groundwater Replenishment System (GWRS).

The existing CPP site is predominantly paved with a slight downward grade to the south. Storm water runoff from the site currently drains as sheet flow to the south into existing storm water drains on East Miraloma Avenue. Land disturbance activities are expected to occur on all 10-acres of the site, and existing drainage patterns would be significantly altered. The site would be graded and sloped to allow sheet flow to the south or to catch basins with underground piping to a proposed collection vault.

The soils underlying the CPP site are suitable for infiltration of storm water. SCPPA will pre-treat the storm water for sediment and oil removal before draining to an on-site underground vault for infiltration. During CPP operation, the infiltration vault would prevent discharges of storm water runoff from the industrial areas of the site. The

infiltration vault would include an overflow outlet to allow for storm water discharge in excess of the design capacity (24-hour, 100-year rainfall event) to flow to the existing City storm drains on East Miraloma Avenue. (Ex. 200, pp. 4.9-4; 4.9-13)

4. Project Water Supply

Water would be used during construction and operation of the proposed CPP. Potable water and raw or untreated groundwater for project construction and operation would be provided by the City of Anaheim. The City serves a population of more than 345,500 and relies on water pumped from the Orange County Groundwater Basin. It pumps groundwater from 19 wells with a total capacity of 82,000,000 gallons per day (gpd). The City's groundwater supply is supplemented by imported fresh water purchased from the Metropolitan Water District of Southern California (MWD).

The Applicant estimates the average daily water demand for demolition and construction to be 13,000-gpd with an average annual consumption of 3.5 million gallons (approximately 11 AF). Construction water would be used for dust control, soil compaction, concrete curing, and hydrostatic testing. SCPPA proposes to use raw groundwater from the City of Anaheim's Well No. 28 for dust suppression and soil compaction activities during CPP construction Well 28 is located at 3413 E. Miraloma Avenue approximately 1-mile from the CCP site. Tanker trucks could be filled using a fire hose.

SCPPA's proposed use of 11 AFY of groundwater from Well 28 represents less than 0.02 percent of the City's projected groundwater pumping by 2010. Given the temporary nature of the project's proposed construction groundwater use, and the very small percentage of the expected City groundwater pumping volume it represents, no significant impact to the local groundwater supply is anticipated from project construction groundwater use.

According to water quality data provided by the City, Well 28 produces high quality groundwater that can be used for all CPP construction activities that do not require potable water such as hydrostatic testing of potable water pipelines. Staff recommends, and we adopt such a requirement in Condition **SOIL&WATER-3**.

The use of approximately 11 AF of groundwater for CPP construction activities would comply with state law and policy encouraging the use and conservation of potable water. This volume of groundwater consumption would not impact groundwater supply or surface water quality.

Water for CPP's operational chiller cooling system makeup water and emissions control would be recycled water supplied to the CPP from the OCWD's Groundwater Replenishment System (GWRS) via a new 2,185-foot-long pipeline. SCPPA proposes to construct an underground offsite pump station. Although it estimated a maximum consumption of approximately 100-acre-feet per year (AFY), the Applicant has proposed changes to Condition of Certification **SOIL&WATER-6** that would require OCWD to certify its ability to deliver a minimum of 370 AFY at a rate of up to 700 gallons per minute. Based on those performance guaranties and the maximum operating hours of 5,040 per year, Commission Staff estimates that as many as 650 acre-feet of water could be used per year.

The GWRS is currently producing 70 million gallons per day (72,000-AFY) of recycled water, orders of magnitude more capacity than is necessary to serve CPP. This recycled water supply is currently being used for groundwater protection and enhancement. The CPP would be OCWD's first industrial customer using recycled water from the GWRS. Because the GWRS is currently producing 72,000-AFY of recycled water, it has the capability to supply the CPP 650-AFY if requested by the project owner. In its will-serve letter, OCWD indicates that it can serve the project without affecting area groundwater supplies.

Public Resources Code, sections 25300 through 25302, requires the Energy Commission to collect data on all aspects of energy production in order to develop energy policy for the conservation of resources, the protection of the environment, and to protect public health and safety. In order to collect power plant water consumption data, we adopt Condition of Certification **SOIL&WATER-7** requiring that the project owner meter and report its use of recycled and potable water for project operations. (Ex. 200, pp. 4.9-15 to 4.9-16.)

5. Wastewater

The wastewater discharge from the proposed CPP would consist primarily of process wastewater as well as a minor amount of sanitary wastewater. The process wastewater is comprised of reverse osmosis (RO) wastewater and cooling tower blowdown from the chilled water system cooling tower. Blowdown would be required to prevent mineral scale formation on heat transfer surfaces. Because the process wastewater would consist primarily of concentrated GWRS recycled water, SCPPA anticipates that it would not need to be treated prior to discharge to the Orange County Sanitation District (OCSD) sewer system

The quality of GWRS recycled water will allow for direct use as makeup water for the cooling tower. The cooling tower would require the use of chemical additives to maintain the required chemistry in the cooling water for proper equipment operation. It is expected that the cooling tower will operate with up to 10 cycles of concentration in order to prevent mineral scale formation on the heat transfer surfaces.

SCPPA proposes to discharge the cooling tower blowdown, sanitary wastewater, and water separated from the oil-water separator to OCSD's sewer system. For wastewater streams containing solvents, SCPPA proposes to install underground tanks for the storage and disposal of this wastewater stream, which will not be discharged to the sewer system. This liquid waste stream could be classified as hazardous waste and would be disposed of in accordance with the requirements discussed in the Waste Management section of this document. Condition of Certification **WASTE-9** requires the applicant to develop an operation waste management plan. In this plan the applicant would identify and characterize all potential waste streams, and discuss disposal methods that will be consistent with LORS. SCPPA proposes to comply with OCSD's discharge requirements.

Compliance with OCSD's discharge Ordinance No. OCSD-31, required by Condition of Certification **SOIL&WATER-8**, will reduce potential impacts from operational wastewater disposal to insignificant levels. (Ex. 200, pp. 4.9-16 to 4.9-17.)

6. Cumulative Impacts and Mitigation

There are multiple projects within a five-mile radius of the CPP that could lead to cumulative effects. They include the Orange County Anaheim Medical Center, a mixed-use residential project and industrial park, two commercial industrial buildings, and a middle school.

The CPP project would neither cause nor contribute to cumulative impacts to soil and water resources. Sound engineering practices and best management practices (BMPs) would be used in both the project's design and operation. Storm water discharge practices would strictly adhere to state and local agency water quality standards. The CPP would comply with the Orange County MS4 permit and the SARWQCB NPDES permit for water quality standards.

Drainage volumes and peak-flow rates from the project site would be managed in compliance with state and local storm water discharge permits and structural BMPs designed in compliance with the WQMP. No significant impacts to either surface water or groundwater quality are expected during construction or operation of the CPP.

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

FINDINGS OF FACT

1. During construction, the CPP will use up to 11-acre feet per year of raw groundwater drawn from a City well. That temporary use of groundwater will not significantly affect other users of groundwater in the project area.

2. The CPP will use up to 650-acre feet of recycled water annually once operations begin. More than sufficient supplies of recycled water are available from the Orange County Water District. The project's use of recycled water will not affect other uses nor the use of recycled water for groundwater recharge and other uses.

3. The use of best management practices, preparation of and adherence to Construction Storm Water Pollution Prevention and Water Quality Management Plans will reduce any potential impacts to soil and water resources from the construction and operation of the project to insignificant levels.

4. The water supply for the project is consistent with state water conservation and use policies.

CONCLUSION OF LAW

1. The Canyon Power Project, with implementation of the Conditions of Certification set forth herein, will not result in any unmitigated, significant project-specific or cumulative impacts to Soil or Water Resources and will comply with all applicable LORS.

CONDITIONS OF CERTIFICATION

SOIL&WATER-1: The project owner shall comply with the requirements of the Orange County Municipal Separate Storm Sewer System (MS4) Permit (NPDES No. CAS618030), the Orange County Drainage Area Management Plan (DAMP) and the City of Anaheim's (COA) Local Implementation Plan. The Orange County MS4 permit requires preparation of a Construction Storm Water Pollution Prevention Plan (construction SWPPP) in accordance with the State's General NPDES Permit (Order No. 99-08-DWQ). The project owner shall develop and implement a construction SWPPP for the construction of the CPP, offsite booster pump station, and all linear facilities. The construction SWPPP shall include a Water Quality Management Plan

(WQMP) as required by the Santa Ana Regional Water Quality Control Board (SARWQCB) Order No. R8-2009-0030.

Verification: Prior to site mobilization, the project owner shall submit to the CPM a copy of the construction SWPPP that has been reviewed and approved by the COA and retain a copy on site. The construction SWPPP shall include a WQMP that complies with SARWQCB Order No. R8-2009-0030 and the Orange County DAMP.

The project owner shall submit copies to the CPM of all correspondence between the project owner and the SARWQCB about the construction SWPPP and the WQMP within 10 days of its receipt or submittal. This information shall include a copy of the Notice of Intent and Notice of Construction Activity for the CPP.

SOIL&WATER-2: Prior to the initiation of any Carbon Creek jack and bore activities for the natural gas pipeline, the project owner shall provide a Frac-Out Plan and a copy of the following permits to the CPM as appropriate:

A. section 401 water quality certification or a waiver of waste discharge requirements from the Santa Ana Regional Water Control Board or the State Water Resources Control Board;

B. section 404 acceptance of preconstruction notification for nationwide permit(s) from the US Army Corps of Engineers; and

C. streambed alteration agreement(s), developed in consultation with the California Department of Fish and Game.

Modifications of the construction techniques to be used or the location of the crossing as a result of permit conditions shall be reviewed and approved by the CPM. The project owner shall implement the terms and conditions contained in all permits.

Verification: No later than 30 days prior to any construction-related activities that could affect water quality in Carbon Creek, the project owner shall submit to the CPM for review and approval a Frac-Out Plan and a copy of the applicable permits or agreements. Written verification from the issuing agency that a permit is not necessary can be used to satisfy this condition.

SOIL&WATER-3: The project owner shall provide the CPM two copies of a complete and approved groundwater meter application for the procurement and use of City of Anaheim (COA) Well 28 raw groundwater for project construction, along with a Groundwater Use Plan. Potable water shall not be used for any CPP site or linear construction activity that is suitable for Well 28 groundwater use without CPM approval.

Verification: Prior to site mobilization, the project owner shall submit two copies of the completed and approved COA groundwater meter application and a Groundwater Use Plan (plan) to the CPM.

Within the plan, the project owner shall specify those construction activities that would use groundwater and those construction activities that would use potable water, the expected volume of water to be used for those activities, and the delivery method of potable or groundwater to the construction site.

The project owner shall submit copies to the CPM of all correspondence between the project owner and the COA for the delivery and use of Well 28 groundwater within 10 days of its receipt or submittal.

Within the Monthly Compliance Report, the project owner shall report the volume of potable and non-potable water used for construction activities, the activity for which it was used, and any revision to the plan for the future use of potable or groundwater for CPP construction.

SOIL&WATER-4: The project owner shall develop and implement a Water Quality Management Plan (WQMP) in compliance with the SARWQCB Order No. R8-2009-0030 and City of Anaheim (COA) Municipal Code, Title 10, Chapter 10.09.

Verification: Prior to commercial operation, the project owner shall submit to the CPM a copy of the WQMP that has been reviewed and approved by the COA and retain a copy on site. The WQMP shall comply with SARWQCB Order No. R8-2009-0030 and the COA Municipal Code, Title 10, Chapter 10.09.

The project owner shall submit copies to the CPM of all correspondence between the project owner and the COA about the WQMP within 10 days of its receipt or submittal. This information shall include a copy of the Notice of Termination of coverage under the General NPDES Permit for construction activity associated with the CPP project.

SOIL&WATER-5: Prior to connection to the City of Anaheim's (COA) 14-inch potable water main located in East Miraloma Avenue, the project owner shall provide the CPM with two complete copies of the COA's water meter application for the long-term supply of potable water. The project owner shall provide evidence that the COA can provide water at a delivery rate to meet CPP's operation requirements in the event of a recycled water interruption due to an emergency. Potable water shall not be used for any facility operation activity that is suitable for non-potable water use unless the source of recycled water is unavailable in the event of an emergency. For purposes of this condition, the term emergency shall mean the inability for the CPP to take or for the OCWD to deliver recycled water to the CPP in a quantity sufficient to meet CPP demand due to natural disaster or other circumstances beyond the control of the project owner and it is necessary for the CPP to continue to operate to serve the COA's peaking load or to satisfy the COA's regulatory mandated reserve margin.

Verification: No later than 30 days prior to the connection to the 14-inch potable water main, the project owner shall submit to the CPM two complete copies of the

COA's water meter application for the long-term supply of potable water and a letter from the COA stating it can deliver potable water to the CPP in the event of a recycled water interruption at a rate up to 700-gpm.

The project owner shall notify the CPM when potable water will be used for more than 32 hours of plant operation. Within the notification, the project owner shall provide justification for the extended use of potable water as an emergency backup supply and the expected duration of its use. The project owner shall not use potable water as an emergency backup supply for more than 32 hours of plant operation without CPM approval.

SOIL&WATER-6: The project owner shall provide the CPM two copies of the executed Recycled Water Purchase Agreement (agreement) with the Orange County Water District (OCWD) for the long-term supply (30 – 35 years) of disinfected tertiary recycled water to the CPP. The agreement shall specify a delivery rate to meet CPP's maximum operation requirements and all terms and costs for the delivery and use of recycled water at the CPP. The CPP shall not connect to the OCWD's new recycled water pipeline without the final agreement in place and submitted to the CPM. The project owner shall comply with the requirements of Title 22 and Title 17 of the California Code of Regulations and section 13523 of the California Water Code.

Verification: No later than 60 days prior to the connection to the OCWD's recycled water pipeline, the project owner shall submit two copies of the executed agreement for the supply and on-site use of disinfected tertiary recycled water at the CPP. The agreement shall specify that OCWD can deliver recycled water at a maximum rate up to 700-gpm and will provide the CPP a minimum of 370-AFY.

The project owner shall submit to the CPM a signed agreement between the COA and OCWD for the long-term supply of disinfected tertiary recycled water from the OCWD to the CPP for industrial and landscape irrigation purposes.

The project owner shall submit to the CPM a copy of the Producer/User Water Recycling Requirements, the recycled water criteria, the Engineering Report, and the Cross Connection Inspection and Approval report prior to the connection to the OCWD disinfected tertiary recycled water pipeline.

SOIL&WATER-7: Prior to the use of potable or recycled water for operation of the CPP, the project owner shall install and maintain metering devices as part of the water supply and distribution system to monitor and record in gallons per day the volume of potable and recycled water supplied to the CPP. The metering devices shall be operational for the life of the project. An annual summary of daily water use by the CPP, differentiating between potable and recycled water, shall be submitted to the CPM in the annual compliance report.

Verification: At least 60 days prior to use of any water source for CPP operation, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the potable and recycled water pipelines serving the project. The project owner shall provide a report on the servicing, testing, and calibration of the metering devices in the annual compliance report.

The project owner shall submit a water use summary report to the CPM in the annual compliance report for the life of the project. The annual summary report shall be based on and shall distinguish recorded daily use of potable and recycled water. Included in the annual summary of water use, the project owner shall submit copies of meter records from the City of Anaheim documenting the volume of potable water supplied over the previous year. The report shall include calculated monthly range, monthly average, and annual use by the project in both gallons per day and acre-feet. After the first year and for subsequent years, this information shall also include the yearly range and yearly average recycled and potable water used by the project.

SOIL&WATER-8 Prior to commercial operation, the project owner shall provide the CPM and the Orange County Sanitation District (OCSD) with all information and documentation required to satisfy Ordinance No. OCSD-31 for the discharge of sanitary and plant wastewater into the OCSD sewer system. During operation, any monitoring reports provided to OCSD shall also be provided to the CPM. The CPM shall be notified of any violations of discharge limits or amounts.

Verification: At least 60 days prior to commercial operation, the project owner shall submit the information and documentation required to satisfy Ordinance No. OCSD-31 to the OCSD for review and comment, and to the CPM for review and approval.

During CPP operation, the project owner shall submit any wastewater quality monitoring reports required by OCSD to the CPM in the annual compliance report. The project owner shall submit any notice of violations from OCSD to the CPM within 10 days of receipt and fully explain the corrective actions taken in the annual compliance report.

C. CULTURAL RESOURCES

This topic reviews the structural and cultural evidence of human development in the project vicinity and describes the mitigation measures necessary to preserve cultural resources that could potentially be affected by the project.

Cultural resources include artifacts, buildings, sites, structures, historic districts, and land modifications that reflect human history. When a cultural resource is determined to be significant, it is eligible for inclusion in the National Register of Historic Resources (NRHR) and/or the California Register of Historic Resources (CRHR). (Ex. 200, pp. 4.3-1, 4.3-15, 4.3-16.) Analysis in this topic area considers three types of cultural resources: prehistoric, historic, and ethnographic. (Ex. 200, p. 4.3-1.)

Prehistoric archaeological resources are those materials relating to prehistoric human occupation and use of an area, including sites and deposits, structures, artifacts, rock art, trails, and other traces of Native American human behavior. In California, the prehistoric period began over 12,000 years ago and extended through the eighteenth century when the first Spaniards settled in what is now the State of California. (Ex. 200, p. 4.3-1.)

Historic resources are archaeological and architectural materials usually associated with Euro-American exploration and settlement of an area and the beginning of a written historical record. These resources include archaeological deposits, sites, buildings and structures, travel routes, artifacts, or other evidence of human activity. Under federal and state requirements, historical cultural resources must be more than 50 years old to be considered historically significant. A resource less than 50 years may be historically important if the resource is of exceptional significance. (Ex. 200, pp. 4.3-1, 4.3-16.)

Ethnographic resources are materials important to the heritage of a particular ethnic or cultural group such as African Americans, Mexican Americans, Native Americans, or European, Asian, or Latino immigrants and their descendants. These resources include traditional resource-collecting areas, ceremonial sites, topographic features, cemeteries, shrines, or ethnic neighborhoods and structures. (Ex. 200, p. 4.3-1.)

The evidence for this topic was undisputed. (Ex. 1, § 6.7 et seq., Appendix D; Exs. 13, 14; Ex. 17, pp. 17-30; Ex. 38, p. 4; Ex. 40, p. 4 et seq.; Exs. 42, 43, 44,

47, 55; Ex. 200, p. 4.3-1 et seq.; 11/02/09 RT 27-36; Stipulation, dated November 10, 2009.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Setting

The project site is located in a region characterized by industrial development situated on an alluvial plain that receives run-off from the San Gabriel Mountains. The area is part of the lower Santa Ana River watershed in the Los Angeles Basin. The site itself is underlain by 1.0 to 2.5 feet of fill and 2,000 feet of native, unconsolidated sand, silt, and gravel deposits. Along the Santa Ana River, these deposits were historically mined for construction materials, leaving three abandoned pits near the project site that now serve as groundwater recharge basins. (Ex. 200, p. 4.3-3; Ex. 1, §§ 6.7.1.3 -- 6.7.1.4.1.)

The site consists of developed land, mostly paved with asphalt and concrete. Since 1967, the site was used for a mobile food catering service that included an industrial kitchen, storage facilities, a fleet of vehicles, and maintenance facilities for the vehicles. All the onsite structures associated with the catering service will be demolished prior to project construction. (Ex. 1, §§ 6.7, 6.7.1.2.)

2. Cultural Resources Inventory

In accordance with federal and state guidelines on identifying cultural resources, Applicant's consultants performed a records search and a walking survey of the area of potential effects (APE). The APE covered a one-mile radius surrounding the 10-acre project site on Miraloma Avenue in the City of Anaheim as well as a 0.25-mile radius surrounding the linear corridors, i.e., the 7,000 foot underground electric cable along Miraloma Avenue to North Miller Street, the 3,240 foot gas pipeline along Miraloma Avenue to Kraemer Boulevard, and the 2,185 foot water pipeline along Miraloma Avenue northward within the Miller Basin property in Miraloma Avenue. (Ex. 1, §§ 6.7.1.2, 6.7.1.5, 6.7.1.11.)

Applicant's records search of the California Historical Resources Information System (CHRIS) was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton for all known cultural resources within the APE, including:

- Previous recorded prehistoric and historic archaeological sites;
- Previously recorded historic structures in the project area;

- Resources listed on the NRHP and/or the CRHR within the project area;
- National Register of Historic Places (NRHP) directory;
- Local landmarks and monuments;

(Ex. 1, §6.7.1.11.1; Appendix D.)

The CHRIS records search at the SCCIC returned information on four known prehistoric archaeological sites, two known historical archaeological sites, and three known historic-period built-environment resources located within a one-mile radius of the project site. The evidence indicates that none of these sites will be affected by the project. The SCCIC records search found no NRHP-listed resources, CRHR-listed resources, California Historical Landmarks, or California Points of Historical Interest in the area. (Ex. 1, § 6.7.1.11.2 et seq., Appendix D.)

Staff conducted an independent review of the archaeological, ethnographic, and built-environment resources for the "project area of analysis," which confirmed the research presented by Applicant. (Ex. 200, p. 4.3-15 et seq.)

The previously identified and newly identified prehistoric archaeological resources located within one mile of the project are summarized below in **Cultural Resources Table 1**.

CULTURAL RESOURCES Table 1
Prehistoric Archaeological Resources Located within One Mile of the Project

Resource Designation	Type of Resource	CRHR Eligibility	Project Impact
Previously Identified:			
CA-Ora-428	Food processing locus.	Not determined.	None.
CA-Ora-429	Food processing locus.	Not determined.	None.
CA-Ora-430	Food processing locus.	Not determined.	None.
CA-Ora-517	Human burial; found at depth of 5–6 feet during backhoe trenching; no artifacts associated.	Not determined.	None.
Newly Identified: None			

Source: Ex. 200, p. 4.3-26.

The historic archaeological resources in the project area are shown in **Cultural Resources Table 2**, below:

CULTURAL RESOURCES Table 2
Historical Archaeological Resources Located Within One Mile of the Project

Resource Designation	Type of Resource	CRHR Eligibility	Project Impact
Previously Identified:			
P 30-001670, reported in December, 2006	Large, buried refuse deposit; 1930s-1940s; on native soils, covered by seven feet of fill; discovered in trench associated with the Ground Water Replenishment System.	Not determined.	None.
P 30-001671, reported in December, 2006.	Refuse deposit; mid-1940s; no depth or dimensions; identified by artifacts in backdirt of trench associated with the Ground Water Replenishment System.	Not determined.	None.
Newly Identified: None			

Source: Ex. 200, p. 4.3-27.

Between August 21 and October 3, 2007, Applicant's consultants conducted a pedestrian and windshield Phase I Archaeological Survey of the APE, which included an additional 200 foot buffer for all plant components, including the plant site and related linear facilities. (Ex. 1, § 6.7.2 et seq.) No archeological sites were identified and none of the historic structures or buildings observed in the APE was considered eligible for listing on the NRHP or CRHR. Further, there is no evidence that any of the observed structures would be affected by the project or that the existence of the historic structures constitute a justifiable basis for defining a cultural landscape. (*Id*., Appendix D; Ex. 13, DR **CUL-1 & 2**; Ex. 200, pp. 4.3-21 – 4.3-25, 4.3-30 – 4.3-31.)

The previously identified and newly identified historic-period built-environment resources located within one mile of the project are summarized in **Cultural Resources Table 3**, below.

CULTURAL RESOURCES Table 3
Built-Environment Resources Located within One Mile of the Project

Resource Designation	Type of Resource	CRHR Eligibility	Information Source	Project Could Impact Physically	Project Could Impact Visually
Previously Identified:					
P 30-176705 220 East Santa Fe Avenue	Placentia Co-operative Orange Association Building; 1930 packinghouse	Not eligible for CRHR due to lack of integrity.	SCCIC	No, too far from project.	No, too far from project.
P 30-176706 100 East Santa Fe Avenue	Bradford Brothers Packinghouse; 1922 packinghouse	Not eligible for CRHR due to lack of integrity.	SCCIC	No, too far from project.	No, too far from project.
P 30-176707 207 A-E Crowther Avenue	Placentia Orange Growers Association Building; 1935 packinghouse	Not eligible for CRHR due to lack of integrity.	SCCIC	No, too far from project.	No, too far from project.
Newly Identified:					
3053 East Miraloma Avenue	Residence; built in 1910; probably moved to this location	Not eligible for CRHR.	COA cultural resources consultant (URS)	No, demolished.	No, demolished.
3065 East Miraloma Avenue	Residence; built in 1954; probably moved to this location	Not eligible for CRHR.	COA cultural resources consultant (URS)	No, demolished.	No, demolished.
3065A East Miraloma Avenue	Residence; built in 1954; probably moved to this location	Not eligible for CRHR.	COA cultural resources consultant (URS)	No, demolished.	No, demolished.
3233 East Miraloma Avenue	Residence; built in 1935	Not eligible for CRHR due to lack of integrity.	COA cultural resources consultant (JRP)	No.	No; alterations to setting all under-ground.
2831 East Coronado Street	Residence; no information available.	Not determined.	COA Historic Preservation Department	No.	No, too far from project.
3006 East Coronado Street	Residence; no information available.	Not determined.	COA Historic Preservation Department	No.	No, too far from project.
1373 North Miller Street	Residence; no information available.	Not determined.	COA Historic Preservation Department	No.	No, too far from project.
1401 North Miller Street	Residence; no information available.	Not determined.	COA Historic Preservation Department	No.	No, too far from project.

Resource Designation	Type of Resource	CRHR Eligibility	Information Source	Project Could Impact Physically	Project Could Impact Visually
1397 North Jefferson Street	Commercial; no information available.	Not determined.	COA Historic Preservation Department	No.	No, too far from project.
2983 East Miraloma Avenue	Residence; no information available.	Not determined.	COA Historic Preservation Department	No.	Yes, but resource unlikely to be CRHR-eligible due to degraded integrity of setting.
2901 La Jolla Street	Residence, now part of auto-painting business (?); no information available.	Not determined.	COA Historic Preservation Department	No.	No, too far from project.
2901 La Jolla Street	Commercial (auto-painting shop?); no information available.	Not determined.	COA Historic Preservation Department	No.	No, too far from project.

Source: Ex. 200, p. 4.3-28 – 4.3-30.

The CHRIS records indicated that several Native American tribes had historically inhabited the project area. On August 20, 2007, Applicant's consultants requested the Native American Heritage Commission (NAHC) to search its Sacred Lands File for any Native American traditional cultural properties in the project vicinity. The NAHC responded on August 23, 2007, indicating that no sites of concern to Native Americans had been found in the Sacred Lands database. The NAHC provided contact information for Native American representatives in the project area. Applicant's consultants sent letters to the NAHC contacts on September 27, 2007, and phoned the contacts on November 14 and 15, 2007. As a result of those calls, NAHC contacts Sonia Johnston, Tribal Vice Chairperson for the Juaneño Band of Mission Indians, and Alfred Cruz, the Cultural Resources Coordinator and designated Most Likely Descendent (MLD) for the Juaneño Band of Mission Indians, requested that Applicant notify Mr. Cruz if archaeological sites and/or human remains are discovered in the course of project development. On March 24, 2008, Staff sent letters to the NAHC contacts requesting their comments on the project. No additional comments were received. (Ex. 1, § 6.7.1.9; Ex. 13, DR **CUL-4**; Ex. 14; Ex. 200, p. 4.3-20.)

3. Potential Impacts

Direct impacts to cultural resources are those associated with project development, construction, and co-existence. Since construction involves

surface and subsurface ground disturbance, direct impacts to unknown cultural 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. Indirect impacts to cultural resources may result from increased erosion due to site clearance and preparation, or from inadvertent damage or vandalism to exposed resource components due to improved accessibility. (Ex. 200, p. 4.3-32.)

Although the evidence indicates that no significant known cultural resources have been identified in any of the areas affected by project construction, subsurface disturbance during excavation and construction has the potential to disturb unknown cultural resources. We have adopted Conditions of Certification **CUL-1** through **CUL-7** to ensure that all impacts to cultural resources discovered during construction are mitigated below the level of significance. The Conditions require the project owner to implement a Cultural Resources Monitoring and Mitigation Plan, employ an archaeologist to monitor construction activities, and include a Native American monitor during construction if potential Native American cultural resources are found. (Ex. 200, pp. 4.3-33 to 4.3-35.)

During the Evidentiary Hearing, the Committee raised a question about whether the Conditions of Certification proposed in the Final Staff Assessment would have continued effect following completion of project construction as Staff implied in the FSA narrative. On their face it did not appear as if they would continue. Conditions **CUL-1** through **CUL-7** were amended by stipulation of the parties submitted following the Evidentiary Hearing. (Ex 78.) In our view, the revised conditions continue to be silent about which if any, of the Conditions continue to apply to the project following the completion of the construction phase. We've adopted the amended conditions with a further Committee amendment to Condition **CUL-**3 to implement a solution discussed at the Evidentiary Hearing. That refinement has the Cultural Resources Monitoring and Mitigation Plan required by **CUL-3** specify the efforts necessary for post-construction activities.

4. Cumulative Impacts

A cumulative impact refers to a 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 project. The construction of other projects in the same area as the project could affect unknown subsurface archaeological deposits. (Ex. 200, p. 4.3-36.)

Applicant identified seven proposed or approved projects within one mile of the Canyon Power Plant site or within 0.5 mile of the transmission line. (Ex. 1, pp. 6.18-3–6.18-4; Ex. 200, p. 4.3-36.)

As indicated by the evidence, there are no known cultural resources that will be affected by the Canyon Power Plant, and any impacts to subsurface cultural resources discovered during ground disturbance will be mitigated to a less-than-significant level by compliance with Conditions **CUL-1** through **CUL-7**. Since federal and state law requires the other new projects in the area to implement similar mitigation measures, it is unlikely that any incremental effects on cultural resources due to the Canyon Power Plant will be cumulatively considerable in conjunction with other projects. (Ex. 200, p. 4.3-37.)

5. Agency and Public comments

No public or agency comments concerning cultural resources were filed. (Ex. 200, p. 4.3-38.)

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

FINDINGS OF FACT

1. No significant known archaeological or historic resources have been identified in any of the areas affected by project construction at the Canyon Power Plant site, the linear facilities, or within the potentially affected surrounding area.
2. There are no historic districts or cultural landscapes within the impact area of the Canyon Power Plant.
3. No potentially significant built-environment resources were identified at the Canyon Power Plant site or within the impact areas of the project's underground linear facilities.
4. None of the individual built-environment resources identified as being old enough to be potentially significant are likely to be eligible for the NRHR or the CRHR.
5. The Native American Heritage Commission did not identify any Native American sacred sites within the project's impact area.
6. The project owner will contact Native American representatives if potentially significant cultural resources are discovered during project construction and operation.

7. Conditions of Certification **CUL-1** through **CUL-7** ensure that all impacts to cultural resources discovered during construction and operation are mitigated below the level of significance.

8. The project will not result in direct, indirect, or cumulative impacts to cultural resources.

CONCLUSIONS OF LAW

1. With implementation of the Conditions of Certification below, the project will conform to all applicable laws, ordinances, regulations, and standards relating to cultural resources as set forth in the pertinent portion of **Appendix A** of this Decision.

2. Implementation of the mitigation measures described in the evidentiary record and in the Conditions of Certification, below, ensures that the project will not result in significant adverse impacts on cultural resources.

CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of construction-related ground disturbance (includes "preconstruction site mobilization," "construction construction-related 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 construction-related 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 reasons including but not limited to non-compliance on this or other Energy Commission 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 (per nature of predominant cultural resources on the project site), 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 A.S. or A.A. 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 construction-related 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 project construction-related ground disturbance may continue up to a maximum of 3 days without a CRS. If cultural resources are discovered then construction-related ground disturbance will remain halted until there is a CRS or alternate CRS to make a recommendation regarding significance.

At least 20 days prior to construction-related 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 resources monitoring required by this Condition.

At least 5 days prior to additional CRMs beginning on-site duties during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to their qualifications.

At least 10 days prior to any technical specialists, other than CRMs, 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 construction-related 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 construction-related 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 facility routes, 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 map submittals and, in consultation with the CRS, approve those that are appropriate for use in cultural resources planning activities. No construction-related 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 provided to the CRS and CPM 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.

Weekly, until construction-related ground disturbance is completed, the project construction manager shall provide to the CRS and CPM a schedule of project activities for the following week, including the identification of area(s) where construction-related ground disturbance will occur during that week.

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 construction-related 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.

At least 15 days prior to the start of construction-related ground disturbance, if there are changes to any project-related footprint, the project owner shall provide revised maps and drawings for the changes to the CRS and CPM.

At least 15 days prior to the start of each phase of a phased project, the project owner shall submit the appropriate maps and drawings, if not previously provided, to the CRS and CPM.

Weekly, during construction-related ground disturbance, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax.

Within 5 days of changing the scheduling of phases of a phased project, the project owner shall provide written notice of the changes to the CRS and CPM.

CUL-3 Prior to the start of construction-related 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 authors' names shall appear on the title page of the CRMMP. 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 construction-related 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. 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.”

2. 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 data types.

3. A detailed monitoring plan for the jack-and-bore tunneling for the underground transmission line under Carbon Canyon Creek Diversion Channel, including the monitoring of the excavation of the jack-and-bore entry and exit pits, the examination of auger-backdirt sediments, the logging of auger-backdirt sediment descriptions, the screening of samples of the auger backdirt for the presence of cultural materials, and the recordation of any archaeological deposits encountered.

4. A statement that all encountered cultural resources over 50 years old 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.

5. 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.

6. 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 construction-related ground disturbance and cannot be treated prescriptively.

7. A description of the contents and format of the final Cultural Resource Report (CRR), which shall be prepared according to ARMR guidelines.

8. An inventory and description of the measures required by the Cultural Resources conditions of certification which will continue to apply during the operations and closure phases of the project's life, along with any provisions necessary to allow reporting of compliance and enforcement of the requirements.

Verification: At least 30 days prior to the start of construction-related ground disturbance, the project owner shall submit the CRMMP to the CPM for review and approval.

At least 30 days prior to the start of construction-related ground disturbance, in a letter to the CPM, the project owner shall agree 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 final Cultural Resources Report (CRR) to the CPM for approval. The final CRR shall be written by or under the direction of the CRS and shall be provided in the ARMR format. The final CRR shall report on all field activities including dates, times and locations, results, samplings, and analyses. All survey reports, DPR 523 forms, geoarchaeological final reports, data recovery reports, and any 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 appendices to the final CRR.

If the project owner requests a suspension of construction-related ground disturbance and/or 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-related ground disturbance and/or 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 30 days after requesting a suspension of construction activities, the project owner shall submit a draft CRR to the CPM for review and approval.

Within 90 days after completion of construction-related ground disturbance (including landscaping), the project owner shall submit the final 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 construction-related ground disturbance (including landscaping) , if cultural materials requiring curation were collected, 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 of the CRR, the project owner shall provide documentation to the CPM confirming that copies of the final CRR have been provided to the SHPO, the CHRIS, and the curating institution, if archaeological materials were collected

CUL-5 Prior to and for the duration of construction-related ground disturbance activities, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment in any aspect of project construction-related ground disturbance. The training shall be prepared by the CRS, may be conducted by any member of the archaeological team, 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 construction-related ground disturbance is completed or suspended, but must be resumed when construction-related 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. A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed;

4. A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during

construction, and the range of variation in the appearance of such deposits;

5. Instruction that the CRS, alternate CRS, and CRMs have the authority to halt project construction-related ground disturbance 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;

6. 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;

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

8. An acknowledgement form signed by each worker indicating that they have received the training; and

9. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

No construction-related 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 construction-related ground disturbance, the CRS shall provide the training program draft text and graphics and the informational brochure to the CPM for review and approval.

At least 15 days prior to the beginning of construction-related ground disturbance, 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 construction-related ground disturbance is completed, the project owner shall provide in the Monthly Compliance Report (MCR) the WEAP Training Acknowledgement forms of workers 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 the excavation of the jack-and-bore entry and exit pits and examine, log, and screen auger backdirt samples, as detailed in the CRMMP, to identify and record the presence of any archaeological deposits encountered.

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 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 project site, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM.

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 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.

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.

Verification: At least 30 days prior to the start of construction-related ground disturbance, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log.

Monthly, 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 and shall attach any new DPR 523A forms completed for finds treated prescriptively, as specified in the CRMMP.

At least 24 hours prior to implementing a proposed change in monitoring level, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for changing the monitoring level.

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 of communication acceptable to the CPM.

At least 24 hours prior to reducing or ending daily reporting, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for reducing or ending daily reporting.

CUL-7 The project owner shall grant authority to halt projectconstruction-related ground disturbance to the CRS, alternate CRS, and the CRMs in the event of a discovery. Redirection of construction-related ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event that a cultural resource over 50 years of age is found (or if younger, determined exceptionally significant by the CPM), or impacts to such a resource can be anticipated, construction-related 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 **CUL-6** shall continue during all ground-disturbing activities elsewhere on the project site. The halting or redirection of construction-related ground disturbance 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 CRHR eligibility, and recommendations for data recovery from any cultural resources discoveries, whether or not a determination of CRHR eligibility has been made.

2. If the discovery would be of interest to Native Americans, the CRS has notified all Native American groups, identified in the FSA, that expressed a desire to be notified in the event of such a discovery.

3. The CRS has completed field notes, measurements, and photography for a DPR 523 “Primary” form. Unless the find can be treated prescriptively, as specified in the CRMMP, the “Description” entry of the DPR 523 “Primary” form shall include a recommendation on the CRHR eligibility of the discovery. The project owner shall submit completed forms to the CPM.

4. 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 construction-related 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 project construction-related ground disturbance 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.

Within 48 hours of the discovery of an archaeological or ethnographic resource, the project owner shall ensure that the CRS notifies all Native American groups that expressed a desire to be notified in the event of such a discovery.

Unless the discovery can be treated prescriptively, as specified in the CRMMP, completed DPR 523 forms for resources newly discovered during construction-related ground disturbance 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.

D. GEOLOGY AND PALEONTOLOGY

This topic summarizes the evidence on potential geological hazards that could affect project operation, including faulting and seismicity, liquefaction, dynamic compaction, hydrocompaction, subsidence, expansive soils, landslides, tsunamis and seiches. It also reviews evidence on whether project-related activities could result in adverse impacts to significant geological and paleontological resources and, if so, whether the project's potential impacts will be adequately mitigated. The parties did not dispute any matters related to this topic. (11/02/09 RT 5-7, 92-93; Ex. 1, §§ 6.3 and 6.8, Appendices F and E; Ex. 69; Ex. 200, p. 5.2-1 et seq.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Geologic Hazards

The project vicinity is designated Seismic Zone 4 under the California Building Code (CBC) for the highest level of earthquake activity.[27] Although no active faults are known to cross the project site surface or the linear facilities routes, there are several active or potentially active faults present within 50 miles of the site. (Ex. 1, §§ 6.3.1.4, 6.3.1.6.2, Appendix F, p. 22 et seq.; Ex. 200, p. 5.2-10.)

The evidentiary record describes the *Whittier Fault*, located about 4.7 miles northeast of the site, as the nearest major active fault. Other notable faults include the *Elsinore Fault Zone*, about 11 miles east-southeast of the site, the *San Andreas Fault Zone*, about 37 miles northeast of the site, the *El Modeno Fault,* 1.5 miles south of the site, the *Peralta Hills Fault*, about 1.9 miles southeast of the site, the *Norwalk Fault*, 4.8 miles west-northwest of the site, the *Puente Hills Blind Thrust Fault*, which underlies the site at depth, and the *San Joaquin Hills Blind Thrust Fault*, approximately 11 miles south of the site. (Ex. 200, p. 5.2-10; Ex. 1, § 6.3.1.5, Appendix F, p. 8 et seq.)

Geology and Paleontology Table 1, replicated below, lists the most significant active faults in the project vicinity and shows the estimated peak acceleration and intensity at the site during a maximum magnitude earthquake on each fault. (Ex. 200, pp. 5.2-6 – 5.2-7.)

[27] The California Division of Mines and Geology and the California Geological Survey have identified the site vicinity as an area subject to strong ground shaking under the California Seismic Hazards Mapping Act. (Ex. 200, p. 5.2-9 and 5.2-10; Ex. 1, § 6.3.14 et seq., 6.3.3.1, Appendix F, p. 8 et seq.)

GEOLOGY AND PALEONTOLOGY TABLE 1
Active Faults Relative to the Canyon Power Plant Site

Fault Name	Distance From Site (miles)	Maximum Earthquake Magnitude (Mw)	Estimated Peak Site Acceleration (g)	Fault Type and Strike	Fault Class
Whittier	4.7	6.8	0.368	Right-Lateral Reverse/Oblique Slip (Northeast)	A
Puente Hills Blind Thrust	4.8	7.1	0.518	Blind Thrust/Reverse (North)	B
Elsinore (Chino-Central Ave.)	8.1	6.7	0.310	Right-Lateral Reverse/Oblique Slip (Southwest)	B
San Joaquin Hills Blind Thrust	11.5	6.6	0.231	Blind Thrust/Reverse (Southwest)	B
San Jose	12.6	6.4	0.194	Left-Lateral Reverse/Oblique Slip (Northwest)	B
Elsinore (Glen Ivy)	12.8	6.8	0.195	Right-Lateral Strike Slip (Northwest)	A
Newport-Inglewood (LA Basin)	14.6	7.1	0.208	Right-Lateral Strike Slip (Northwest)	B
Newport-Inglewood (Offshore)	18.6	7.1	0.173	Right-Lateral Strike Slip	B
Sierra Madre	19.1	7.2	0.217	Reverse (North)	B
Cucamonga	20.0	6.9	0.180	Reverse (North)	B
Upper Elysian Park Blind Thrust	20.1	6.4	0.138	Blind Thrust/Reverse (Northeast)	B
Raymond	22.4	6.5	0.133	Left-Lateral Reverse/Oblique Slip (North)	B
Clamshell-Sawpit	23.5	6.5	0.129	Reverse (Northwest)	B
Palos Verdes	23.8	7.3	0.160	Right-Lateral Strike Slip	B
Verdugo	25.4	6.9	0.150	Reverse (Northeast)	B
Hollywood	27.9	6.4	0.107	Left-Lateral Reverse/Oblique Slip (Southwest)	B
Elsinore (Temecula)	32.9	6.8	0.096	Right-Lateral Strike Slip (North)	A
San Jacinto-San Bernardino	33.2	6.7	0.090	Right-Lateral Strike Slip (Northwest)	A
Santa Monica	35.0	6.6	0.100	Left-Lateral Reverse/Oblique Slip (North)	B

Fault Name	Distance From Site (miles)	Maximum Earthquake Magnitude (Mw)	Estimated Peak Site Acceleration (g)	Fault Type and Strike	Fault Class
Santa Monica	35.0	6.6	0.100	Left-Lateral Reverse/Oblique Slip (North)	B
San Andreas – Mojave	36.2	7.4	0.122	Right-Lateral Strike Slip (Northwest)	A
San Andreas – Cholame-Mojave	36.2	7.8	0.151	Right-Lateral Strike Slip (Northwest)	A
San Andreas – 1857 Rupture	36.2	7.8	0.151	Right-Lateral Strike Slip (Northwest)	A
San Andreas - Entire	36.2	8.0	0.167	Right-Lateral Strike Slip (Northwest)I	A
San Andreas – San Bernardino-Coachella	36.4	7.7	0.142	Right-Lateral Strike Slip (Northwest)	A
San Andreas - San Bernardino	36.4	7.5	0.128	Right-Lateral Strike Slip (Northwest)	A
San Jacinto Valley	37.7	6.9	0.091	Right-Lateral Strike Slip (Northwest)	A
Sierra Madre (San Fernando)	38.3	6.7	0.098	Reverse (North)	B
Cleghorn	38.8	6.5	0.072	Left-Lateral Strike Slip	B
San Gabriel	39.9	7.2	0.102	Right-Lateral Strike Slip	B
Malibu Coast	40.4	6.7	0.094	Left-Lateral Reverse/Oblique Slip (Southwest)	B
Coronado Bank	40.8	7.6	0.124	Right-Lateral Strike Slip	B
Northridge (East Oak Ridge)	41.3	7.0	0.109	Blind Thrust/Reverse (South)	B
North Frontal Fault Zone (Western)	46.4	7.2	0.110	Reverse (South)	B
Anacapa-Dume	48.7	7.5	0.125	Reverse/Left-Lateral/Oblique Slip (North)	B

Source: Ex. 200, p. 5.2-6 and 5.2-7.

Seismic Activity. The Applicant submitted a "Report of Geotechnical Investigation," dated October 10, 2007, which identified soil conditions and geological hazards at the site and specified the necessary design criteria for excavation, site preparation, and foundation support. (Ex. 1, Appendix F, p. 16 et seq.) The Geotechnical Investigation also characterized the site soils as seismic Class D, indicating that the soils will likely amplify ground shaking, compared to a bedrock site with the same earthquake loading. (Ex. 200, p. 5.2-10; Ex. 1,

Appendix F, p. 23.) Therefore, due to the geological setting and soils profile, it is likely that the site will be subject to intense levels of ground shaking during the life of the project. (Ex. 1, §§ 6.3.1.6.2, 6.3.3.1; Ex. 200, pp. 5.2-8 – 5.2-10.)

Conditions of Certification **GEN-1**, **GEN 5**, and **CIVIL 1** in the **Facility Design** section of this Decision require the project owner to submit engineering design plans and an updated Geotechnical Report to the chief building official (CBO) for approval prior to site grading. The Class D site soil designation requires the project owner to incorporate applicable CBC default amplification factors in the project design. Mitigation measures described in the evidentiary record and in the Applicant's Geotechnical Investigation should be incorporated, if appropriate, in the updated Geotechnical Report to reflect current CBC standards and other applicable LORS in effect when grading begins.[28] (Ex. 200, p. 5.2-8; Ex. 1, § 6.3.3.1, Appendix F.)

In addition, Condition **STRUC-1** requires the project owner to submit the lateral force procedures and the designs, plans, and drawings of project structures to the CBO for approval prior to construction. Condition **MECH 1** requires compliance with industry standards on seismicity for the natural gas pipeline, such as installation of pressure sensitive shut-off valves.

According to Applicant and Staff, implementation of these mitigation measures and compliance with applicable LORS ensures that the project can withstand the effects of potential seismic activity in the site vicinity. (See, generally, **Facility Design** section of this Decision; Ex. 1, Appendix F, p. 16 et seq; Ex. 200, pp. 5.2-1, 5.2-8, 5.2-10.)

Liquefaction. The site is located within a California Division of Mines and Geology liquefaction zone. (Ex. 1, § 6.3.1.6.6.) Liquefaction is a condition where loose, cohesionless soil is susceptible to strong seismic ground motion in an earthquake due to saturation by shallow groundwater to depths of about 40 feet below ground surface. The Geotechnical Investigation indicates that groundwater was encountered approximately 50 feet below surface, which is too deep for significant surface settling to occur from liquefaction. Therefore, the potential for liquefaction at the site is considered negligible but a final evaluation and necessary mitigation measures will be addressed in the updated

[28] Staff noted that the Alquist-Priolo Earthquake Fault Act requires a 50-foot setback from the surface trace of an active fault for newly occupied buildings; however, setbacks are not required in this case because no active faults are known to cross the site. (Ex. 200, p. 5.2-10.)

Geotechnical Report required by Conditions **GEN-1**, **GEN-5**, and **CIVIL-1**. (Ex. 200, p. 5.2-11; Ex. 1, § 6.3.1.6.6, Appendix F, p. 13.)

Dynamic Compaction. Dynamic compaction of soils results when relatively unconsolidated granular materials experience vibration associated with seismic events. The vibration causes a decrease in soil volume, as the soil grains tend to rearrange into a more dense state (an increase is soil density), which can result in settlement of overlying structural improvements. Although soil compaction is at the site is unlikely, the potential for and mitigation of the effects of dynamic compaction during an earthquake will be addressed in the updated Geotechnical Report required by Conditions **GEN-1**, **GEN-5**, and **CIVIL-1**. (Ex. 200, p. 5.2-11.)

Hydrocompaction. Hydrocompaction is generally limited to young soils that were deposited rapidly in a saturated state. The Geotechnical Investigation found a low hydrocollapse potential at the site. Conditions **GEN-1**, **GEN-5**, and **CIVIL-1** require the updated Geotechnical Report to address appropriate engineering for hydrocompaction issues. (Ex. 200, p.5.2-12.)

Subsidence. Local subsidence or settlement may occur when areas containing compressible soils are subjected to foundation loads or increased moisture due to water infiltration. The Geotechnical Investigation indicates a low potential for compressibility at the site and regional studies conducted to evaluate the effects of subsidence due to pumping of groundwater, oil, and gas reserves showed no significant regional subsidence. However, the potential for and mitigation of the effects of subsidence due to compressible soils on the site must be addressed in the updated Geotechnical Report as required by Conditions **GEN-1**, **GEN-5**, and **CIVIL-1**. According to Staff, typical mitigation is accomplished by over-excavation and replacement of the collapsible soils. For deep-seated conditions, deep foundations are commonly used. (Ex. 200, p. 5.2-12.)

Expansive Soils. Soil expansion occurs when clay-rich soils with an affinity for water exist at a moisture-content below their plastic limit. The addition of moisture from irrigation, capillary tension, water line breaks, etc. allows the clay to absorb water molecules into its structure, which in turn causes an increase in the overall volume of the soil, which can cause movement (heave) of overlying structural improvements. The Geotechnical Investigation found that site subsurface soils have low expansion potential. Additional review of the potential for and mitigation of the effects of expansive soils at the site will be addressed in the updated Geotechnical Report required by Conditions **GEN-1**, **GEN-5**, and **CIVIL-1**. According to Staff, typical mitigation is accomplished by over-

excavation and replacement of the collapsible soils. For deep-seated conditions, deep foundations are commonly used. Lime-treatment (chemical modification) is often used to mitigate expansive clays in pavement areas. (Ex. 200, p.5.2-12.)

Landslides. The project site slopes gently to the south-southwest at a gradient of approximately 1 percent. Although numerous landslides and slumping have been documented along the northern margin of the Peralta Hills, about 2.5 miles east of the site, the gradual slope of the site and the absence of topographically high ground within or upgradient from the site suggest it is not susceptible to landslide activity. The updated Geotechnical Report must verify that landslide potential is minimal in accordance with CBC requirements and Condition **GEN-4** in the **Facility Design** section of this Decision. (Ex. 200, p. 5.2-12.)

Flooding. The site is located in a potential inundation area if earthquake induced dam failure should occur at the nearby Prado or Carbon Canyon dams. However, current design and construction practices coupled with ongoing monitoring, design review, and dam modification ensure that the dams are capable of withstanding the occurrence of a maximum credible earthquake. Therefore, the potential for site inundation due to dam failure is considered low. The potential for flooding due to water erosion is addressed in the **Soil and Water Resources** section of this Decision. (Ex. 1, § 6.3.1.6.3; Ex. 200, p. 5.2-13.)

Tsunamis and Seiches. The project site is not subject to tsunamis or seiches since it is not located near any large body of water such as a lake or open ocean. (Ex. 1, § 6.3.1.6.4.)

2. Mineralogical and Paleontological Impacts

The evidence shows that there are no known viable geological or mineralogical resources within three miles of the project site. However, during excavation and construction, the potential to encounter significant paleontological resources in older Quaternary alluvium sediments beneath the site is considered high. (Ex. 200, p. 5.2-14; Ex. 1, § 6.8 et seq., Appen. E.) To ensure that potential impacts to paleontological resources are mitigated to insignificant levels, Conditions of Certification **PAL-1** through **PAL-7** require the project owner to provide a Paleontological Resources Monitoring and Mitigation Plan, which includes a worker training program and monitoring of earthmoving activities by qualified paleontologists who have authority to halt activities, if necessary, to preserve discovered resources.

FINDINGS OF FACT

Based on the uncontroverted evidence, we make the following findings:

1. The Canyon Power Plant is located in an active seismic area.

2. Ground shaking due to seismic activity is the primary geological hazard related to the project.

3. The project owner will submit an updated Geotechnical Report prior to site excavation.

4. Potential hazards to the project resulting from ground shaking will be effectively mitigated by standard engineering design measures as described in the evidentiary record and as required in Conditions **GEN-1**, **GEN-5**, **CIVIL-1, STRUC-1**, and **MECH-1** of the **Facility Design** section of this Decision.

5. Potential flooding of the project due to earthquake damage to the nearby Prado and Carbon Canyon dams is considered low because the dams are constructed according to seismic engineering requirements.

6. Liquefaction, lateral spreading, dynamic compaction, expansive soils, ground subsidence, landslides, flooding, tsunamis, and seiches pose low or negligible risks to the project.

7. There is no evidence of existing or potential geological or mineralogical resources at the project site or along the linear alignments.

8. There is a high probability of encountering paleontological resources during construction activities at the project site.

9. The project owner will implement several mitigation measures to avoid impacts to paleontological resources including a Paleontological Monitoring and Mitigation Plan, employing a Paleontological Resource Specialist, and conducting a worker training program.

CONCLUSIONS OF LAW

1. The Commission therefore concludes that implementation of the appropriate mitigation measures described in the evidence and in the Conditions of Certification listed below ensure that project activities will not cause adverse impacts to geological, mineralogical, or paleontological resources. In addition, compliance with the Conditions of Certification below will ensure that the Canyon Power Plant conforms to all applicable laws, ordinances,

regulations, and standards (LORS) related to geological, mineralogical, and paleontological resources as indentified in **Appendix A** of this Decision. We further conclude that, with 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 geological hazards.

CONDITIONS OF CERTIFICATION

General Conditions of Certification related to engineering geology are contained in Conditions of Certification **GEN-1, GEN-5, CIVIL-1, STRUC-1**, and **MECH-1** in the **Facility Design** section. Conditions of Certification for Paleontological Resources are listed below:

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: (1) 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.

(2) 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 the project, the PRS shall provide additional letters and resumes to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor's beginning on-site duties.

(3) 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 would be acceptable for this purpose. The plan drawings should 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 range. If the footprint of the project or its linear facilities change, 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: (1) 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.

(2) 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.

(3) 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 meet 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, 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 those resources.

The training shall include:

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

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

3. Information that the PRS or PRM has the authority to halt or redirect construction in the event of a discovery 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: (1) 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.

(2) 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.

(3) 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.

(4) 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 fossil-bearing materials have been identified, both at the site and along any constructed linear facilities
associated with the project. In the event that the PRS determines full-time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the project owner shall notify and seek the concurrence of the CPM.

The project owner shall ensure that the PRS and PRM(s) have the authority to halt or redirect construction if paleontological resources are encountered. The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows:

1. Any change of monitoring 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 placed in the monthly compliance reports. The summary will include the name(s) of PRS or PRM(s) active during the month, general descriptions of training and

monitored construction activities, and general locations of excavations, grading, 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 will 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 his/her 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 **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, the location of a power plant may be incompatible with existing or planned land uses, resulting in potential hazards to public health or safety, 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 Canyon Power Project will result in a significant impact on land use, our analysis focuses on two main issues: 1) whether the project is compatible with existing and planned land uses; and 2) whether the project is consistent with local land use plans, ordinances, and policies.

SUMMARY AND DISCUSSION OF THE EVIDENCE

According to CEQA Guidelines[29] 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

[29] 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 CPP include the City of Anaheim General Plan, Zoning Ordinance, and Northeast Area Specific Plan and the California Land Conservation Act (CLCA) of 1965 (aka the Williamson Act). (Ex. 200, pp. 4.5-2 to 4.5-3.)

1. The Site

The CPP project site is located in the city of Anaheim, in the northern part of Orange County. To the north of the project site is the city of Placentia, to the south is the Santa Ana River corridor, the city of Orange, and a small unincorporated area within Orange County. The Santa Ana River runs east-west approximately one mile south of the project area. (See **Land Use Figure 1.**)

The CPP and associated construction laydown areas will be located on approximately 10-acres of disturbed land located at 3071 East Miraloma Avenue. Access to the project site will be at the southeast corner of the project site from East Miraloma Avenue. A second gate entrance will be accessible via East Miraloma Avenue with a third gate off the alley to the east of the project site. (see **Land Use Figure 2**). The project's transmission line route is depicted on **Project Description Figure 2**. (Ex. 200, p. 4.5-6.)

The CPP plant site and construction laydown location, and all linear facilities with the exception of a small portion of the gas pipeline located on Orangethorpe Avenue in the city of Placentia are located within the Northeast Area Specific Plan boundaries and zoned Industrial (Development Area 1), with a General Plan land use designation of General Industrial. General Plan and Zoning designations for the surrounding properties within a one-mile radius of the project are shown in **Land Use Tables 1 and 2**, respectively.

Land Use Table 1
General Plan Land Use Designations Within a
One-Mile Radius of the Project Site

Direction	Jurisdiction	Designation
North	City of Placentia	Manufacturing and Residential
	City of Anaheim	General Industrial
South	City of Orange	Industrial and Residential
	City of Anaheim	General Industrial
East	City of Placentia	Rural Residential (1 dwelling unit per acre) Open Space
	City of Anaheim	General Industrial
West	City of Anaheim	General Industrial
	City of Placentia	Manufacturing and Residential

Land Use Table 2
Zoning Designations Within a
One-Mile Radius of the Project Site

Direction	Jurisdiction	Designation
North	City of Placentia	Manufacturing (M) Low Medium Residential (R-2) High Density Residential (R-3)
	City of Anaheim	Industrial Area (Development Area 1)
South	City of Orange	SCLA Specific Plan (SP) - Industrial
	City of Anaheim	Industrial
East	City of Placentia	Single Family Residential (R-1)
	City of Anaheim	Single Family Residential
West	City of Anaheim	Industrial-Commercial
	City of Placentia	Single Family Residential (R-1)-Manufacturing

(Ex. 200, pp. 4.5-3 to 4.5-4.)

2. Potential Impacts

Conversion of Farmland. There are no properties within a five- mile radius of the project site that are mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the California Department of Conservation. The project's off-site linears (natural gas, water, sewer, and electrical connections) would not bring about any changes in the environment that could

result in the conversion of farmland to nonagricultural uses. Therefore, the project will not cause any farmland conversion impacts. (Ex. 200, p. 4.5-7.)

Division of an Existing Community. The project will not physically divide or disrupt an established community. It is located entirely on private property, on an existing parcel, and generally within the footprint of an existing manufacturing building. The project site is designated for development in the Anaheim General Plan and Northeast Specific Plan as an industrial area. The power plant facilities and adjacent construction parking and laydown areas would take access from existing roadways or roads planned for construction in conjunction with the power plant and other nearby projects. No existing roadways or pathways would be blocked or removed from service. Transmission lines, reclaimed and backup water supply, wastewater disposal line and natural gas pipeline connections would be undergrounded within the road rights-of-way. Project implementation would result in the continued industrial use of an industrial site since it is located in a relatively rural area dominated by utility and energy infrastructure with no established residential communities. (Ex. 200, pp. 4.5-7 – 4.5-8.)

Conflict with Habitat or Conservation Plan. No Habitat or Natural Community Conservation Plans apply in the vicinity of the project. (Ex. 200, p. 4.5-8.)

Compatibility. Land use compatibility refers to the physical compatibility of the proposed project with existing land uses. The evidence establishes that development of the Canyon Project is consistent with land uses in the vicinity:

Under the Anaheim General Plan, the power plant site is designated General Industrial. The site is zoned Industrial. The City has opined that the General Plan designation and zone allow “public utility” uses such as power plants. (Ex. 200, pp. 4.5-8 to 4.5-9; Ex. 10, p. 7.4-3, et seq.)

Staff testified that the project will meet all but one of the City development standards applicable to the Industrial zone, including the provision of adequate on-site parking for operational employees. The single standard that is not met relates to the height of the decorative wall to be constructed around the project’s perimeter. The applicant proposes a 20-foot high masonry wall but the development standards limit such walls to 6 - 8 feet. Rather than address the merits of a variance for the wall, we note that the parties consider it to be an appropriate project feature without significant environmental impact and that, under City ordinance, development projects conducted by the City are exempt

from such requirements. (Anaheim Municipal Code §§ 18.10.100, 18.46.110; Ex. 200, pp. 4.5-8 – 4.5-12, 4.12-9; 11/02/09 RT 41:18, 45:5.)

The project site formerly consisted of four separate legal lots. Prior to the evidentiary hearing, the City, via a lot line adjustment process, caused the four parcels to be made into a single legal lot. The result is that the power plant and ancillary facilities (excepting the linears) will be constructed and operated on a single legal lot. (11/02/09 RT 47:17, 50:14.)

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).)

A number of projects are proposed for development in the CPP's vicinity. They are described in Staff's testimony. The proposed project is not expected to make a significant contribution to regional impacts related to new development and growth. The CPP is planned to serve the City of Anaheim's existing and anticipated electrical needs. The project is consistent with the City's long-range planning policies for industrial development in this area. Cumulative land use impacts are not considered significant. (Ex. 200, p. 4.5-13.)

Based on the evidence, we make the following findings and conclusions:

FINDINGS OF FACT

1. The Canyon Power Project site and ancillary facilities are located within the City of Anaheim.

2. The area surrounding the site is dominated by industrial uses.

3. None of the lands affected by the project are zoned for agricultural uses and the project will not result in the conversion of farmland to non-agricultural use or conflict with existing agricultural zoning or Williamson Act contracts.

4. Under the Anaheim General Plan and Zoning Ordinance, the project site is designated General Industrial and zoned Industrial, which allow electric generating stations and ancillary facilities.

5. The project is compatible with existing land uses in the site vicinity.

6. The project will not physically divide or disrupt an established community.

7. The project is consistent with local land use LORS, with the exception of a fence height limitation from which the project is exempt because the City of Anaheim is the project developer.

8. The project will not result in cumulative or incremental land use impacts in conjunction with the existing and foreseeable development in the project area.

9. The Condition of Certification ensures that the project will comply with all applicable local land use requirements.

CONCLUSION OF LAW

1. Construction and operation of the Canyon Power Project will not result in significant adverse direct, indirect, or cumulative impacts to 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 and construct the project in accordance to the standards found in the I Zone ("Industrial") of the Anaheim Municipal Code (Chapter 18.10) which includes the following:

No minimum lot size, width, depth, and yard area;

Off-street parking and loading spaces shall be provided as stipulated;

Signage requirements;

Loading requirements;

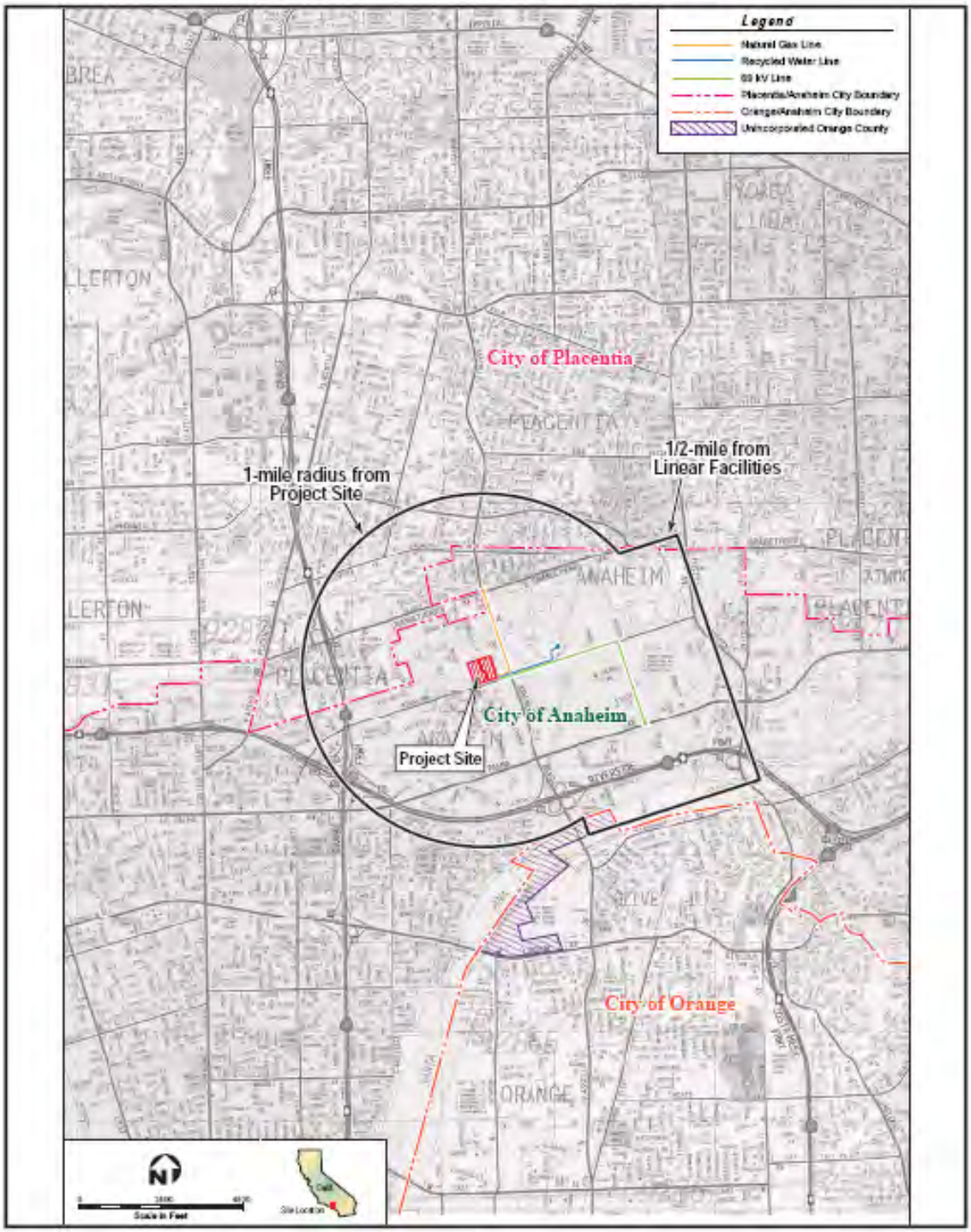
Lighting requirements; and

Fencing requirements, with the exception that the perimeter masonry wall may be as high as 20 feet.

VERIFICATION: At least 90 calendar days prior to the start of construction, including any grading or site remediation on the power plant project site or its associated easements, the project owner shall submit the proposed development plan to the city of Anaheim Planning Department for review and comment and to the CPM for review and approval. The project owner shall also provide the CPM with a copy of the transmittal letter to the city of Anaheim.

At least 30 calendar days prior to the start of construction, the project owner shall provide copies of any comment letters received from the city of Anaheim, along with any changes to the proposed development plan, to the CPM for review and approval.

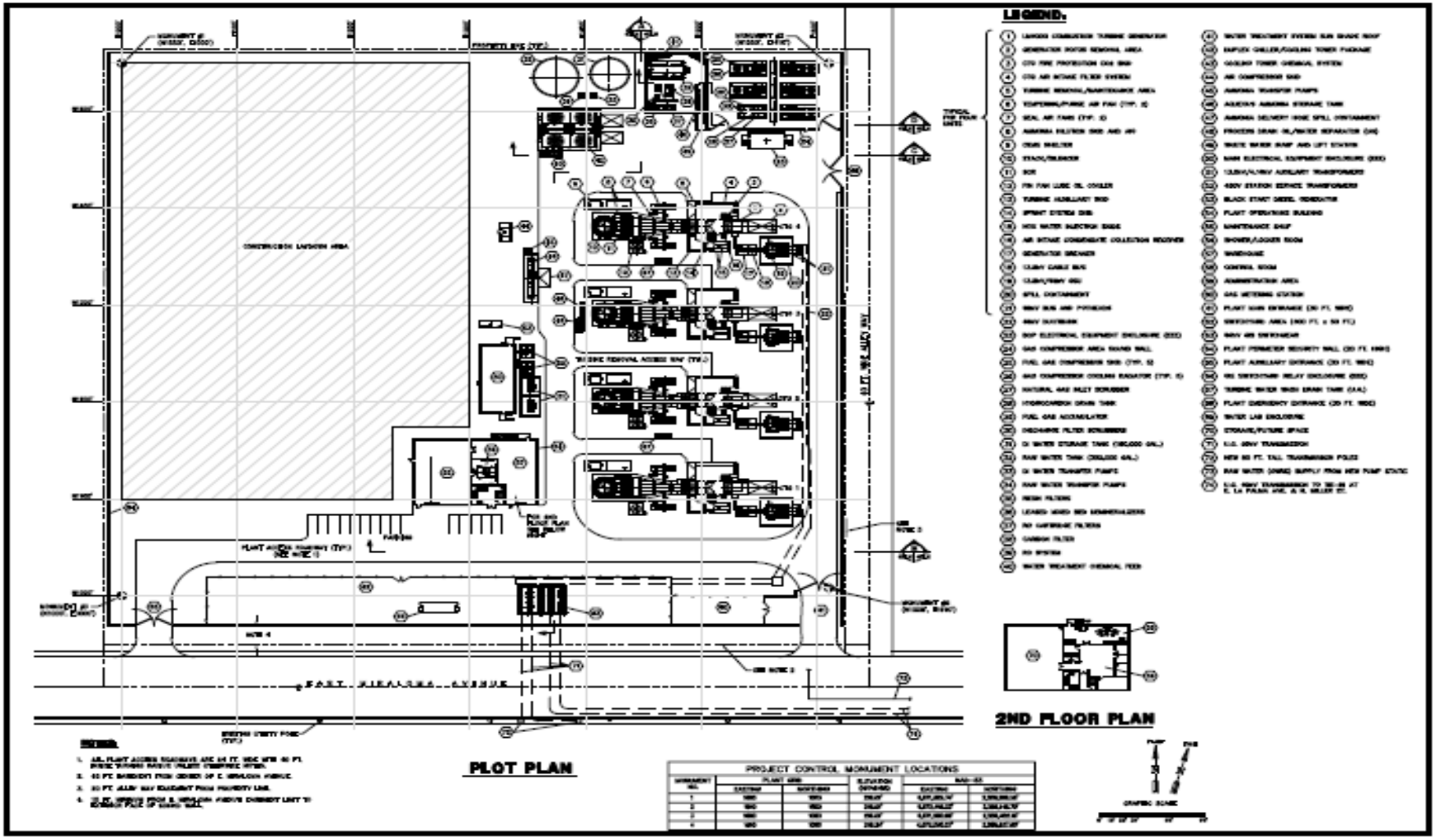
LAND USE - FIGURE 1
Canyon Power Project - Location Map & Transmission Route



Ex. 200

LAND USE - FIGURE 2

Canyon Power Project - Access Into the CPP Project Site



Ex. 200

B. TRAFFIC AND TRANSPORTATION

This section addresses the extent to which the proposed project will affect the local area's transportation network. The evidence includes an analysis 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; (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.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project is located in the northern section of the City of Anaheim near State Route (SR) 91, an east-west ten-lane freeway that runs south of the project site. California Department of Transportation (Caltrans) records show average daily traffic volume on SR-91 in the project area (west of Kraemer Avenue) is about 233,000 vehicles per day. SR-57 is located west of the project site and is a ten-lane north-south freeway, including two high-occupancy vehicle lanes. (Ex. 200, p. 4.10-3.)

The local roadways include Kraemer Boulevard, a north-south, six-lane roadway with a posted speed limit of 40 mph that provides the most direct route to the proposed project site; East Miraloma Avenue, an east-west four-lane collector that intersects with Kraemer Boulevard and provides direct access to the CPP project site; and La Palma Avenue, an east-west, six lane primary road to the south of the CPP project site that intersects with Kraemer Boulevard. (*id.*)

The nearest airport facility is the Fullerton Municipal Airport, located approximately 6.5 miles west of the project site. John Wayne (Orange County) Airport is located approximately 16 miles south of the proposed project site. (Ex. 200, p. 4.10-5.)

Metrolink, Orange County Transportation Authority (OCTA), and Omnitrans provide public transportation services in the project area. The Anaheim Canyon Metrolink Commuter Rail is located near La Palma Avenue. The Fullerton Amtrak/Metrolink Station is located near Harbor Boulevard.

OCTA's routes 59 and 213/213A provide north-south bus service on weekdays between the cities of Brea and Irvine via Kraemer Boulevard and Glassell Street.

Its Line 410 also operates during the weekdays only from Kraemer Boulevard and La Palma Avenue, then proceeds eastward towards to the Metrolink Station. Omnitrans Bus Route 66 (Fontana-Foothill-Montclair) traverses the study area along Foothill Boulevard to the north of the proposed project site. (Ex. 200, pp 4.10 – 5 to 4.10-6)

A top priority class II bikeway and off road bike trail is proposed on East Miraloma Avenue in the vicinity of the project site. The segment of La Palma Avenue to the south of the project site is also proposed for an off road bike trail. Kraemer Boulevard has no current or planned bikeway designation. Energy Commission staff observed no bicycle or pedestrian activity in the area of the project site and agreed with the applicant's conclusion that this could be attributed to the mainly commercial and light industrial uses in this area and distance from major activity centers. (Ex. 1, p. 6.11-7; 200, p. 4.10-6.)

The Levels of Service (LOS)[30] for street intersections in the project vicinity are shown in **Traffic and Transportation Table 1**:

Traffic and Transportation Table 1
Freeway/Roadway Segment Level of Service
Existing Conditions

Roadway	Segment	Number and Type of Lanes	Average Daily Traffic Volume	Percent Truck	Average Daily Traffic LOS
State Route 91	West of Kraemer Blvd	10-Lane Freeway	233,000	8.7	C
State Route 91	East of Kraemer Blvd	10-Lane Freeway	237,000	8.7	C
East Miraloma Ave	West of Kraemer Blvd	4-lane undivided	204,000	10	A
North Kraemer Blvd	South of E. Miraloma Ave	6-lane undivided	223,000	5	A

Source: Ex. 200, Table 3, p. 4.10-4.

[30] The operating conditions of a roadway (surface street) system, including intersections, are described using the term "level of service." Level of service (LOS) is a description of a driver's experience at an intersection or roadway based on the level of congestion (delay). LOS can range from "A," representing free-flow conditions with little or no delay to "F," representing saturated conditions with substantial delay.

The LOS for Intersections in the project vicinity at peak hours are shown in **Traffic and Transportation Table 2**:

Traffic and Transportation Table 2
Peak Hour Intersection Level of Service
Existing Conditions

Intersection	A.M. Peak Hour Volume to Capacity Ratio (V/C)	LOS	P.M. Peak Hour Volume to Capacity Ratio (V/C)	LOS
N. Kraemer Blvd/ E. Miraloma Avenue	0.720	C	0.669	B
N. Kraemer Blvd/E. Coronado Street	0.534	A	0.535	A
N. Kraemer Blvd/E. La Palma Avenue	0.760	C	0.855	D
N. Kraemer Blvd/SR-91 Freeway WB off ramp	0.668	B	0.541	A
N. Kraemer Blvd/E. Frontera Street	0.641	B	0.624	B

Source: Ex. 200, Table 3, p. 4.10-5.

1. Construction Traffic

The Applicant anticipates that construction will take twelve months. Based on regional demographics and availability of skilled laborers, the construction workers would likely come from Los Angeles County. We agree with staff that some workers could also come from San Bernardino, Riverside, and Orange Counties.

To determine the amount of vehicle trips to the project site during average and peak construction, the Applicant assumed that workers would commute alone during the morning and afternoon peak intervals (6:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m.). The average number of construction workers would be approximately 160 (Ex 1, p. 6.10-14, Table 6.10-9), while the peak workforce would consist of 225 workers during a three-month period. Considering the worst case scenario, the Applicant assumed 253 one-way daily trips during peak construction with no worker carpooling. Given experience with previous projects, we agree with Staff that the estimated construction traffic trips and assumptions about peak construction activity are reasonable. (Ex. 200, pp. 4.10-7 – 4.10-8.)

The Applicant identified parking lots for all plant construction workers at 3001 Miraloma Avenue, with approximately 150 parking spaces; 3150 Miraloma Avenue, with approximately 374 parking spaces; and 3190 Miraloma Avenue, with approximately 224 parking spaces. These lots are one quarter mile or less from the project site. (Ex. 200, p. 4.10-7.)

The evidence convinces us that the number of parking sites is adequate for the number of construction workers involved in constructing the project. Furthermore, all three sites are within walking distance to the project site. Workers walking from the most distant two optional parking sites will increase the pedestrian activity at the intersection of Kraemer and Miraloma Avenue. In its Final Staff assessment, Staff recommended, in Condition of Certification **TRANS-1**, that the applicant provide a shuttle service from the more distant off-site parking areas. In its Prehearing Conference Statement, the applicant requested elimination of the requirement. During the Evidentiary Hearings, Staff and the applicant agreed to a modification of the Condition that will require shuttle service if the applicant, after admonishing its construction workers, finds that they continue to violate traffic laws. We adopt the revised requirement as part of **TRANS-1**. (Id.; Ex. 78, p. 3)

Project construction is expected to require three heavy trucks and 15 light trucks on average per day during peak construction per day. (Ex. 200, p. 4.10-8.) In-bound and out-bound truck traffic would arrive and depart the project site using the same route as construction workers. Construction access to the project site will be primarily via SR-91 north on Kraemer Boulevard and west on Miraloma Avenue. Truck deliveries would normally be on weekdays between 7:00 a.m. to 5:00 p.m. (*Id*.) There may be deliveries of oversized equipment that could disrupt traffic if not timed appropriately.

A new 12-inch diameter underground gas line approximately 3,240 feet long, and underground fiber optic communications lines and two 69 kV underground circuits approximately 7,000 feet long, will be constructed, requiring excavation in local roadways and having the potential to temporarily interfere with vehicle and pedestrian use. Flagmen and proper signage during construction will be necessary to avoid adverse traffic and transportation impacts. (Ex. 200, pp. 4.10-10 to 4.10-11.)

We adopt Staff's recommendation that a traffic and transportation control plan be prepared in coordination with the City of Anaheim, Orange County, and Caltrans

(see Condition of Certification **TRANS-1**). We also adopt Condition of Certification **TRANS-2** requiring the Applicant to repair any damage to Kraemer Boulevard and to Miraloma Avenue from construction traffic.

The evidence shows that vicinity roadways would continue to operate at LOS C or better during the morning and evening peak hours. Construction would not cause any of these Levels of Service to deteriorate to a level that would have a significant adverse impact. (Ex. 200, p. 4.10-9, Table 4.)

2. Construction Phase Transport of Hazardous Materials and Waste

Deliveries to the CPP site would include small quantities of hazardous materials to be used during project construction. Delivery and disposal of hazardous materials would be conducted in accordance with all applicable federal and state statutes. The shortest and most direct transportation route from SR-91 for hazardous materials delivery would be via SR-91, north on Kraemer Boulevard, and west on Miraloma Avenue to the CPP project site. The traffic and transportation control plan to be developed pursuant to Condition of Certification **TRANS-1** would address the use of this preferred route. The handling and disposal of hazardous substances are also addressed in the **Waste Management, Worker Safety and Fire Protection,** and **Hazardous Materials** sections of this Decision.

3. Operation Impacts and Mitigation

Operation of the power plant would require a labor force of nine full-time employees that would generate 18 one-way trips per day to and from the CPP site. Other project-related trips (that is, delivery trucks, visitors, and other business-related trips) are expected to be minimal and would occur during regular business hours. (Ex. 200, p. 4.10-11.) These minor trip additions to surrounding local streets and highways would not significantly affect the LOS of these roads.

The transportation and handling of hazardous substances associated with the proposed project could increase roadway hazard potential. The Applicant intends to comply with all federal and state regulations related to the transportation of hazardous materials. (Ex. 1, p.7.10-23.) Impacts associated with hazardous material transport to the facility would thus be mitigated to less than significant levels. The handling and disposal of hazardous substances are also addressed in the **Waste Management, Worker Safety and Fire Protection,** and **Hazardous Materials** sections of this Decision.

The closest airport is Fullerton Airport, which is 6.5 miles west of the proposed site. John Wayne Airport is approximately 16 miles south of the project site. The existing flight patterns do not bring aircraft at low altitude over the project site. The evidence shows that the CPP exhaust plumes would not affect local aircraft operations. We therefore conclude that the proposed project would not cause a significant adverse impact on aircraft operations. Nor is there any evidence showing the potential for impacts from exhaust or cooling tower plumes to ground traffic in the project area. (Ex. 200, pp. 4.10-12—4.10-13.)

4. Cumulative impacts

A significant cumulative impact may be created as a result of the combination of the proposed project together with other projects causing impacts. The evidence shows that a number of projects are proposed for development in the CPP site vicinity that could contribute to cumulative effects. These include a new middle school located in the city of Placentia, approximately 1.5 miles west from the project site; the La Jolla Groundwater Recharge Basin Project adjacent to the middle school; and a new 360 bed hospital on La Palma Avenue in the city of Anaheim, approximately five miles east of the project site. (Ex. 200, p. 4.10-13.) There is no evidence in the record that the construction or operation of these facilities would result in a significant cumulative impact to traffic flow during the construction or operation of the CPP. Implementation of the CPP traffic control plan (see Condition of Certification **TRANS-1**) satisfies us that there will not be any significant cumulative impacts upon traffic or transportation. We have considered the minority populations (as identified in the **Socioeconomics** section of this Decision) and low income populations in its impact analysis. There are no significant direct or cumulative traffic and transportation impacts, and therefore, no environmental justice issues.

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

FINDINGS OF FACT

1. The additional traffic associated with construction and operation of the CPP will not have an adverse effect on existing levels of service for roads in the project vicinity.

2. Development and implementation of a construction traffic control program will offset any temporary, short-term increases in congestion resulting from construction of the project and its linear facilities.

3. The construction of the project's linear facilities will not significantly affect traffic due to the temporary nature of the construction period.

4. Potential adverse impacts associated with the transportation of hazardous materials during construction and operation of the project will be mitigated to insignificance by compliance with applicable federal and state laws.

5. The preferred transportation route for hazardous materials delivery would be via SR-91, north on Kraemer Boulevard, and west on Miraloma Avenue to the CPP project site.

6. Implementation of the Conditions of Certification, below, ensure that both construction and operation of the project will comply with all applicable laws, ordinances, regulations, and standards regarding traffic and transportation as identified in the pertinent portion of **Appendix A** of this Decision.

CONCLUSION OF LAW

1. The Commission, therefore, concludes that construction and operation of the project, as mitigated herein, will not result in any significant, direct, indirect, or cumulative adverse impacts to the local or regional traffic and transportation system and will comply with all applicable LORS.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall prepare a construction traffic control and implementation plan for the project and its associated facilities. The project owner shall consult with the affected local jurisdiction(s), Caltrans and Orange County (if applicable) and the Anaheim Public Works Department, in the preparation of the traffic control and implementation plan.

The traffic control and implementation plan shall include and describe the following minimum requirements:

A. Timing of heavy equipment and building materials deliveries and related hauling routes;

B. Redirecting construction traffic with a flag person;

C. Signing, lighting, and traffic control device placement;

D. Timing of construction work hours and arrival/departure intervals outside of peak traffic periods;

E. Ensuring safe access to the main entrance;

F. Ensuring access for emergency vehicles to the project site;

G. Closing of travel lanes on a temporary basis;

H. Ensuring access to adjacent commercial land industrial properties during the construction of all linears;

I. Devising a construction workforce ridesharing plan; and

J. The project owner shall monitor the foot traffic of site workers that park at the most distant parking areas. After direction or admonition to the foot traffic workers of the relevant traffic safety laws, should the project owner determine that the traffic laws are not being followed by the walking workers in their ingress and egress to the site, the project owner shall then provide a shuttle service from the most distant off-street parking areas.

The project owner shall submit the proposed traffic control and implementation plan to the affected local jurisdiction, Orange County (if applicable) and Caltrans for review and comment.

Verification: At least 60 days prior to start of site mobilization, the project owner shall provide to the city of Anaheim and county of Orange, Caltrans, and the California Highway Patrol for review and comment and to the CPM for review and approval, a copy of the construction traffic control plan. The plan must document consultation with the applicable agencies.

TRANS-2 Prior to site mobilization activities, the project owner shall prepare a mitigation plan for Kraemer Boulevard and East Miraloma Avenue should they be damaged by project construction. The intent of this plan is to ensure that if these roadways are damaged by project construction, they will be repaired and reconstructed to original or as near original condition as possible. This plan shall include:

A. Documentation of the pre-construction condition of Kraemer Boulevard from SR-91 to the access road off East Miraloma Avenue into the project site. Prior to the start of site mobilization, the project owner shall provide to the CPM photographs or videotape of East Miraloma Avenue and Kraemer Street to SR-91.

B. Documentation of any portions of Kraemer Boulevard to East Miraloma Avenue that may be inadequate to accommodate oversize or large construction vehicles and identification of necessary remediation measures; and

C. Reconstruction of portions of East Miraloma Avenue and Kraemer Boulevard 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 Kraemer Boulevard and Miraloma Avenue (from the project site to SR-91) to its pre-project condition to the city of Anaheim Public Works and Planning 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 the city of Anaheim Planning Department and the CPM that the damaged sections of Kraemer Boulevard and East Miraloma Avenue have been restored to their pre-project condition.

C. SOCIOECONOMICS

This topic reviews demographic information concerning population centers near the project site and evaluates the potential impacts of project-induced population changes on housing, local schools, medical emergency 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 project's public benefits are also reviewed to identify salutary effects on the local economy. In addition, an *environmental justice* screening analysis is included to determine whether project-related activities will result in disproportionate impacts on low-income and/or minority populations.

The evidence for this topic was undisputed. (Ex. 1, § 6.10, Ex. 13; Ex. 17, Data Responses 20-27; Ex. 61; Ex. 200, p. 4.8-1 et seq.; 11/02/09 RT 77, 92-93.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

Appendix G of the California Environmental Quality Act (CEQA) Guidelines indicates that a project may result in a significant socioeconomic impact if it:

- induces substantial population growth in an area, either directly or indirectly;
- displaces substantial numbers of people and/or existing housing, necessitating the construction of replacement housing elsewhere; or
- adversely impacts acceptable levels of service for fire and police protection, schools, parks and recreation, hospitals, and emergency medical services.

In this analysis, we focus on the project's construction phase due to the employment of a large number of workers at the site. Impacts would be considered significant if a large number of non-resident workers and dependents move to the project area, increasing demand for community resources that are not readily available. (Ex. 1, § 6.1.2 et seq.; Ex. 200, pp. 4.8-7, 4.8-8.)

The project's impact study area includes the City of Anaheim, and nearby population centers in Orange County and neighboring Los Angeles, Riverside, and San Bernardino Counties, which would most likely be affected by an influx of workers. (Ex. 200, p. 4.8-2, **Table 2**; Ex. 1, § 6.10.1.1.)

1. Potential Impacts

The construction period will take about 12 months with a peak workforce of 225 workers in the 5th month of construction and an overall average daily workforce of about 145 workers, including skilled workers and contractor staff. (Ex. 200, p. 4.8-8; Ex. 1, § 6.10.2.1, **Table 6.10-9**.)

The evidentiary record indicates that the construction workforce will be drawn from the large skilled labor pool residing within a two-hour commute from the four county study area. According to Staff, workers will typically travel from their homes on a daily basis within a two-hour commute. An estimated five percent of non-local workers with longer commutes may stay in nearby hotels, motels, or other rental properties on a weekly basis and return to their homes on the weekends. There is an adequate supply of hotels/motels and rental properties in the study area to accommodate those weekly commuters. (Ex. 200, pp. 4.8-3, 4.8-4, **Tables 3 and 4**, pp. 4.8-8, 4.8-9; Ex. 1, §§ 6.10.1.2.2, 6.10.2.1, 6.10.2.2.)

During project operation, seven employees from the existing Anaheim Peaking Plant will be assigned to the Canyon Power Plant and only two new hires will be necessary. Applicant expects that the two new hires will probably commute from existing residences within the study area rather than relocate. (Ex. 1, §§ 6.10.2.3, 6.10.2.4, **Table 6.10-11**; Ex. 17, p. 48; Ex. 200, p. 4.8-9.)

Based on this evidence, it is unlikely that a large influx of workers will seek housing accommodations in the study area due to relatively short commuting distances to the site. Impacts on housing and related services will be negligible in relation to the supply of available housing and services available. No replacement or displacement of residential housing will be necessary as a result of the project because project construction and operation will not increase demand for housing. (Ex. 200, pp. 4.8-8, 4.8-9; Ex. 1, § 6.10.2.1 et seq.)

Since project-induced potential population increases will be minimal or non-existent, construction and operation of the project will not result in significant adverse impacts on schools, parks and recreation, public utilities, law enforcement, or emergency services in the local communities. (Ex. 1, §§ 6.10.1.3 et seq,, 6.10.2.5 et seq., 6.10.2.6 et seq; Ex. 200, p. 4.8-10 et seq.) Regarding potential impacts on law enforcement and emergency services at the site, the project owner will implement appropriate site security measures and medical emergency training to reduce the need for assistance to insignificant levels. (See the **Worker Safety and Fire Protection** section of this Decision.)

Section 17620 of the California Education Code allows school districts to levy school development fees for new commercial and industrial construction within their boundaries. (Gov. Code, § 65996 et seq.) The record indicates, however, that the Canyon Power Plant is exempt from paying a school impact fee because the City of Anaheim, a governmental agency, owns the site. (Ex. 200, p. 4.6-11; Ex. 1, § 6.10.2.7.3.)

2. Section 25523(h) Public Benefit Findings

Public Resources Code section 25523(h) requires discussion of the project's public benefits. Applicant used an IMPLAN input-output model of the study area to estimate the project's economic multiplier effect associated with construction and operation. Project construction and operation will provide economic benefits by creating direct, indirect, and induced short-term employment payrolls that will likely be spent locally. In addition, project sales tax revenues will be allocated as prescribed by the Board of Equalization to the state and local governmental entities, as appropriate. (Ex. 200, p. 4.8-8; Ex. 1, §§ 6.10.2.7 et seq.; Ex. 17, pp. 51-55.)

Applicant estimates the direct construction payroll will be approximately $11.9 million (in 2007 dollars). The estimated indirect and induced benefits during construction include $2.2 million in local construction expenditures, generating sales tax revenues of about $230,000. The estimated direct, indirect, and induced benefits during project operation include the annual payroll of approximately $723,000 and annual maintenance expenses of approximately $700,000, which will generate sales tax revenues of about $55,000. No property taxes will be levied because the City of Anaheim owns the site. (Ex. 17, pp. 51-55; Ex. 200, pp. 4.8-8 – 4.8-9.)

A summary of the project's economic benefits is shown below in **Socioeconomics Table 1**.

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SOCIOECONOMICS Table 1
Project Financials (2007 dollars)

Estimated Project Capital Cost	$174 million
Estimated Annual Property Taxes	$0 [exempt]
Estimated School Impact Fees	$0 [exempt]
Estimated Direct Payroll	
Construction	$11.9 million (estimated)
Operation	$723,000 annually (estimated)
Estimated Total Sales Taxes (Total: Combined State, County and local)	
Construction	$230,987 (estimated)
Operation	$55,127 annually (estimated)

Source: Ex. 200, p. 4.8-13; Ex. 1, § 6.10, Tables 6.10-12, 6.10-13, 6.10-14, 6.10-15.

3. Environmental Justice Screening Analysis

The California Resources Agency directs agencies under its jurisdiction, including the Energy Commission, to consider *environmental justice* in their decision-making processes if their actions could result in environmental impacts. (Govt. Code, § 65040.12(b)(1).) California law defines *environmental justice* as "the 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." (Govt. Code § 65040.12(e); Pub. Res. Code, § 71116(j).)

In conjunction with the Resources Agency's mandate, the California Environmental Protection Agency (Cal-EPA) has established an action plan to address *environmental justice* in its programs, policies, and standards.[31] (Pub. Res. Code, §§ 71110-71116.)

Two federal directives also provide guidance on incorporating *environmental justice* concerns in the environmental analyses conducted by state agencies.[32]

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[31] October 2004, Cal-EPA Action Plan at: http://www.calepa.ca.gov/EnvJustice/ActionPlan/ and Phase 2 updates at: http://www.calepa.ca.gov/EnvJustice/ActionPlan/Phase2/default.htm and en español at: http://www.calepa.ca.gov/EnvJustice/

[32] Federal Executive Order 12898, "*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*," requires the U.S. Environmental Protection Agency ("USEPA") and all other federal agencies and state agencies receiving federal aid to address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations. The USEPA's *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses 3.2.1* (1998) calls for a two-step analysis: (1) does the potentially affected community include minority and/or low-income

According to federal guidance, an *environmental justice* population exists if the low-income and/or minority populations of the affected area constitute 50 percent or more of the general population or if the minority population percentage in the area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. (Ex. 1, § 6.10.3.1; Ex. 200, p. 4.8-2.)

Applicant provided a screening analysis to determine the presence of *environmental justice* populations within a six-mile radius of the site.[33] (Ex. 1, § 6.10.3.1 et seq., Tables 6.10-16, 6.10-17.)

Census data indicate that the minority population is more than 50 percent in 31 of the 151 census tracks in the six-mile radius but less than 50 percent in the remaining census tracts. Since the minority population exceeds 50 percent in several census tracks, the Applicant considered whether the proportion of minority residents was "meaningfully greater" in the six-mile radius than in the region as a whole. Although the Applicant did not believe the difference to be significant, Staff concluded that an *environmental justice* analysis was triggered because minority populations in several tracts exceeded the 50 percent threshold. Low-income populations in the six-mile radius do not exceed 50 percent. **Socioeconomics Figure 1** at the end of this section shows the communities included in the analysis. (Ex. 1, § 6.10.3.1.1, Tables 6.10-16, 6.10-17; Ex. 200, pp. 1-4, 4.8-3.)

Staff reviewed potential impacts on local *environmental justice* communities for each of the following technical topics: **Air Quality, Hazardous Materials Management, Land Use, Noise, Public Health, Socioeconomics, Soils And Water Resources, Traffic And Transportation, Transmission Line Safety And Nuisance, Visual Resources, And Waste Management**. The analysis for each topic was based on well-established scientific protocols and regulatory standards, which account for sensitive receptors that are presumed to be most susceptible to adverse environmental or public health impacts. Since the environmental analyses for these technical topics show that the project will not result in significant impacts on any sensitive receptor population, we conclude

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populations and, if it does, (2) are the environmental impacts likely to fall disproportionately on minority and/or low-income members of the community. [See also, *Title VI Public Involvement Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs*, 71 Fed. Reg. 14207 et seq. (March 21, 2006).]

[33] The screening analysis covered a six-mile radius because this distance is typically used to assess air quality and public health effects.

that the project will not result in a disproportionate impact on the *environmental justice* population. (Ex. 200, p. 1-4; see also the sections of this Decision concerning the topics identified above.)

4. Cumulative Impacts

Cumulative socioeconomic impacts may occur when two or more projects have overlapping construction schedules that create a demand for workers that cannot be met by the local labor force, resulting in an influx of non-local workers and their dependents. (Ex. 200, p. 4.8-12; Ex. 1, §§ 6.10.4, 6.18.)

Construction of the Canyon Power Plant may coincide with construction of some of the 58 anticipated projects within a one-mile radius of the project site, including residential development (Canyon Crest's 165 single-family homes and Olen Development's 260 apartments), large commercial development projects (including the Anaheim Resort, Platinum Triangle, and Boeing Redevelopment Project), institutional projects (including the Orange County Anaheim Medical Center, La Jolla groundwater basin project, and the new Gualberto Valadez Middle School), as well as various mixed-use and expansion projects. (Ex. 17, pp. 41-47; Ex. 200, p. 4.8-12.)

According to Staff, construction of the Canyon Power Plant requires less than one percent of the available construction workforce in the study area. The record further indicates that the local workforce is large enough to accommodate the needs of all potential construction projects described in the record. Thus, there is no evidence that the project will have a cumulatively considerable impact on the labor force causing an influx of non-local workers to migrate to the area. (Ex. 200, p. 4-12.)

FINDINGS OF FACT

Based on the evidence of record, we make the following findings:

1. Project construction will last about 12 months and require a daily average of 145 construction workers, with a daily peak of 225 workers in the fifth month of construction.

2. Project operation will require nine permanent employees; however, seven of the permanent employees will be existing workers from the Anaheim Peaking Plant and only two will be new hires.

3. A large, skilled labor pool for project construction and operation is available within a two-hour commuting distance in Orange County and neighboring Los Angeles, Riverside, and San Bernardino Counties.

4. The project will not cause an influx of a significant number of construction or operation workers to relocate in the local area.

5. The project will not induce substantial population growth in the study area, either directly or indirectly.

6. The project will provide a construction payroll of about $11.9 million (2007 dollars).

7. The project will spend an estimated $2.2 million (2007 dollars) on local purchases of materials and equipment during construction, generating approximately $230,000 in sales tax revenues.

8. The annual operations payroll is estimated at $723,000 (2007 dollars).

9. Annual operations expenses excluding payroll are estimated at $700,000, generating an estimated $55,000 (2007 dollars) per year in sales tax revenues.

10. Total capital cost of the project is estimated at $174 million (2007 dollars).

11. The project will provide direct, indirect, and induced economic benefits to the City of Anaheim, Orange County, and surrounding communities.

12. Construction and operation of the project will not result in any direct, indirect, or cumulative significant adverse socioeconomic impacts.

13. The minority population within a six-mile radius of the project site exceeds the 50 percent threshold for a screening level *environmental justice* analysis although the low-income population does not exceed the threshold.

14. Staff conducted an *environmental justice* analysis, which shows that the project will not result in disproportionate impacts on minority or low-income populations because all potential environmental and public health impacts will be mitigated to insignificant levels for all sensitive receptor populations.

15. Implementation of the mitigation measures described in the evidentiary record ensures that the project will not result in adverse socioeconomic impacts.

CONCLUSIONS OF LAW

1. We therefore conclude that implementation of all Conditions of Certification in this Decision and the mitigation measures described in the evidentiary record, ensure that the project will comply with all applicable laws, ordinances, regulations, and standards relating to socioeconomic factors as identified in the pertinent portions of **Appendix A**.

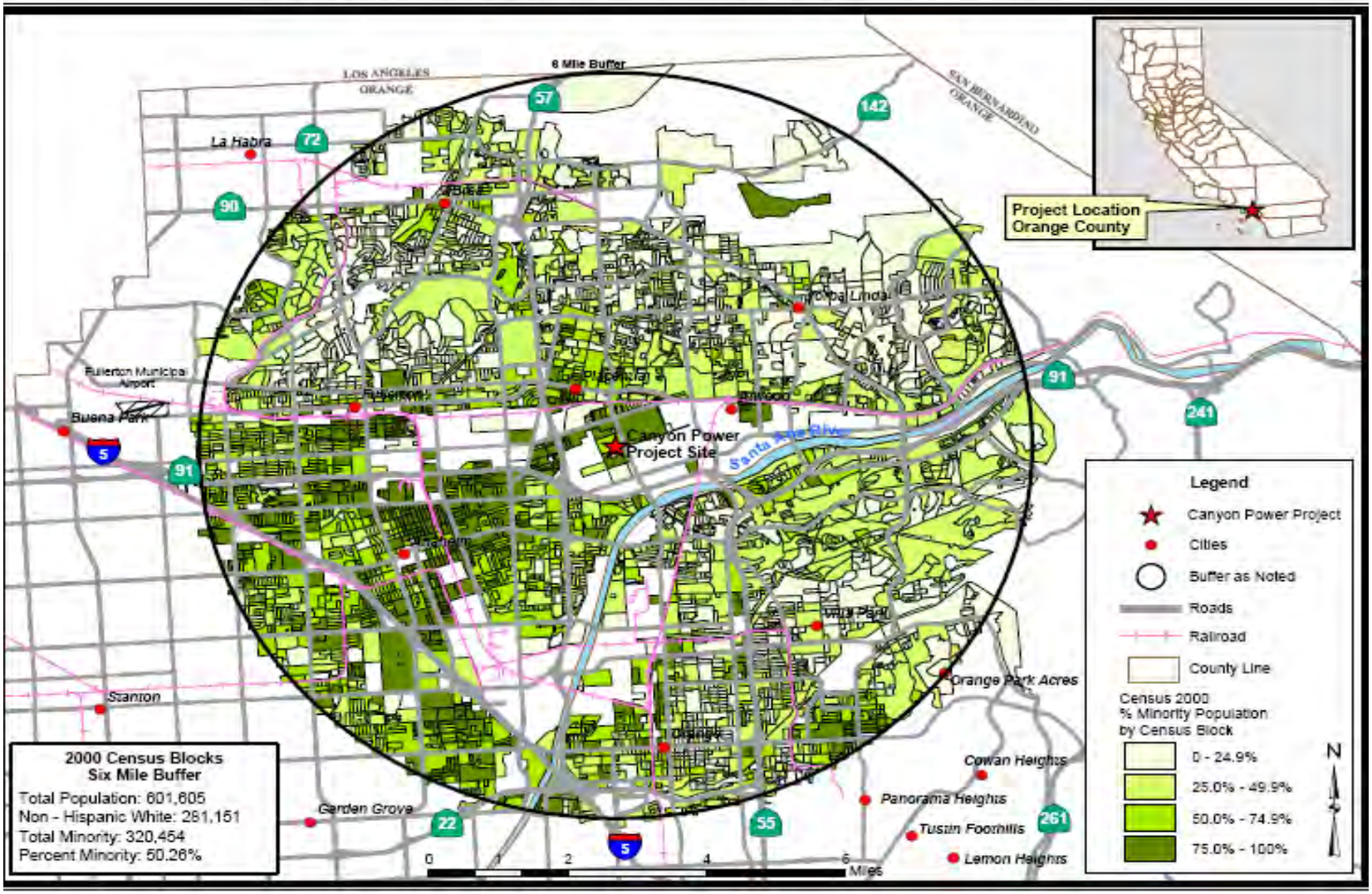
2. The project will create no significant adverse socioeconomic effects as defined under the California Environmental Quality Act.

3. The project will create no disproportionate adverse effects on minority or low-income populations.

No conditions of certification are required for this topic.

SOCIOECONOMICS - FIGURE 1

Canyon Power Project - Census 2000 Minority Population by Census Block - Six Mile Buffer



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 source of the noise to sensitive receptors, in combination, can create noise that could 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 analysis summarized below evaluates whether noise and vibration produced during project construction and operation will be sufficiently mitigated to avoid causing significant environmental impacts and comply with applicable law.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The proposed CPP site is located at 3071 East Miraloma Avenue in the City of Anaheim, Orange County, California. The immediate project area consists of primarily industrial and commercial uses, with residential uses farther away. Sources of noise in the area include vehicle traffic on local roads, activities at industrial shops, train traffic, and aircraft and helicopter over flights. (Ex. 1, § 6.12.1.3; Ex. 200, p. 4.6-4.)

Sensitive noise receptors—residences, schools, hospitals, elder care facilities, libraries, cemeteries, places of worship and other places where it is reasonable to expect noise levels to be limited—in the vicinity of the project include four residences located east, north, west, and south of the project site, between approximately 1,200 and 2,130 feet from the center of the site.

For purposes of evaluating impacts on residential uses, project noise is compared with measured nighttime ambient noise levels, when residents would reasonably expect noise to be limited to a level conducive to sleep. The Applicant monitored existing noise levels at the four residential locations nearest the proposed site. The locations, and the results of the noise surveys, are set forth in the AFC. (Ex 1, § 6.12.1.2.2; Tables 6.12-2, 6.12-3.)

The ambient noise monitoring surveys recorded L_{eq} (energy average) and L_{90} (background) noise levels. **NOISE Table 1** summarizes the ambient noise measurements.

NOISE Table 1
Summary of Measured Noise Levels

Measurement Sites	Measured Noise Levels, dBA			
	Nighttime Hours L_{50}	Average During Daytime Hours[2] L_{50}	Nighttime Hours L_{90}	Average During Daytime Hours[2] L_{eq}
ML1, Residence at 2983 East Miraloma Avenue	49[1]	59	43[3]	65
ML2, Residence at 3233 East Miraloma Avenue	50	60	45	67
ML3, Residence at 3030 Coronado Avenue	50	58	49	62
ML4, Residence at 2997 La Jolla Avenue	41	51	40	55

Source: Ex. 200, p. 4.6-7.

[1.] Staff calculation of average of the nighttime hours (see Ex. 200, NOISE APPENDIX A, pp. 4.6-21 to 4.6-25)
[2.] Staff calculation of average of the daytime hours (id.)
[3.] Staff calculations of average of four quietest consecutive hours of the nighttime (id.)

1. Construction Noise

Construction noise is usually a temporary phenomenon. Construction of the CPP is expected to take approximately 12 months. (Ex. 1, § 3.7.) Applicant's and Staff's expert witnesses are in agreement that projected construction equipment noise measured at the residential receptors would be at most 48 dBA, that during construction, noise levels at three of the receptors would not change at all, and that at the fourth receptor noise levels would only increase by an imperceptible one dbA. (Ex. 1, p. 6.12-12; Ex. 200, p 4.6-8.)

Moreover, construction activity will be temporary, noisy construction activities at the site will be limited to daytime hours, and that all industry-standard noise-abatement measures will be implemented during the construction period. (Ex. 1, pp 6.12-12 to 6.12-13; Ex. 200, p. 4.6-5.)

New offsite linear facilities to be constructed in connection with the proposed project include approximately 3,240 feet of natural gas pipeline, approximately

2,185 feet of recycled water pipeline, one 3,000-foot long and one 4,000-foot long electric transmission line, and the Orange County groundwater replenishment system's (GWRS) water pump station proposed to be located near monitoring location ML2. (Ex. 200, p. 4.6-9.)

Construction of linear facilities typically moves along at a rapid pace, thus not subjecting any one receptor to noise impacts for more than two or three days. (*Id*.) Further, construction activities would be limited to daytime hours.

The only construction operation likely to produce vibration that could be perceived off- site would be pile driving. As pile driving is not necessary for construction of the CPP, no vibration impacts are expected.

The Applicant has acknowledged the need to protect construction workers from noise hazards and has recognized applicable LORS that would protect construction workers. (Ex. 1, Table 6.12-8; § 6.12.2.1.4.) To ensure that construction workers are in fact adequately protected, we adopt Condition of Certification **NOISE-3.**

While the applicable local noise LORS do not limit the loudness of construction noise, both the City of Anaheim Municipal Code and the City of Placentia Municipal Code do prescribe times when such noise is permissible. To ensure that these hours are in fact enforced, we adopt Condition of Certification **NOISE-6**.

To further ensure the project construction would create less than significant impacts at the most noise-sensitive receptors, in addition to Condition of Certification **NOISE-6,** we adopt Conditions of Certification **NOISE-1** and **NOISE-2**, which would establish a public notification and noise complaint process to resolve any complaints regarding construction noise.

With the implementation of the Conditions of Certification described above, we find that the noise impacts of the CPP project construction activities would be less than significant.

2. Operational Noise

The noise emanating from a power plant during normal operation is generally broadband, and steady state in nature. When it is operating, the CPP will essentially be a continuous noise source. Changes in noise levels will occur during startup or shutdown as the plant transitions to and from operation, and during other operational activities. Power plant noise contributes to, and becomes part of, the background noise level. The primary noise sources of the project include the gas turbine generators, gas turbine air inlets, exhaust stacks, natural gas fuel compressors, electrical transformers, and various pumps and fans. (Ex. 200, pp. 4.6-9 to 4.6-11.)

The Applicant performed noise modeling to determine the project's noise impacts on sensitive receptors. The results are summarized here in **NOISE Table 2**.

NOISE Table 2: Predicted Operational Noise Levels at all Identified Sensitive Residential Receptors

Receptor/Distance	Project Alone Operational Noise Level (dBA) [1]	Measured Existing Ambient, Nighttime L_{90} (dBA) [2]	Cumulative L_{90} (dBA)	Increase in Existing Ambient (dBA)
ML1/1,200 feet	46	43	48	+5
ML2/2,130 feet	48	45	50	+5
ML3/1,725 feet	52	49	54	+5
ML4/1,850 feet	43	40	45	+5

Sources: [1] Ex. 1, Table 6.12-4
[2] NOISE Table 1, above

In most cases, a power plant operates around the clock for much of the year. Nighttime operation of a peaking power plant like the CPP project, though rare, could occasionally occur, and could annoy nearby residents.[34] Staff evaluated project noise emissions by comparing them with nighttime ambient background levels because it is reasonable to assume the impact from power plant noise will

[34] The applicant intends to operate the CPP, with all four turbine generators operating, for 16 hours per day, 5 days per week, for a total of up to 4,006 hours per year (Ex 1, §3.8.1).

be greatest at night when residents could reasonably expect a quiet environment conducive to sleep. Nighttime ambient noise levels are typically 5 to 10 dBA lower than daytime levels. We agree with Staff that it is prudent to average the lowest nighttime hourly background noise levels to arrive at a reasonable baseline for comparison with the project's predicted noise level. An increase of up to 5 dBA is considered a less-than-significant impact. (Ex. 200, p. 4.6-12.)

Staff's witness testified that combining the ambient noise levels and the project operational noise level at all four of the residential receptors under study would result in an increase of five dBA above the ambient levels. (Ex. 200, p. 4.6-12.) Therefore, we find that the noise impact at these four receptors is below the level of significance.[35] The Applicant plans to address overall noise in project design, and to take appropriate measures, as needed, to eliminate tonal noises as possible sources of annoyance. (Ex. 1, § 6.12.2.) To ensure that tonal noises do not cause public annoyance, Staff proposes Condition of Certification **NOISE-4**, which would require mitigation measures, if necessary, to ensure the project would not create tonal noises.

All water pipes, gas pipes, and the GWRS water pump station would be underground and therefore silent during plant operation. Noise effects from electrical interconnection lines typically do not extend beyond the lines' right-of-way easements and would be inaudible to receptors.

Vibration from an operating power plant could be transmitted through two primary means: ground (ground-borne vibration), and air (airborne vibration). The operating components of a simple cycle power plant consist of high-speed gas turbines, compressors, and various pumps. All of these pieces of equipment must be carefully balanced in order to operate; permanent vibration sensors are attached to the turbines and generators. Gas turbine generator facilities using the GE LM6000 machine have not resulted in ground-borne or airborne vibration impacts. Energy Commission staff agrees with the Applicant that ground-borne vibration from the CPP project will be undetectable by any likely receptor. (Ex. 200, p. 4.6-13.)

[35] City of Anaheim Municipal Code Chapter 6.70, limits noise levels of stationary noise sources at the property line to 60 dBA. However, for the CPP, the City of Anaheim has increased the allowable noise level limit at the project's property line to 65 dBA pursuant to section 6.7.010 of the Code which exempts governmental units from the noise level that would apply to other property owners. A letter from the City of Anaheim confirming this is included in the AFC. (Ex. 1, § 6.12.1.4.2, Appendix G.)

The CPP's chief source of airborne vibration would be the gas turbines' exhaust. In a power plant such as the CPP, however, the exhaust must pass through the selective catalytic reduction (SCR) modules and the stack silencers before it reaches the atmosphere. The SCRs act as efficient mufflers. The combination of SCR units and stack silencers makes it highly unlikely that the CPP would cause perceptible airborne vibration effects. (*Id.)*

The Applicant acknowledges the need to protect plant operating and maintenance workers from noise hazards and commits to compliance with all applicable LORS. (Ex. 1, § 6.12.2.1.4.) Signs would be posted in areas of the plant with noise levels exceeding 85 dBA (the level that OSHA recognizes as a threat to workers' hearing), and hearing protection would be required and provided. (Ex. 200, p. 4.6-13.) To ensure that plant operation and maintenance workers are adequately protected, we adopt Condition of Certification **NOISE-5**. For further discussion of proposed worker safety Conditions of Certification, please see **Worker Safety and Fire Protection** section of this document.

In the **Socioeconomics** section of this document, census information shows that there are minority populations within one mile and six miles of the project site. Since we have adopted Conditions of Certification that would reduce the impacts associated with noise and vibration to less than significant levels, we find that there will be no significant impacts from construction and operation of the project on the minority populations. Therefore, there are no environmental justice issues for **Noise and Vibration**.

Section 15130 of the CEQA guidelines (Cal. Code Regs., tit. 14) requires a discussion of cumulative environmental impacts. Cumulative impacts are two or more individual impacts that, when considered together, compound or increase other environmental impacts. CEQA guidelines require that this discussion reflect the severity of the impacts and the likelihood of their occurrence, but do not need to provide as much detail as the discussion of impacts solely attributable to the project. There is no evidence in the record showing that there are any other projects which, when combined with the CPP, would create direct cumulative noise impacts in the project area.

All operational noise from the project would cease when the CPP closes, and no further adverse noise impact from its operation would be possible. The remaining potential temporary noise source would be the dismantling of the project structures and equipment, as well as any site restoration work that may be performed. Since this noise would be similar to that caused by the original

construction, it could be similarly treated - that is, noisy work could be performed during daytime hours with machinery and equipment that are properly equipped with mufflers. Any noise LORS in existence at that time would apply. Unless modified, applicable conditions of certification included in the Energy Commission decision would also apply.

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

FINDINGS OF FACT

1. Construction and operation of the CPP will not significantly 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 employing measures such as sound reduction devices and limiting construction to daytime hours in accordance with local noise control laws and ordinances.

3. Measures contained in the Conditions of Certification and compliance with local LORS will assure that noise from construction and operation is mitigated to below the level of significance.

4. Operational noise will not cause significant adverse impacts to nearby residences.

5. The project owner will implement measures to protect workers from injury due to excessive noise levels.

6. The CPP will not create ground or airborne vibrations, which cause significant off-site impacts.

7. Implementation of the Conditions of Certification, below, ensure that project-related noise emissions will not cause significant adverse impacts to sensitive noise receptors.

CONCLUSION OF LAW

1. The Commission concludes that implementation of the following Conditions of Certification ensure that the CPP 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-half mile of the project site and 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-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-4 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the 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 46 dBA L_{90} measured at or near monitoring location ML1 (2983 East Miraloma Avenue), an average of 48 dBA L_{90} measured at or near monitoring location ML2 (3233 East Miraloma Avenue), an average of 52 dBA L_{90} measured at or near monitoring location ML3 (3030 Coronado Avenue), and an average of 43 dBA L_{90} measured at or near monitoring location ML4 (2997 La Jolla Avenue).

The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the operation of the project will not cause the noise levels due to plant operation alone to exceed 65 dBA at the CPP project site property lines.

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 ML1, 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 each of the monitoring locations ML2, ML3, and ML4, 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.

Also during the period of this survey, the project owner shall conduct a short-term survey of noise at the project site property lines or at closer locations acceptable to the CPM, to determine the power plant's operational noise levels at these property lines.

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 the power plant noise at the project site property lines exceeds 65 dBA, mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

D. If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: The survey shall take place within 30 days of the project first achieving a sustained output of 85 percent or greater of rated capacity. Within 15 days after completing the survey the project owner shall submit a summary report of the survey to the CPM. Included in the survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limit, and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey.

Within 15 days of completion of the new survey, the project owner shall submit to the CPM a summary report of the new noise survey, performed as described above and showing compliance with this condition.

NOISE-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.

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 the City of Anaheim or the City of Placentia:

Mondays through Sundays: 7 a.m. to 7 p.m.

For the portion of the natural gas pipeline constructed within the City of Placentia only:

Mondays through Fridays: 7 a.m. to 7 p.m.

Saturdays: 9 a.m. to 6 p.m.

Sundays and federal holidays: No Pipeline Construction within the City of Placentia 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

Canyon Power Project (07-AFC-9)
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 focusing on the project's potential to cause substantial degradation to the existing visual character of the site and its surroundings. (Cal. Code Regs., tit. 14, § 15382, Appendix G.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Canyon Power Plant (CPP) will be located in an area of warehouse and distribution facilities. The project site is a 10-acre parcel that was used for food catering services by a fleet of 75 to 100 trucks but is currently vacant. It is surrounded by various commercial/industrial operations. (Ex. 200, p. 4.12-3.) Background views include East Coyote Hills to the northwest, hillsides and ridgelines of the San Gabriel/Santa Ana/San Bernardino/San Jacinto Mountains to the north, and the Peralta Hills to the east and southeast. (Ex. 1, pp. 613-3 to 6.13-4; Ex. 200, p. 4.12-4.)

The most visible components of the proposed power plant would include four 86-foot tall combustion turbine generator stacks, two 92-foot tall transmission towers, and one 43-foot tall cooling tower. The Applicant has proposed building a wall around the project site and landscaping using plant species appropriate for the setting that would provide acceptable aesthetic benefits and visual relief (Ex. 200, p. 4.12-4.) The transmission lines, natural gas, water and sewer pipelines would run underground. (*Id.*)

1. Methodology

Applicant and Staff provided an assessment of potential viewshed impacts for three defined Key Observation Points (KOPs) at various locations near the project site as follows:

KOP #	***KOP Location and Description***
1	Pedestrians and Vehicles on East Miraloma Street
2	McFadden Park
3	Corridor along SR-91

(Ex. 1, pp. 6.13-13 to 6.13-14.)

The visual impact evaluation system includes a scale of High, Moderately High, Moderate, Moderately Low, and Low to evaluate elements including contrast with natural and manmade features, visual dominance, and view blockage to reach an overall finding regarding visual impact severity. This assessment relies on computer-based visual simulations using facility renderings superimposed on photographs of existing conditions. Applicant and Staff used these simulations to determine whether project impacts will be noticeable to sensitive public views. (Ex. 1, Table 6.13-1, pp. 6.13-15 to 6.13-16.)

2. Potential Impacts

The evidence examines whether the project will have (1) a substantial adverse effect on a scenic vista; (2) substantially damage scenic resources; (3) degrade existing visual character or quality of the site vicinity; or (4) create a new source of substantial glare or nighttime lighting that could affect daytime or nighttime views in the area. (Ex. 200, pp. 4.12-5 – 4.12-6.)

Construction of the power plant and linear facilities will cause temporary adverse visual impacts due to the presence of heavy construction equipment, materials, storage, and temporary laydown/staging areas. On the project site (including the laydown area) during the construction period, views of tall cranes and other heavy equipment, building materials, piles of debris, and parked cars are expected. This would degrade the visual quality of the existing view of motorists and pedestrians using Miraloma Avenue and a few residences in the local area. Construction screening is typically accomplished by attaching a fabric or adding wooden slats to the perimeter fence. We adopt Condition of Certification **VIS-1** to require visual screening during construction. We find that due to the relatively short-term nature of project construction, visual impacts during construction will not be significant. We also adopt Condition of Certification **VIS-3** to require the restoration of the off site laydown areas upon the completion of the CPP. With the effective implementation of Condition **VIS-3** there would be no adverse visual impact from the area previously used as the project laydown area. (11/02/09 RT 69 – 70; Ex. 200, pp. 4.12-6 to 4.12-7.)

Because the proposed project would be visible from several areas near the project site, three KOPs were chosen by the Applicant, with input from Staff, for analysis of the proposed CPP. Table 6.13-5 from the AFC (Ex. 1), reproduced below as **VISUAL RESOURCES Table 1** describes the location and view

direction of the KOPs selected to represent the most sensitive viewing areas impacted by the proposed project. The KOPs are also used to create simulated views of the project site after construction.

KOP 1 represents the view for pedestrians and motorists on East Miraloma Avenue. This view represents the “worst case” residential views. This view has the longest viewing duration of the project, as well as the highest degree of severity because of proximity. (Ex. 1, p. 6.13-13.) The view is dominated in the foreground and mid-ground by a Kraemer Basin groundwater recharge pond bed, adjacent dirt perimeter road, trucks and heavy equipment, chain link fence, commercial buildings, grassy mound, eucalyptus trees, and East Miraloma Avenue. The background view consists of commercial buildings, an Adelphia communications tower, additional eucalyptus trees, and transmission lines and poles. The proposed project site is adjacent to the communications tower. The existing view includes open sky as part of the background.

Following are the photographic views of **KOP 1** as set forth in the AFC, first showing the existing view and then showing the simulated view after project construction.

VISUAL RESOURCES – Table 1

Viewing Areas	Description of Impact	Visual Impact Susceptibility	Visual Impact Severity	Visual Impact Significance
Sensitive Viewing Area and KOP No. 1 (Fig. 6.13-10 and 6.13-11, see also Fig. 6.13-1 for KOP location) from unobscured front yard view of nearest residence to the east	This KOP represents the closest, unscreened residential view to CPP (worst-case residential views). KOP 1 is located approximately 0.3 mile east of the project site. This view is consistent with longer viewing durations (i.e., from residential views) of the CPP. The majority of project structures, including the screening wall, would not be visible from this KOP; however, the four CPP stack/silencers on-site, in the absence of screening, would be highly visible from this residence. It should be noted that the existing view shed has been heavily modified with the presence of other industrial/commercial land uses.	Moderate/Low	Low	**Less than significant**
Sensitive Viewing Area and KOP No. 2 (Fig. 6.13-12 and 6.13-13, see also Fig. 6.13-1 for KOP location) view from McFadden Park to the northwest.	This KOP location represents the closest park/recreation area with minimally screened views to the CPP. KOP 2 is located approximately 0.45 mile northwest of the project site. This view is consistent with a low degree of severity because of the various cultural modifications that lie within the foreground which distract from views of the project site. Similar to KOP 1, the majority of project structures would not be visible; however, three of the CPP stack/silencers on-site would be visible from this KOP. It should be noted that the height of the stack/silencers is proportionate to the height of existing structures and landscaping visible in the foreground and they do not create form/line contrast with the landform in the distance.	Moderate/Low	Low	**Less than significant**
Sensitive Viewing Area and KOP No. 3 (Fig. 6.13-14 and 6.13-15, see also Fig. 6.13-1 for KOP location) from County-designated scenic highway SR 91 traveler from the southeast.	This KOP location represents traveler views from County-designated scenic highway SR 91. This KOP was selected due to the moderate viewer sensitivity from the scenic highway. This view is consistent with sporadic short viewing durations (i.e., from traveler views focusing on the road) and will have a low degree of severity because of distance. This view provides a virtually unobstructed view of the project site; however, project features appear small in the broad context of the dense manmade development found within Santa Ana Canyon.	Moderate/Low	Low	**Less than significant**

Source: Ex. 1, p. 6.13-21, Table 6.13-5.

VISUAL RESOURCES - FIGURE 1A
Canyon Power Project - Existing View of CPP From KOP #1

SOURCE: Ex. 200

VISUAL RESOURCES - FIGURE 1B

Canyon Power Project - Simulated View of CPP From KOP #1

SOURCE: Ex. 200

VISUAL RESOURCES - FIGURE 2A

Canyon Power Project - Existing View of CPP From KOP #2

SOURCE: Ex. 200

VISUAL RESOURCES - FIGURE 2B

Canyon Power Project - Simulated View of CPP From KOP #2

SOURCE: Ex. 200

VISUAL RESOURCES - FIGURE 3A

Canyon Power Project - Existing View of CPP From KOP #3

SOURCE: Ex. 200

VISUAL RESOURCES - FIGURE 3B
Canyon Power Project - Simulated View of CPP From KOP #3

SOURCE: Ex. 200

Due to the existing industrial character of the views from **KOP 1**, visual sensitivity for viewers would be low, and the perception of visual change would also be low. (Ex. 200, p. 4.12-8.) We therefore find that the proposed project would not cause a significant adverse visual impact upon visual resources from this **KOP**.

KOP 2 represents the view looking southeast from the outfield of the baseball field at McFadden Park toward the project site which is about 0.45 miles west of the CPP site. A commercial equipment and vehicle yard and fence line are in the foreground view. Light poles, commercial buildings, communications tower, trees, transmission lines and poles are visible in the middle-ground. The Anaheim Hills and sky provide the background view. (Ex. 200. p. 4.12-8.)

Viewers at the **KOP 2** location include those using the park facilities, would be focused on recreational activities and not looking towards the CPP project. In any event, viewers will be exposed to only a short duration view of the site. View disruption and blockage would be low because very little of the hills in the background would be blocked. Overall visual change is moderately low given the moderately low contrast, subordinate dominance, and low viewer disruption and blockage. (Ex. 200, p. 4.12-8.)

Due to the existing commercial and industrial character of the views from **KOP 2**, visual sensitivity for viewers would be low, and the perception of visual change would also be low. (Ex. 200, p. 4.12-8.) We therefore find that the proposed project would not cause a significant adverse visual impact upon visual resources from this **KOP**.

KOP 3 represents the view looking west from SR-91 about 2.5 miles east of the CPP site. A residential development is visible in the foreground with various commercial and industrial structures, an elevated road, numerous light poles and transmission poles and line, the Adelphia communications tower, and a number of trees in the mid-ground view. The East Coyote Hills and the sky provide the background view. (Ex. 200, p. 4.12-9.) Below are the photographic views of this **KOP** as set forth in the AFC, first showing the existing view and then showing the simulated view after project construction.

Viewers at this **KOP** location are primarily motorists on SR-91, who will expect to see a mix of residential neighborhoods with trees, commercial/industrial operations, and a background of sky and hills. The project site is 2.5 miles from

KOP 3 and will not be highly visible from this **KOP**. The duration of exposure is only a few seconds. (Ex. 200, p. 4.12-9.)

After construction only the upper portion of the proposed project's exhaust stacks would be visible from **KOP 3**. The form and line of these structures are consistent with the forms and lines of existing commercial buildings and transmission towers and poles. Project dominance is subordinate to existing commercial and industrial structures, and trees, primarily due to the distance from **KOP 3**. View disruption and blockage would be low. Overall visual change would be low due to the minor color contrast, low dominance, and low view disruption and blockage.

Due to the existing mixed character of the views from **KOP 3**, and the distance to the project site, visual sensitivity for viewers would be low, and the perception of visual change would also be low. (Ex. 200, p. 4.12-9.) We therefore find that the proposed project would not cause a significant adverse visual impact upon visual resources from this **KOP**.

Transmission lines, natural gas, potable water, and sanitary sewer service will be buried underground, and will not introduce a visual impact. (Ex. 200, p. 4.12-4.)

The project requires nighttime lighting for operational safety and security, which could introduce light to surrounding properties and the nighttime sky. General sources of night lighting in the project area include residential street lighting, commercial and industrial buildings. Nighttime lighting during construction should, to the extent feasible and consistent with workers safety procedures, be directed toward the center of the construction site and shielded to prevent offsite leakage. We adopt Staff-proposed Condition of Certification **VIS-2** to minimize potential night lighting impacts that could occur during construction.

During operation, the proposed project's night lighting would be used for safety and security. Areas that are not continuously occupied would have light switches and motion sensors to turn off lights when not needed. We adopt Condition of Certification **VIS-6** to require the placement of lights for direct illumination of appropriate areas, the use of shielding to ensure that light spill does not occur offsite, to which we add a requirement for the use of non-glare fixtures

The added lighting generated by the proposed project is not expected to significantly change ambient lighting conditions as viewed from **KOPs 1, 2** and **3**. However, the Applicant has noted that if final design analysis indicates that

significant glint/glare impacts would occur, mitigation will be proposed. (Ex. 1, p. 6.13-24.) To ensure that offsite light impacts are kept to a minimum, we have adopted Condition of Certification **VIS-6** to require review and approval of a lighting plan for the project by Energy Commission staff to ensure that the CPP would not generate a substantial new source of light that could cause a significant adverse effect on nighttime views.

The evidence shows that the exhaust from the project turbines' stacks would be hot enough that visible plumes would only occur at low ambient temperatures or high relative humidity. Since the CPP is a peaker facility it would normally operate during the warmer (six) months of the year, therefore, visible plumes would not occur during normal plant operation. (Ex. 200, p. 4.12-10.)

There is the potential for visible water vapor plumes to be produced from the project's chiller cooling tower exhaust. However, as with the turbine exhaust, the limited operation of the chiller, which will not operate during low temperatures when plumes are most likely to be formed, the potential for visual plumes for the proposed Canyon project's cooling tower will be very limited. Moreover, the evidence shows that if any plumes do occur, they would be very small and would not significantly impact the visual resources of the project area. (Ex. 200, p. 4.12-11.)

We therefore find that there is a less than significant visual impact from the visible water vapor plumes for the proposed CPP.

3. Cumulative Impacts

Cumulative impacts to visual resources can occur where project facilities or construction activities occupy the same field of view as other structures or impacted landscapes. Since views in the site vicinity are already degraded by existing transmission lines, tall structures, and other industrial facilities, the introduction of the project's publicly visible elements, glare, and nighttime lighting will not substantially alter the viewshed, or degrade the visual quality of the project area as seen from the three KOPs.

The Applicant has identified several other proposed projects within a five mile radius, most of which are commercial and industrial in nature. (Ex. 1, Table 6.13-6, p. 6.13-28.) There is also a mixed use residential project and a hospital planned near SR -91. (Ex. 200, p. 4.12-12.) Staff believes that the construction and operation of the CPP in conjunction with these other projects being built

would not have a significant cumulative visual impact. City of Anaheim staff concurs with staff's conclusion. We therefore find that the construction and operation of the CPP in conjunction with these other projects would not have a significant cumulative visual impact.

Staff considered the minority populations (as identified in **Socioeconomics Figure 1**) and low income populations in its cumulative impact analysis. There are no significant adverse direct or cumulative visual impacts, and therefore, no environmental justice issues.

FINDINGS OF FACT

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

1. The CPP site is situated in an area characterized by existing industrial and commercial facilities, with some residences nearby.

2. Construction of the project's underground water and natural gas supply pipelines will cause temporary visual impacts but no permanent visual impacts will result.

3. The project's potential impacts on the relevant viewshed were analyzed at three defined Key Observation Points (KOPs) at different locations surrounding the project site.

4. Since there are no scenic vistas or scenic resources within the viewsheds of KOPs 1 through 3, the project will not cause significant visual impacts to scenic vistas or scenic resources in the area.

5. The project's publicly visible structures will blend into the general industrial background surrounding the site.

6. The project owner will provide a wall and landscaping to screen the project from public views.

7. The project owner will treat project surfaces with colors that minimize visual intrusion and contrast.

8. The project owner will implement appropriate mitigation measures to reduce or eliminate visual impacts from nighttime lighting and daytime glare.

9. The CPP will comply with all applicable laws, ordinances, regulations, and standards regarding project design, architecture, landscaping, signage, and other zoning requirements related to visual resources.

10. There are no cumulative visual impacts related to the CPP.

CONCLUSION OF LAW

1. The Commission concludes that the implementation of the mitigation measures identified in the Conditions of Certification and otherwise described in the evidentiary record ensures that the CPP will not result in significant adverse impacts to Visual Resources and will comply with all applicable LORS.

CONDITIONS OF CERTIFICATION

Construction Screening

VIS-1 The project owner shall provide construction screening using a fabric, wooden slats, or other material along the perimeter fence line. A fencing plan shall be submitted to the city of Anaheim Planning Department showing all fence locations and typical views of all types of fences proposed. This plan shall require anti-graffiti coatings on fences where applicable.

Verification: At least 60 days prior to site mobilization, the project owner shall submit a construction screening plan to the city of Anaheim Planning Department for review and comment and to the CPM for review and approval. If the CPM notifies the project owner that any revisions of the screening plan are needed, the project owner shall submit to the CPM a plan with the specified revisions within 30 days of receiving that notification.

Construction Lighting

VIS-2 The project owner shall ensure that lighting for construction of the power plant is used in a manner that minimizes potential night lighting impacts, as follows:

A. All lighting shall be of minimum necessary brightness consistent with worker safety and security;

B. All fixed position lighting shall be shielded/hooded, and directed downward and toward the area to be illuminated to prevent direct illumination of the night sky and direct light trespass (direct light extending outside the boundaries of the power plant site or the site

of construction of ancillary facilities, including any security related boundaries);

C. Low pressure sodium vapor lighting or overhead high pressure sodium vapor lighting with shields or cutoff luminaries shall be utilized;

D. Wherever feasible, safe and not needed for security, lighting shall be kept off when not in use; and

E. Complaints concerning adverse lighting impacts will be promptly addressed and mitigated.

Verification: Within seven days after the first use of construction lighting, the project owner shall notify and the CPM that the lighting is ready for inspection. If the CPM requires modifications to the lighting, within 15 days of receiving that notification the project owner shall implement the necessary modifications and notify the CPM that the modifications have been completed.
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 General Conditions section 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 included in the subsequent Monthly Compliance Report following complaint resolution.

Site Surface Restoration

VIS-3 The project owner shall remove all evidence of the off site laydown area and linear facility construction activities, and shall restore the ground surface to the original condition or better condition, including the replacement of any vegetation or paving removed during construction where project development does not preclude this. The project owner shall submit to the CPM for review and approval a surface restoration plan, the proper implementation of which will satisfy these requirements.

Verification: At least 60 days prior to the start of commercial operation, the project owner shall submit the surface restoration plan to the city of Anaheim Planning Department for review and comment and to the CPM for review and approval. If the CPM notifies the project owner that any revisions of the surface restoration plan are needed, the project owner shall submit to the CPM a plan with the specified revisions within 30 days of receiving that notification.

The project owner shall complete surface restoration within 60 days after the start of commercial operation. The project owner shall notify the CPM within

seven days after completion of surface restoration that the restoration is ready for inspection.

Surface Treatment of Project Structures and Buildings

VIS-4 The project owner shall treat the surfaces of all project structures and buildings visible to the public such that a) their color(s) minimize(s) 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. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive.

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:

A. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;

B. A list of each major project structure, building, tank, pipe, and wall; the transmission line towers and/or poles; 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;

C. One set of color brochures or color chips showing each proposed color and finish;

D. A specific schedule for completion of the treatment; and

E. A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives comment from the city of Anaheim Planning Department and 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 color(s) and finish(es) 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 city of Anaheim Planning

Department 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.

Within ninety (90) days after 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 they 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; and b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

Landscape Screening

VIS-5 The project owner shall provide landscaping that reduces the visibility of the power plant structures and complies with local policies and ordinances as noted in the city of Anaheim's General Plan Community Design and Green Elements.

The project owner shall submit to the CPM for review and approval and simultaneously to the city of Anaheim Planning Department for review and comment a landscaping plan whose proper implementation will satisfy these requirements. The plan shall include:

A. 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.

B. 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;

C. Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and

D. A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project.

The 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 city of Anaheim Planning Department 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 city of Anaheim Planning Department 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 city of Anaheim Planning Department and the CPM 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.

Permanent Exterior Lighting

VIS-6 To the extent feasible, consistent with safety and security considerations, and commercial availability, the project owner shall design and install all permanent exterior lighting such that a) light fixtures do not cause obtrusive spill light beyond the project site; 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. Lighting shall be consistent with Condition of Certification **VIS-2**.

The project owner shall simultaneously submit to city of Anaheim Planning Department for review and comment and to the CPM for review and approval a lighting mitigation plan that includes the following:

A. Location and direction of light fixtures shall take the lighting mitigation requirements into account;

B. Lighting design shall consider setbacks of project features from the site boundary to aid in satisfying the lighting mitigation requirements;

C. Lighting shall incorporate commercially available fixture hoods/shielding, with light directed downward or toward the area to be illuminated;

D. Non-glare light fixtures shall be used and shall not cause objectionable light spill beyond the project boundary.

E. Light fixtures shall not cause obtrusive spill light beyond the project boundary;

F. Low pressure sodium vapor lighting or overhead high pressure sodium vapor lighting with shields or cutoff luminaries shall be utilized;

G. All lighting shall be of minimum necessary brightness consistent with operational safety and security; and

H. 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 the proposed lighting mitigation plan to city of Anaheim Planning Department for review and comment and to the CPM for review and approval.

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. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days of complaint resolution.

Signage

VIS-7 The project owner shall install minimal signage visible to the public, which shall a) have unobtrusive colors and finishes that prevent excessive glare; and b) be consistent with the policies and ordinances of. The design of any signs required by safety regulations shall conform to the criteria established by those regulations.

Verification: At least 45 days prior to commercial operation, the project owner shall provide a copy of the plans for the sign to the city of Anaheim Planning Department for review and comment and to the CPM for review and approval.

Within 30 days of CPM approval, the project owner shall provide the CPM with electronic color photographs of the installed signage. Prior to the start of commercial operation, the project owner shall notify the CPM and the city of Anaheim Planning Department that appropriate signage has been installed and is ready for inspection. If the CPM determines that signage requires changes, the project owner shall complete the changes within 60 days and notify the CPM that the changes have been completed.

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) 52	Nonattainment New Source Review (NSR) requires a permit and requires Best Available Control Technology (BACT) and Offsets. Permitting and enforcement delegated to SCAQMD. 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 the CPP project would not exceed 250 tons per year, PSD does not apply.
40 CFR 60 Subpart IIII	Regulates emissions and provides other operating and recordkeeping requirements for 2007 model year and later emergency stationary compression ignition internal combustion engine with a maximum engine power less than or equal to 2,237 kW (3,000HP). Enforcement delegated to SCAQMD.
40 CFR 60 Subpart KKKK	New Source Performance Standard for gas turbines: 25 parts per million (ppm) NOx at 15 percent O_2 and fuel sulfur limit of 0.060 lbs SOx per million Btu heat input for gas turbines with heat input > 50 MMBtu/hr and ≤ 850 MMBtu/hr. BACT will be more restrictive. Enforcement delegated to SCAQMD.
40 CFR Part 70	Title V: Federal permit assuring compliance with all applicable Clean Air Act requirements. Title V permit application required within one year of start of operation. Permitting and enforcement delegated to SCAQMD.
40 CFR Part 72 et. Seq.	Acid Rain Program. Requires permit and obtaining sulfur oxides allowances. Permitting and enforcement delegated to SCAQMD.
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.

Applicable LORS	*Description*
Local – South Coast Air Quality Management District (SCAQMD)	
Regulation II: Permits	This regulation sets forth the regulatory framework of the application for issuance of construction and operation permits for new, altered and existing equipment.
Regulation IV: Prohibitions	This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events.
Regulation VII: Emergencies	Establishes the procedures for reporting emergencies and emergency variances.
Regulation IX: Standards of Performance for New Stationary Sources	Regulation IX 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 regulation apply to stationary combustion turbines (Subpart KKKK) and for stationary compression ignition internal combustion engines (Subpart IIII). These subparts establish emission limits as well as monitoring and test method requirements.
Regulation XI: Source Specific Standards	Specifies the performance standards for stationary engines larger than 50 brake horse power (bhp).
Regulation XIII: New Source Review	Establishes the pre-construction review requirements for new, modified or relocated facilities 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 SCAQMD is not unnecessarily restricted. However, this regulation does not apply to NOx or SOx emissions from certain sources, which are addressed by Regulation XX (RECLAIM).
Regulation XVII: Prevention of Significant Deterioration	This regulation sets forth the pre-construction requirement for stationary sources to ensure that the air quality in clean air areas does not significantly deteriorate while maintaining a margin for future industrial growth.
Regulation XX: Regional Clean Air Incentives Market (RECLAIM)	RECLAIM is designed to allow facilities flexibility in achieving emission reduction requirements for NOx and SOx through controls, equipment modifications, reformulated products, operational changes, shutdowns, other reasonable mitigation measures or the purchase of excess emission reductions.
Regulation XXX: Title V Permits (As amended in 1990)	Regulation XXX defines the permit application and issuance as well as compliance requirements associated with the program. Any new or modified major source which qualifies as a Title V facility must obtain a Title V permit prior to construction, operation or modification of that source.

Applicable LORS	***Description***
	Regulation XXX also integrates the Title V permit with the RECLAIM program such that a project cannot proceed without the other.
Regulation XXXI Acid Rain Permits	Title IV of the federal Clean Air Act provides for the issuance of acid rain permits for qualifying facilities. Regulation XXXI integrates the Title V program with the RECLAIM program. Regulation XXXI requires 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 (CEQA)

Energy Commission staff is required by agency regulations to examine the "feasibility of available site and facility alternatives to the Applicant's proposal which substantially lessen the significant adverse impacts of the proposal on the environment." (Cal. Code Regs., tit. 20, § 1765.)

The "Guidelines for Implementation of the California Environmental Quality Act," Title 14, California Code of Regulations, Section 15126.6(a), requires 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. (Cal. Code Regs., tit. 14, § 15126.6[e].) The analysis should identify and compare the impacts of the various alternatives, but analysis of alternatives need not be in as much detail as the analysis of the proposed project.

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 if its effect cannot be reasonably ascertained and if its implementation is remote and speculative. (Cal. Code Regs., tit. 14, § 15126.6[f][3].) However, if the range of alternatives is defined too narrowly, the analysis may be inadequate. (*City of Santee v. County of San Diego* [4th District, 1989] 214 Cal. App. 3d 1438.)

BIOLOGICAL RESOURCES

Applicable LORS	***Description***
Federal	
Clean Water Act (CWA) of 1977	Title 33, United States Code, sections 1251 through 1376, and Code of Federal Regulations, part 30, section 330.5(a)(26), requires the permitting and monitoring of all discharges to surface water bodies. Section 404 requires a permit from the U.S. Army Corps of Engineers (USACE) for a discharge from dredged or fill materials into waters of the U.S., including wetlands. Section 401 requires a permit from a regional water quality control board (RWQCB) for the discharge of pollutants. 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 state certification that the proposed activity will not violate state and federal water quality standards.
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 711, 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.
Fish and Wildlife Conservation Act	Title 16, United States Code, section 2901 et seq.; Title 50 Code of Federal Regulations part 83, requires states to develop conservation plans for fish and wildlife.

Applicable LORS	***Description***
State	
	The administering agency for the following state LORS is the California Department of Fish and Game (CDFG), except for the CWA Section 401 certification, which is administered by the Regional Water Quality Control Board.
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, designates certain species as fully protected and prohibits the take of such species or their habitat unless for scientific purposes (see also California Code of Regulations Title 14, section 670.7).
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.
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 possess any migratory non-game bird as designated in the Migratory Bird Treaty Act, or any part of such migratory non-game bird.

Applicable LORS	***Description***
California Environmental Quality Act (CEQA) Public Resources Code section 15380	California Public Resources Code section 15380, CEQA, defines rare species more broadly than the definitions for species listed under the state and federal Endangered Species Acts. Under section 15830, rare species that meet the criteria for listing but are not otherwise protected (e.g., through state and federal listing) receive additional consideration. Included in this category are many plants considered rare by the California Native Plant Society and some animals on CDFG's Special Animals list. California Public Resource Code 21000 et seq., regulates activities that may divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake in California designated by the CDFG in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit. Impacts to vegetation and wildlife resulting from disturbances to waterways are also reviewed and regulated during the permitting process.
Streambed Alteration Agreement	Fish and Game Code sections 1600 et seq., regulates activities that may divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake in California designated by the CDFG in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit. Impacts to vegetation and wildlife resulting from disturbances to waterways are also reviewed and regulated during the permitting process.
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.

Applicable LORS	***Description***
California Species Preservation Act of 1970 California Native Species Conservation and Enhancement Act	California Fish and Game Code section 900-903, requires the protection and enhancement of birds, mammals, fish, amphibians, and reptiles of California. Fish and Game Code section 1750 et seq., mandates maintenance of sufficient populations of native species to ensure continued existence.
California Pesticide Regulations	3 California Code of Regulations (CCR), Division 6, requires the minimal use of rodenticides and herbicides.
California Public Resources Code	Section 25523(a); 20 CCR Sections 1752, 1752.2, 2300-2309, and Chapter 2, Subchapter 5 Article I Appendix B Part (i), require the California Energy Commission to protect environmental quality with comment from the CDFG on rare or endangered species.
Local	
Green Element of the City of Anaheim General Plan	City of Anaheim Planning Department is to ensure that proposed development projects demonstrate a high degree of compatibility with any listed species and sensitive biological resources, creation of open spaces to beautify city, and reduce locally generated emissions by improving construction management practices. (Ex. 200.)

CULTURAL RESOURCES

Applicable LORS	*Description*
State	
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.
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.
Local	
County of Orange General Plan, 2005	County areas sensitive for historical, archaeological, and paleontological resources are identified; CEQA evaluation of cultural resources is required.
County of Orange Codified Ordinances	Protection policies for historical, archaeological, and paleontological resources in the county.
City of Anaheim Municipal Code	Prescribes the treatment of cultural resources in the City of Anaheim; defines the boundaries of the Anaheim Colony Historic District; requires specific plans to consider properties of historical value.

Legal and Regulatory Authorities – Cultural Resources
(Source: Ex. 1, Table 6.7-3)

AFC Section	Authority	Administering Agency	Requirements/Compliance
6.7.2.2	Natural Environmental Policy Act (NEPA), 42 USC 4321-4327,40 CFR § 1502.25	Lead Federal Agency	Analyses of federal environmental impacts on federal lands or on projects requiring federal money, assistance, and/or permits.
6.7.2.2	Archaeological and Historical Preservation Act of 1976 (16 USC)	Secretary of the Interior	Provides for coordination with the secretary when a federally licensed undertaking may cause irreparable damage to significant cultural resources.
6.7.2.2	American Religious Indian Freedom Lead Federal Agency Act of 1979 (42 USC 1976)	Lead Federal Agency	Establishes US Government Policy to protect and preserve traditional religious beliefs and practices.
6.7.2.2	Native American Graves Protection and Reparation Act of 1990 (USC 3001)	Lead Federal Agency	Establishes mechanism for US Indian tribes to claim ownership o f human remains and certain cultural items.
6.7.2.2	Secretary of the Interior's Standards September 1983	Lead Federal Agency	Establishes standards for the gathering and treatment of data related to cultural resources.
6.7.2.1	Warren Alquist Act §§ 25520, 25527, 25529	CEC	Requires that cultural, historic and aesthetic resources be taken into account in an application for certification. Requires that a portion of any such resources on public lands be set aside for public access.
6.7.2.1	California Environmental Quality Act (CEQA) § 15064.5; California Public Resources Code § 5024, 5024.5; 21083.2, tit. 14, CCR § 15126.	CEC	Formal findings by the lead state agency regarding project-related impacts to important cultural resources and unique paleontological resources.
6.7.2.1	California Public Resources Code § 25523(A), CCR §§ 1752, 1752.5, 2300-2309 and Chapter 2, SubChptr. 5, Art. 1, Appen. B., Part (i)	CEC	Special consideration of unique , historical, archaeological, and cultural sites.

AFC Section	Authority	Administering Agency	Requirements/Compliance
6.7.2.1	California Health and Safety Code , § 7050.5	County Coroner (Medical Examiner)	Determination of origin of human remains and coordination with NAHC.
6.7.2.1	California Public Resources Code § 5024.1	State Historical Resources Commission	Establishes the California Register of Historic Resources and procedures for nominating sites to the register.
6.7.2.1	California Public Resources Code § 5097.5	Orange County Planning Department and Native American Heritage Commission	Prevent unauthorized removal of archaeological resources on public lands.
6.7.2.1	California Public Resources Code §§ 5097.94, 5097.98.21	Orange County Planning Department and Native American Heritage Commission	Prevent unauthorized removal of archaeological resources on public lands.
6.7.2.3	County of Orange General Plan	Orange County Planning Department	Calls for adherence to CEQA Cultural Resources regulations within Orange County.
6.7.2.3	County of Orange Municipal Code	Orange County Planning Department	Addresses the treatment of cultural resources identified and recorded in Anaheim. Requires consideration of properties of historic value.

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	
	Orange County regulations and ordinances; City of Anaheim regulation s 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	The proposed CPP is not located on federal land. There are no federal LORS for geologic hazards and resources for this site.
State	
California Building Code (2007)	The CBC (2007) includes a series of standards that are used in project investigation, design, and construction (including grading and erosion control). The CBC has adopted provisions in the International Building Code (ICC, 2006).
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 project 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 (SVP), indicated below.
California Environmental Quality Act (CEQA), PRC sections 15000 et seq., Appendix G	Mandates that public and private entities identify the potential impacts on the environment during proposed activities. Appendix G outlines the requirements for compliance with CEQA and provides a definition of significant impacts on a fossil site.

Applicable LORS	***Description***
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	
1997 Uniform Building Code with Amendments by the COA Community Development Department	These codes address the excavation, grading, and earthwork construction, not limited to construction relating to earthquake safety and seismic activity hazards.
Orange County General Plan	Requires a general plan for long term development. Under this protection, paleontological resources shall be protected and preserved (Resolutions 77-866 and BR 87-516).
Anaheim General Plan and Zoning Code Update 2004	City staff shall require property owners/developers to provide studies to document the presence/absence of archaeological and/or paleontological resources for areas with documented or inferred resource presence. On properties where resources are identified, a detailed mitigation plan shall ensue, including a monitoring program and recovery and/or in situ preservation plan, based on the recommendations of a qualified specialist.

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.

Applicable LORS	*Description*
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.
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.

Applicable LORS	***Description***
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.
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	
COA Fire Department Hazardous Materials Section	Requires new/modified businesses to complete a Hazardous Materials Business Emergency Plan and Chemical Inventory Forms for business handling acutely hazardous materials in excess of TQ (55 gal., 500 lbs., or 200 cu. ft.)Regulates enforcement responsibility for the implementation of Title 23, Division 3, Chapter 16 and 18 of CCR, as it relates to hazardous material storage and petroleum UST cleanup.
Certified Unified Program Agency (CUPA)	The agency responsibility to review Risk Management Plans (RMPs) and Hazardous Materials Business Plans (HMBPs) is the Anaheim Fire Department. (Ex. 200, p. 4.4-4.) 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 current Uniform Building Code and the 1998 California Building Code. (*Id.*).

LAND USE

Applicable LORS	***Description***
Federal	**None**
State	**None**
Local	
<u>City of Anaheim</u>	
General Plan- Industrial Area Land Use Element	The land use element allows for a wide variety of industrial related uses from business parks, technology centers, light manufacturing, and warehouses. The land use element assigns floor area ratio (FAR), the ratio of the total net floor area of a building to the total lot area.
Economic Development Element	Discourages land uses that compromise the integrity of the area's industrial and office park setting.
Public Services and Utilities Element	Coordinates with Southern California Edison and other suppliers regarding electricity supply and distribution to provide a continual source of reliable and efficient energy. Ensure that adequate electricity capacity exists for planned development.
Redevelopment Plan Alpha	The Redevelopment Plan Alpha is the largest redevelopment project area in the COA taking in approximately 2,500 acres, including both the downtown area and the industrial area known as The Canyon, in which the project is located. The goals for the Redevelopment Plan Alpha include: • Enhancing the long term viability of The Canyon by preserving the integrity of industrially-designated land uses; • Improving urban design standards; • Providing additional employment-generated uses, such as commercial and mixed-use development; and • Enhancing water recharge basins as visual and recreational amenities, where appropriate.

Applicable LORS	***Description***
General Plan - Northeast Area Specific Plan	The Northeast specific plan has been designed to meet the following objectives: • Establishing the best mix of land uses based on long-range economic , planning, and environmental considerations; • Improving the marketability of existing land uses; • Redeveloping and improving underutilized parcels; • Optimizing municipal revenues from sales and property taxes; • Generating sufficient revenue to fund necessary public improvements; • Providing adequate public services and facilities to all properties; and improving the overall appearance of the area. The Northeast Area Specific Plan designates Development Areas 1 and 1A to provide for and encourage the development of industrial uses and their related facilities. The Canyon project is within the Area 1 designation project area. The development standards within the Development Area 1 are similar to the industrial zones, although a few exceptions relate to building height limitations, permitted uses, and landscape requirements along arterial roadways.
Municipal Code	The city of Anaheim Municipal Code contains ordinances that deal with planning, building, subdivision, permitting, and zoning standards, requirements, and restrictions. Titles 18, also known as the Zoning Ordinance of the city of Anaheim, specifically provides regulations that implement the goals, objectives, and policies of the Anaheim General Plan, pursuant to the mandated provisions of State Planning and Zoning Law, California Environmental Quality Act (CEQA), and other applicable state and local requirements. The Northeast Specific Plan references and incorporates applicable portions of the Anaheim Municipal Code as it relates to development within its specific plan boundaries (see discussion below). The following sections are specifically applicable to the proposed project: • §18.10 Defines “I” Zone • §18.120 Defines uses subject to Conditional Use Permit within the Northeast Area Specific Plan • §18.10.050 Provides regulations for building height in the industrial zone. • §18.66 Conditional Use Permit process and authority. • §18.60 Site plan review process. • §18.46 Provides regulations for fences, hedges, and walls.

NOISE AND VIBRATION

Applicable LORS	*Description*
Federal	
Occupational Safety & Health Act (OSHA): 29 U.S.C. § 651 et seq.	Under the Occupational Safety and Health Act of 1970 (OSHA) (29 U.S.C. § 651 et seq.), the Department of Labor, Occupational Safety and Health Administration, (OSHA) 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)	Guidelines are available from the U.S. Environmental Protection Agency (USEPA) to assist state and local government entities in developing state and local LORS for noise. Because there are existing local LORS that apply to this project, the USEPA guidelines are not applicable. There are no federal laws governing off-site (community) noise. The Federal Transit Administration (FTA) has published guidelines for assessing the impacts of ground-borne vibration associated with construction of rail projects, which have been applied by other jurisdictions to other types of projects. The FTA-recommended vibration standards are expressed in terms of the "vibration level," which is calculated from the peak particle velocity measured from ground-borne vibration. The FTA measure of the threshold of perception is 65 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.Protects workers from the effects of occupational noise exposure. Assists state and local government entities in development of state and local LORS for noise.

Applicable LORS	*Description*
Federal	
State	
California Occupational Safety & Health Act (Cal-OSHA): 29 U.S.C. § 651 et seq., Cal. Code Regs., tit. 8, §§ 5095-5099	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	
City of Anaheim Municipal Code, Sound Pressure Levels (Chapter 6.70) City of Anaheim General Plan, Noise Element (Chapter 9)	**City of Anaheim** The project is located within the City of Anaheim. The City of Anaheim Municipal Code (CofA 2004b) and the City of Anaheim General Plan (CofA 2004a) apply to this project. Chapter 6.70 of the municipal code, Sound Pressure Levels, limits noise levels at the property line of noise producing stationary noise sources. It states that no person within the city shall create any sound radiated for an extended period of time from any premises

Applicable LORS	*Description*
Federal	
	which produces a sound pressure level at any point on the property line in excess of 60 dBA. This limit is referenced in the City's general plan. However, for the CPP, the City of Anaheim has defined the noise level limit at the project site property line to be 65 dBA. A letter from the City of Anaheim granting this variance is included in the AFC (CofA 2007a, AFC §6.12.1.4.2, Appendix G). Therefore, staff uses this 65 dBA limit as the applicable operational noise level limit at the CPP project site boundaries. According to the City of Anaheim Municipal Code, construction is allowed between the hours of 7:00 a.m. and 7:00 p.m. This requirement is referenced in Noise Element of the City of Anaheim General Plan.
City of Placentia Municipal Code, Noise Control	**City of Placentia** Section 23.81.170 of the City of Placentia Municipal Code, Noise Control, limits construction activities to between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays, with no construction work allowed on Sundays and federal holidays. This restriction applies only to the portion of the natural gas pipeline for this project that would be within the City of Placentia. The City of Placentia's noise LORS do not apply to projects that are located outside the city's jurisdictional boundaries. Therefore, even though the noise-sensitive receptor identified as ML4 in this analysis is located in the City of Placentia, because the source of the noise, the CPP, would be located outside the city's jurisdictional boundaries, the City of Placentia's noise LORS do not apply. Nevertheless, the CPP complies with this City's noise LORS at this receptor.

POWER PLANT EFFICIENCY

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

POWER PLANT RELIABILITY

No federal, state, local, or county laws, ordinances, regulations and standards (LORS) pertain to the reliability of this project.

PUBLIC HEALTH

Applicable LORS	*Description*
Federal	
Clean Air Act section 112 (Title 42, U.S. Code section 7412)	This act 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).
Local	
South Coast Air Quality Management District (SCAQMD) Rule 1401	This rule requires the preparation of an HRA to predict health risks and the use of T-BACT for major sources of emissions.

Applicable LORS	***Description***
SCAQMD Rule 1309.1	This rule requires stricter HRA significance thresholds before a facility may have access to the SCAQMD Priority Reserve emission credit bank.
SCAQMD Rule 301	This rule requires annual fees for TACs or ozone depleting compounds.
SCAQMD Rule 212	This rule requires the preparation of an HRA and issuing public notices if necessary before a permit to operate is issued.

SOCIOECONOMICS

Applicable LORS	*Description*
State	
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 RESOURCES

Applicable LORS	*Description*
Federal	
Clean Water Act (33 USC, §§ 1251 et seq.)	Requires states to set standards to protect water quality, which includes regulation of storm water discharges during construction and operation of power plant facilities.
section 401 Permit	Requires that any activity that may result in a discharge into a water body must be certified by the Regional Water Quality Control Board.
section 404 Permit	Authorizes the US Army Corps of Engineers to regulate the discharge of dredged or fill material to the waters of the US.
Resource Conservation and Recovery Act	The Resource Conservation and Recovery Act (RCRA) of 1976 (40 CFR Part 260 et seq.) seeks to prevent surface and groundwater contamination, sets guidelines for determining hazardous wastes, and identifies proper methods for handling and disposing of those wastes.
State	
California Constitution, Article X, section 2	Requires that the water resources of the state be put to beneficial use to the fullest extent possible and states that the waste, unreasonable use, or unreasonable method of use of water is prohibited.
California Water Code, section 13523	Requires the Santa Ana Regional Water Quality Control Board (SARWQCB) to prescribe water reuse requirements for water that is to be used as recycled water after consulting with the Department of Public Health (DPH).
Title 17, California Code of Regulations	Requires prevention measures for backflow and cross connections of potable and non-potable water lines.
Title 22, California Code of Regulations	Requires DPH to review and approve new or modified recycled water projects to ensure they meet all recycled water criteria for the protection of public health.
Public Resources Code, sections 25300 through 25302	Requires the Energy Commission to conduct assessments and forecasts of all aspects of energy production and use to develop energy policy that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety.
Local	
City of Anaheim Municipal Code, Title 10, Ch. 10.09	Requires new development and redevelopment projects to prepare a Water Quality Management Plan to manage urban storm water runoff.
Orange County Sanitation District Ord. No. OCSD-31	Specifies discharge limitations for industrial wastewater discharges to the sewer system.

Applicable LORS	***Description***
State Policies and Guidance	
Integrated Energy Policy Report (Pub. Resources Code, Div. 15, § 25300 et seq.)	Requires the Energy Commission to allow the use of fresh water for cooling purposes by power plants only where alternative water supply sources and alternative cooling 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	
City of Anaheim's General Plan, Noise Element	References the City's Municipal Code for noise limits for stationary sources.
Hazardous and Nuisance Shocks	
State	
CPUC GO-128, "Rules for Underground Electric line Construction.	Governs requirements for the design and safe design, operation and maintenance of underground transmission facilities.
CPUC GO-95, "Rules for overhead Electric Line Construction"	Governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and maintenance and inspection requirements.

Applicable LORS	*Description*
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.
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-131-D, CPUC ”Rules for Planning and Construction of Electric Generation Line and Substation Facilities in California”	Specifies application and noticing requirements for new line construction including EMF reduction.
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	
Title 14, Code of Federal Regulations (CFR) 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 that 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	
City of Anaheim General Plan – Transportation and Circulation Element	Requires level of service (LOS) D or better operating conditions for city intersections and roadways.
County of Orange Congestion Management Plan.	Requires LOS E (volume to capacity ratio [V/C]<0.10) or better operating conditions for highway intersections and freeway segments.

TRANSMISSION SYSTEM ENGINEERING

Applicable LORS	***Description***
NERC/WECC (North American Electric Reliability Corporation/Western Electricity Coordinating Council)	The combined planning standards provide system performance standards for assessing the reliability of the interconnected transmission system. These standards require continuity of service as their first priority and the preservation of interconnected operation as their second. Some aspects of NERC/WECC standards are either more stringent or more specific than the either agency's standards alone. These standards are designed to ensure that transmission systems can withstand both forced and maintenance outage system contingencies while operating reliably within equipment and electric system thermal, voltage, and stability limits. These standards include 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 WECC 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 power flows and stability simulations verify defined performance levels. Performance levels are defined by specifying allowable variations in thermal loading, voltage and frequency, and loss of load that may occur during various disturbances. Performance levels range from no significant adverse effects inside and outside a system area during a minor disturbance (such as the loss of load from a single transmission element) to a catastrophic loss level designed to prevent system cascading and the subsequent blackout of islanded areas and millions of consumers during a major transmission disturbance (such as the loss of multiple 500-kV lines along a common right-of- way, and/or of multiple large generators). While the controlled loss of generation or system separation is permitted under certain specific circumstances, this sort of major uncontrolled loss is not permitted (WECC, 2002). NERC's reliability standards for North America's electric transmission system spell out the national policies, standards, principles, and guidelines that ensure the adequacy and security of the nation's transmission

	system. These reliability standards provide for system performance levels under both normal and contingency conditions. While these standards are similar to the combined NERC/WECC standards, certain aspects of the combined standards are either more stringent or more specific than the NERC performance standards alone. NERC's reliability standards apply to both interconnected system operations and to individual service areas (NERC, 2006).
California Public Utilities Commission (CPUC) General Order 95 (GO-95*), Rules for Overhead Electric Line Construction*	Specifies uniform requirements for the construction of overhead electric lines. Compliance with this order ensures both reliable service and a safe working environment for those working in the construction, maintenance, operation, or use of overhead electric lines, and for the safety of the general public.
CPUC General Order 128 (GO-128), *Rules for Underground Electric Line Construction*	Establishes uniform requirements for the construction of underground electric lines. Compliance with this order also ensures both reliable service and a safe working environment for those working in the construction, maintenance, operation, or use of underground electric lines, and for the safety of the general public.
National Electric Safety Code 1999	Provides electrical, mechanical, civil, and structural requirements for overhead electric line construction and operation.
California Independent System Operator (CAISO)	California ISO Planning Standards also provide standards, and guidelines to 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/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). California ISO/FERC (Federal Energy Regulatory Commission) electricity tariffs contain guidelines for building all transmission additions/upgrades within the California ISO-controlled grid. (California ISO, 2003a).

VISUAL RESOURCES

Applicable LORS	***Description***
Federal	The proposed project is not located on federally administered public lands and is not subject to federal regulations pertaining to visual resources.
State	There are no officially designated State Scenic Highways or Scenic Routes within the project viewshed. There are no state regulations pertaining to scenic resources applicable to the project.
Local *Orange County General Plan*	
Land Use Element – Open Space – Goal 1, Objective 1.1	Retain the character and natural beauty of the environment through the preservation, conservation, and maintenance of open space. The objective is to designate open space areas that preserve, conserve, maintain, and enhance the significant natural resources and physical features of unincorporated Orange County.
Growth Management Element – Buffer Zones- Goal 7	There shall be buffer zones established through Feature Plans, Specific Plans and/or Scenic Corridor Plans which provide for the physical separation of major communities by means of open space areas/corridors. Said open space areas/corridors will be based upon natural features such as creaks or prominent topographic or aesthetic features.
City of Anaheim General Plan Community Design Element Goal 1.1	Create an aesthetically pleasing and unified community appearance within the context of distinct districts and neighborhoods. Screen public and private facilities and above-ground infrastructure support structures and equipment, such as electric substations, and water wells and recharge facilities, with appropriately scaled landscaping or other methods of screening. Minimize visual impacts of public and private facilities and support structures through sensitive site design and construction. This includes, but is not limited to: appropriate placement of facilities; under-grounding where possible; and aesthetic design (e.g. cell tower stealthing).
Goal 2.1	Attractively landscape and maintain Anaheim's major arterial corridors and prepare/implement distinctive

	streetscape improvement plans. Continue to underground overhead utility lines along the city's arterial corridors. Ensure adherence to sign regulations which address issues of scale, type, design, materials, placement, compatibility, and maintenance for uses along freeways, toll roads and major arterials.
Goal 3.1	Single-family neighbors are attractive, safe and comfortable. Continue to maintain and improve the visual image and quality of life of single-family homes. Require new and infill development to be of compatible scale, materials, and massing as existing development. Maintain, improve and/or develop parkways with canopy street trees, providing shade, beauty and a unifying identity to residential streets.
Circulation Element Goal 4.1	Preserve and enhance uniquely scenic or special visual resources along highways and designated state scenic routes for the enjoyment of all travelers. Continue to work with Caltrans in its implementation of the State Scenic Highway Program. Landscape arterial highways in keeping with the intent of the Scenic Corridor Overlay Zone and the Santa Ana River Greenbelt Plan, and maintain the residential character of the neighborhood by avoiding interference and intrusion into adjacent communities.
Goal 9.1	Involves strengthening the identity of industrial areas through the use of various methods such as using a complementary range of building colors and types.
Goal 12.1	Ensure adequate parking is made available to city residents, visitors and businesses. Encourage the use of well designed, aesthetically enhanced parking structures as an alternative to large, expansive surface parking lots.
Green Element Goal 23.2	Complete the city's comprehensive program of corridor landscaping, including entryways, medians, and parkways to strengthen the identity of major corridors and the city as a whole. Develop, implement and maintain a comprehensive landscape program for corridors in need of landscaping improvements. Develop guiding policies for accommodating drought-tolerant landscaping (xeriscaping) where it is considered appropriate.
<u>General Plan/Zoning Code EIR</u> 5. Environmental Analysis 5.1 Aesthetics	The evaluation of aesthetic resources in the built environment and natural landscape requires the application of a process that objectively identifies the

	visual features of the landscape and their importance, and the sensitivity of receptors that view them.
<u>Northeast Specific Plan</u> Landscape Plan	Based on a simple overall concept to enhance the major arterial roadway corridors (e.g. Miraloma Avenue) and the image of the Specific Plan area will be enhanced for visitors and employees alike. Project development along these corridors must comply with specific landscape standards.
Electricity	City policy requires all new electrical construction (12kv and 69kv projects) be installed underground.

WASTE MANAGEMENT

Applicable LORS	*Description*
Federal	
Title 42, United States Code, §§ 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 (U.S. EPA) 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 U.S. EPA and its 10 regional offices. The Pacific Southwest regional office (Region 9) implements U.S. EPA programs in California, Nevada, Arizona, and Hawaii.
Title 42, United States Code, §§ 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 U.S. EPA 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). U.S. EPA 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 U.S. EPA.
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, 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.

Applicable LORS	***Description***
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.
California Health and Safety Code, 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). City of Anaheim's Fire Department 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.
California Health and Safety Code, Division 20, Chapter 6.5, Article 11.9, §25244.12, et seq. Hazardous Waste Source Reduction and Management Review Act of 1989 (also known as SB 14).	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 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.

Applicable LORS	***Description***
CCR, Title 23, Chapter 16	This regulation clarifies the procedures for underground storage tank removal.
California Health & Safety Code Sections 101480-101490	These regulations authorize local agencies, such as the Orange County Health Care Agency (OCHCA) Environmental Health Division, to enter into voluntary agreements for the oversight of remedial action at sites contaminated by wastes.
Title 8 California Code of Regulations §1529 and §5208	These regulations require the proper removal of asbestos containing materials in all construction work and are enforced by California Occupational Safety and Health Administration (Cal-OSHA).
Local	
Anaheim Fire Department, Hazardous Material Section	Regulates enforcement responsibility for the implementation of Title 23, Division 3, Chapters 16 and 18 of the CCR, as it relates to hazardous material storage and petroleum underground storage tanks (UST) cleanup. Regulates hazardous waste handling and storage. Implemented by the Anaheim Fire Department Hazardous Materials Section.
South Coast Air Quality Management District Rule 1403	The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.

WORKER SAFETY AND FIRE PROTECTION

Applicable LORS	*Description*
Federal	
29 U.S. Code § 651 et seq (Occupational Safety and Health Act 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).
29 CFR sections 1910.1 to 1910.1500 (Occupational Safety and Health Administration Safety and Health 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 §§1910.1 to 1910.1500.
State	
8 CCR all applicable sections (Cal/OSHA regulations)	Requires 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 CCR section 3, et seq.	Incorporates the current addition of the Uniform Building Code. Enforced by the City of Anaheim Fire Department (AFD).
Health and Safety Code section 25500, et seq.	Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at a facility.
Health and Safety Code sections 25500 to 25541	Requires a Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at a facility.
Local (or locally enforced)	
1998 Edition of Ca. Fire Code and the UFC	Provide standards for fire prevention and suppression equipment. Enforced by the AFD.
City of Anaheim Fire Department, Hazardous Materials Section (HMS)	Provides for the implementation of the Hazardous Materials Business Plan and Risk Management Plan.

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
CANYON POWER PLANT PROJECT

DOCKET NO. 07-AFC-9

FINAL EXHIBIT LIST

APPLICANT'S EXHIBITS

EXHIBIT 1 Application for Certification, Volume I and II, docketed on December 27, 2007. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 2 Anaheim Chamber of Commerce Comments Regarding the Proposed New Power Plant; docketed 4-16-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 3 Project Description - Conceptual Switch Yard One Line; docketed 5-30-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 4 Project Description - 69kv Riser Pole Artist Rendering; docketed 5-30-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 5 Project Description - 69kv Riser Pole Drawing; docketed 5-30-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 6 Project Description 12-69kv Duct Bank; docketed 5-30-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 7 Project Description - Conceptual T & D Layout; docketed 5-30-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 8 Waste Management - Phase I Environmental Site Assessment Volume I; dated 11-20-06, docketed 12-27-07. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 9 Waste Management - Additional Phase II Subsurface Assessment; dated 5-4-07, docketed 12-27-07. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 10 Waste Management - Additional Phase II Environmental Investigation Report; dated 11-14-07, docketed 12-27-07. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 11 Air Quality and Public Health Modeling Files; docketed 12-27-07. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 12 Transmission System Engineering - Final Project System Impact Study; dated 2-15-08, docketed 5-30-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 13 Data Adequacy Supplement – all areas; dated February 2008, docketed 2-7-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 14 Cultural Resources - Letters to Native American Representatives; dated 3-24-08, docketed 3-24-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 15 Transmission System Engineering - Response to CEC's Questions Regarding CPP's Switchyard Equipment / Line Ratings; dated 4-15-08, docketed 4-30-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 16 Water Resources - Orange County Public Work's Comments Regarding Water Quality Concerns; dated 5-8-08, docketed 6-27-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 17 CPP Responses to Data Requests, Set Number 1, 1-55; **Air 1-5; Bio 6-10; Cul 11-16; Haz 17-19; Socio 20-27; Traffic 28-45; Soil 46-50; Waste 51-55;** dated 6-5-08, docketed 6-5-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 18 Traffic and Transportation Review Comments; dated 7-10-08, docketed 7-18-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 19 CPP Responses to Data Requests, Set Number 2**, Air 1; Bio 1-2; Haz 1; Soil 1; Trans 1; Waste 1**, dated August 08, docketed 8-20-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 20 Water Resources - SCPPA Response to Additional Request Re

Calculation Methodology for Water Balance; dated 9-4-08, docketed 9-4-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 21 Air Quality - Letter from City of Anaheim to SCAQMD regarding Notification of Change in Scope and Reduction in Hours of Operation; dated 9-18-08, docketed 10-8-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 22 Air Quality and Public Health - SCPPA's Revised Permit to Construct / Permit to Operate with Air Quality & Public Health Modeling Files; dated September 08, docketed 10-8-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 23 Biological Resources - Draft Wetlands Jurisdictional Determination Report; dated 10-30-08, docketed 11-17-08. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 24 Air Quality - Change in the Fuel Use and SO_x / PM10 Emission Factors Used During Commissioning; dated 1-6-09, docketed 1-28-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 25 Air Quality - Changes to Annual Emission and Dispersion Modeling; dated 12-16-08; docketed 1-28-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 26 Air Quality; Alternatives - ECM Technology White Paper; dated 8-25-09, docketed 1-28-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 27 Air Quality - Letter from City of Anaheim regarding Change in Scope of the CPP and ERC Purchases; dated 11-26-08, docketed 1-28-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 28 Project Description - Southern California Public Power Authority's Plot Plan Revision C; docketed 2-10-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 29 Air Quality - Documentation Regarding ERC Certificates; dated 2-3-09; docketed 2-17-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 30 Air Quality - South Coast Preliminary Determination of Compliance; docketed 2-18-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 31 Air Quality - City of Anaheim Greenhouse Gas Data Response; dated

3-10-09, docketed 3-11-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 32 Air Quality - URS Project Emissions Information; dated 3-10-09, docketed 3-11-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 33 Air Quality - City of Yorba Linda Comment Letter; dated 3-11-09, docketed 6-20-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 34 Air Quality - City of Anaheim Comments on PDOC; dated 3-16-09, docketed 4-17-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 35 Air Quality - City of Placentia Comments on PDOC; dated 3-23-09, docketed 4-17-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 36 Alternatives - Simple Cycle Plant Justification; dated 4-16-09, docketed 4-16-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 37 Alternatives - Comment Letter from City of Yorba Linda; dated 5-11-09, docketed 5-22-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 38 SCPPA's Initial Comments on the Preliminary Staff Assessment; dated 5-15-09, docketed 5-15-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 39 City of Yorba Linda Comments on PSA; Alternatives and Air Quality, dated 5-21-09, docketed 5-26-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 40 SCPPA's Final Comments on the Preliminary Staff Assessment; dated 6-9-09, docketed 6-9-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 41 Alternatives - SCPPA's Canyon Power Project Operational Hours Spreadsheet; docketed 6-22-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 42 Cultural Resources - Staff Comments on Proposed Geo-Arch Study; docketed 6- 3-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 43 Cultural Resources - Staff Comments (Part 2) on Proposed Geo-Arch

Study; docketed 6-3-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 44 Cultural Resources - SCPPA's Canyon Power Project Preliminary Geoarchaeological Report; dated 6-22-09, docketed 6-22-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 45 Final Determination of Compliance; Air Quality and Public Health, dated 6-24-09, docketed 6-26-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 46 Air Quality - City of Anaheim Comments to the Final Determination of Compliance (FDOC); dated 7-20-09, docketed 7-21-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 47 Cultural Resources - Geoarchaeological Assessment and Subsurface Investigations Technical Report; dated July 09, docketed 7-22-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 48 Water Resources - Orange County Water District Anaheim Lake Biological & Related Records Since 2005 Spreadsheet; dated 7-22-09, docketed 7-23-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 49 Waste Management - City of Anaheim's Notification of Demolition Activities; dated 7-23-09, docketed 7-23-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 50 Water Resources Well 28 Information and Revised Text RE: Soil & Water 3 Conditions; docketed 7-29-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 51 Waste Management - Response to Information Request Demolition Activities; dated 8-20-09, docketed 8-20-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 52 Testimony and Declarations of Suzanne Wilson and Lawrence Davis, Project Description, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 53 Testimony and Declaration of Suzanne Wilson, Air Quality, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 54 Testimony of Suzanne Wilson, Biological Resources, dated 10-27-09,

docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 55 Testimony and Declaration of Suzanne Wilson, Cultural Resources, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 56 Testimony and Declaration of Suzanne Wilson, Hazardous Materials, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 57 Revised Hazardous Materials List, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 58 Testimony and Declaration of Suzanne Wilson, Land Use, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 59 Testimony and Declaration of Suzanne Wilson, Noise and Vibration, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 60 Testimony and Declaration of Suzanne Wilson, Public Health, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 61 Testimony and Declaration of Suzanne Wilson, Socioeconomics, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 62 Testimony and Declaration of Suzanne Wilson, Soil and Water Resources, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 63 Testimony and Declaration of Suzanne Wilson, Traffic and Transportation, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 64 Testimony and Declaration of Lawrence S. Davis, Transmission Line Safety and Nuisance, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 65 Testimony and Declaration of Suzanne Wilson, Visual Resources, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 66 Testimony and Declaration of Suzanne Wilson, Waste Management,

dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 67 Testimony and Declaration of Suzanne Wilson, Worker Safety, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 68 Testimony and Declarations of Suzanne Wilson and Lawrence S. Davis, Facility Design, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 69 Testimony and Declaration of Suzanne Wilson, Geology and Paleontology, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 70 Testimony and Declaration of Lawrence S. Davis, Power Plant Efficiency, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 71 Testimony and Declaration of Lawrence S. Davis, Power Plant Reliability, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 72 Testimony and Declaration of Lawrence S. Davis, Transmission System Engineering, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 73 Testimony and Declaration of Suzanne Wilson, Alternatives, dated 10-27-09, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 74 Facility Design - Revised Major Structures and Equipment List, Table 2 to Condition of Certification GEN-2, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 75 Project Description - Revised Plot Plan, docketed 10-27-09. Sponsored by Applicant, and admitted into evidence on November 2, 2009.

EXHIBIT 76 Letter from SCAQMD to the Project Manager regarding emission offset certification, dated October 30, 2009, docketed 11/5/09. Sponsored by Applicant, and admitted into evidence on November 5, 2009.

Exhibit 77 Letter from Steve Sciortino, City of Anaheim to Eric Solorio, CEC Project Manager, dated January 23, 2009. Sponsored by Applicant, and admitted into evidence on November 6, 2009.

Exhibit 78 Stipulation Between CEC Staff and SCPPA Regarding

Additions to Evidentiary Record, dated November 10, 2009. Sponsored by Applicant, and admitted into evidence on November 10, 2009.

ENERGY COMMISSION STAFF'S EXHIBITS

EXHIBIT 200 Final Staff Assessment for the Canyon Power Plant Project, dated October 8, 2009. Sponsored by Staff; and received into evidence on November 2, 2009.

EXHIBIT 201 Testimony of Mr. William Walters Air Quality Addendum Errata, sponsored by Staff, received into evidence on November 2, 2009.

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 *CANYON POWER PLANT PROJECT*	**Docket No. 07-AFC-9** **PROOF OF SERVICE**

APPLICANT

Southern California Public Power Authority (SCPPA)
c/o City of Anaheim
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DECLARATION OF SERVICE

I, _____, declare that on_____, I served and filed copies of the attached _____. 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: **[http://www.energy.ca.gov/sitingcases/canyon/index.html]**. 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:

(C*heck 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 Sacramento, California 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. 07-AFC-9
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.

_____