Pio Pico Energy Center

Presiding Member's Proposed Decision

CALIFORNIA
ENERGY COMMISSION
Edmund G. Brown, Jr., Governor

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DISCLAIMER

This report was prepared by the California Energy Commission Pio Pico Project AFC Committee as part of Pio Pico Project, Docket No. 11-AFC-01. The views and recommendations contained in this document are not official policy of the Energy Commission until the report is adopted at an Energy Commission Business Meeting.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
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The Committee hereby submits its Presiding Member's Proposed Decision for the ***Pio Pico Energy Center*** (Docket Number 11-AFC-01). We have prepared this document pursuant to the requirements set forth in the Commission's regulations. (20 Cal. Code Regs., §§ 1749-1752.5.)

The Committee recommends 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: August 6, 2012 at Sacramento, California.

Original Signed By:

CARLA PETERMAN
Commissioner and Presiding Member
Pio Pico Energy Center AFC Committee

Original Signed By:

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Commissioner and Associate Member
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I. INTRODUCTION

A. SUMMARY OF THE DECISION

This Decision contains the Commission's rationale in determining that the proposed Pio Pico Energy Center (PPEC) 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. Our 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 PPEC is designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

The Energy Commission has exclusive jurisdiction to license this project and is considering the proposal under a review process established by Public Resources Code section 25540.6. The Energy Commission began review of the PPEC on April 20, 2011.

The project will be a natural gas-fired, simple-cycle peaking and load-following facility rated at a gross generating capacity of 300 megawatts (MW). Primary equipment for the generating facility would include three 100 MW General Electric LMS100 turbine generators. Each combustion turbine generator will utilize a mechanical inlet air chiller to maintain maximum output and efficiency. The power generation process will combust natural gas to rotate a turbine which drives an electrical generator. The electrical generator will deliver power to a step-up transformer in the PPEC switchyard. The transformer will be connected to a 230-kV overhead high-voltage, electrical conductor leading from the PPEC switchyard to the existing SDG&E Otay Mesa switchyard located approximately 1,800 feet east of the plant site. From the switchyard, the conductor will interconnect with the transmission grid. (Ex. 200, p. 3-2.)

[1] The Reporter's Transcript of the evidentiary hearings is cited as "date of hearing RT page __." For example: 10/1/10 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.

The major equipment and facilities include the following:

1. Three General Electric LMS100 natural gas-fired combustion turbine generators;
2. Inlet air evaporative coolers;
3. Two separate mechanical-draft cooling towers (one wet and one dry);
4. 230-kV switchyard w/ overhead high-voltage transmission lines;
5. Air emissions control equipment;
6. Aqueous ammonia storage tank;
7. Above-ground water storage tanks; and
8. Underground utility connections (electrical transmission lines, natural gas pipeline, potable water pipeline, reclaimed water pipeline and a sewer pipeline). (Ex. 200, pp. 3-2 – 3-3.)

The project site is adjacent to the existing Otay Mesa Generating Project (a natural gas-fired power plant). The PPEC site is comprised of a 10-acre parcel of disturbed and development-prepared land within an industrial area. The site is located in the southeast quadrant of the Alta Road and Calzada de la Fuente intersection. The project site comprises the entire parcel with Assessor's Parcel Number (APN) 648-040-45, and the construction lay down area consists of 6.00 acres of an adjacent parcel to the south (APN 648-040-46). (Ex. 200, p. 3-2.)

The primary access point to the PPEC site would be from Calzada de la Fuente, west of the Otay Mesa Generating Project. An emergency entrance would be accessible via a separate access point from Alta Road. (*Id.*)

Land in the vicinity of the proposed project is designated for heavy industrial, mixed industrial, technology business park, and conservation uses, with heavy industrial uses representing the majority. (*Id.*)

If approved by the Energy Commission, the Applicant proposes to initiate construction of the PPEC in the first quarter of 2013. The construction period is expected to last approximately 16 months, with scheduled commercial operations beginning in May, 2014. The average monthly workforce is projected to be 148 construction craft people, supervisory, support and construction management personnel on site during construction. The peak monthly workforce is projected to be 284 workers. The workforce level will peak between month 6 and month 10 of the construction period. Construction will typically take place between 7:00 a.m.

and 5:30 p.m., Monday through Friday. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. (Ex. 200, p. 3-8.)

B. SITE CERTIFICATION PROCESS

The PPEC and its related facilities are subject to Energy Commission licensing jurisdiction. (Pub. Resource Code, § 25500 et seq.) During licensing proceedings, the Commission acts as lead state agency under the California Environmental Quality Act (CEQA). (Pub. Resource 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. Resource 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, as well as federal permits to the extent allowed by law.

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.

Specifically, 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 environmental impact and 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 the Applicant to discuss, clarify, and negotiate pertinent issues. In this proceeding, Staff published its initial technical evaluation of the PPEC in its Preliminary Staff Analysis (PSA) and made it available for a 30-day comment period on February 22, 2012. Staff published its Final Staff Analysis (FSA) on May 22, 2012.

The Committee conducted a Prehearing Conference on July 9, 2012 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 issued a Hearing Order to schedule formal evidentiary hearings, which took place on July 23, 2012 in Chula Vista. 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 adviser 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 February 9, 2011, Pio Pico Energy Center LLC submitted an Application for Certification (AFC) to the California Energy Commission to construct and operate an electrical generating plant in San Diego County, California.

On April 20, 2011, 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, Energy Commission staff (Staff), and Intervenors Rob Simpson and Corrections Corporation of America (CCA).

On April 29, 2011, the Committee issued a Notice of "Notice of Public Site Visit and Informational Hearing and Committee Order." 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 PPEC. The Public Adviser's Office also advertised the public hearing and site visit and distributed information to local officials and sensitive receptors surrounding the project site.[2]

On May 16, 2011, the Committee conducted a site visit to tour the proposed PPEC site and then convened a public informational hearing at the Higher Education Center of Otay Mesa. At that event, the Committee, the parties, interested governmental agencies, and other public participants discussed issues related to development of the project, described the Commission's review process, and explained opportunities for public participation.

[2] Sensitive receptors are people or institutions with people that are particularly susceptible to illness, such as the elderly, very young children, people already weakened by illness (e.g., asthmatics), and persons engaged in strenuous exercise.

On May 24, 2011, the Committee issued an initial Scheduling Order. The Committee Schedule was based on both the Applicant's and Staff's proposed schedules and related discussion at the Informational Hearing. The schedule contained a list of events that must occur in order to complete the certification process within 12 months.

In the course of the review process, Staff conducted public workshops in the San Diego area. The purpose of the workshops was to provide members of the community and governmental agencies opportunity to obtain project information, and to offer comments regarding any aspect of the proposed project.

The PSA was issued on February 22, 2012. On March 23, 2012, Staff conducted a publicly noticed workshop to address topics contained in the PSA.

The FSA was published on May 22, 2012. The public was provided with an opportunity to comment on the document. The Committee conducted the Prehearing Conference on July 9, 2012 in Sacramento and the Evidentiary Hearing on July 23, 2012, in Chula Vista.

The Committee published the PMPD on August 6, 2012. A Committee Conference to discuss the PMPD was held on August 29, 2012. The full Commission adopted the PMPD and Errata, if any, at the September 12, 2012, business meeting.

D. COMMISSION OUTREACH

Several entities within the Energy Commission provide various notices concerning power plant siting cases. Staff provides notices of staff workshops and the release of the Staff Assessments. The Hearing Office notices Committee-led events such as the informational hearing and site visit, status conferences, the prehearing conference, and evidentiary hearings. The Public Adviser's Office provides additional outreach for critical events as well as provides information to interested persons that would like to become more actively involved in a power plant siting proceeding. Further, the Media Office provides notice of events to local and regional press through press releases. The public may also subscribe to the proceeding's e-mail List Server offered on the web page for each project which gives an immediate notification of documents posted to the project web page. Through the activities of these

entities, the Energy Commission has made every effort to ensure that interested persons are notified of activities in this proceeding.

E. 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.

II. PROJECT DESCRIPTION AND PURPOSE

On February 9, 2011, Pio Pico Energy Center, LLC filed an Application for Certification (11-AFC-01) with the California Energy Commission, to construct and operate a simple cycle peaking and load following power plant that will provide flexible peaking and load following power generation services during periods of high demand in the San Diego area. The proposed Pio Pico Energy Center (PPEC) would be a nominally rated 300 megawatt (MW) peaking and load following power plant using three General Electric LMS100 natural gas-fired combustion turbine generators (CTGs).

The PPEC is proposed to be located at the southeast quadrant of the intersection of Alta Road and Calzada De La Fuente, in an unincorporated area of San Diego County. The PPEC would be owned and operated by Pio Pico Energy Center, LLC, a Delaware limited liability company.

As required by the California Environmental Quality Act (CEQA), this section of the Decision describes the project based on the evidence of record. (Cal. Code Regs., tit. 14, §15124.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Setting

The project site is adjacent to the existing Otay Mesa Generating Project (a natural gas-fired power plant). The PPEC site is comprised of a 10-acre parcel of disturbed and development-prepared land within an industrial area. The site is located in the southeast quadrant of the Alta Road and Calzada de la Fuente intersection. The project site comprises the entire parcel with Assessor's Parcel Number (APN) 648-040-45, and the construction lay down area consists of 6.00 acres of an adjacent parcel to the south (APN 648-040-46). (Ex. 200, p. 3-2.)

The primary access point to the PPEC site would be from Calzada de la Fuente, west of the Otay Mesa Generating Project. An emergency entrance would be accessible via a separate access point from Alta Road. (*Id.*)

Land in the vicinity of the proposed project is designated for heavy industrial, mixed industrial, technology business park, and conservation uses, with heavy industrial uses representing the majority. (*Id.)*

2. Project Objectives

The AFC describes the proposed PPEC project objectives as mirroring those set forth in the SDG&E RFO:

- To be online by 2014;
- Be a minimum of 100 megawatts (MW) of peaking and intermediate-class resources;
- Locate in SDG&E service territory;
- Operate under a fuel tolling agreement over a 20-year contract;
- Be capable of operating under all permits at annual capacity factors of a minimum of 30% with an availability of >98%;
- Heat rates will be no higher than 10,500 British thermal units per kilowatt hour (Btu/kWh); and
- Use flexible generation technology that can provide regulation during the morning and evening ramps and/or units that can be started and shut down as needed.

(Ex. 200, p. 3-1.)

3. Key Project Components and Features

The project's key components and features include the following:

The major equipment and facilities include the following:

- General Electric LMS100 natural gas-fired combustion turbine generators (CTGs);
- Inlet air evaporative coolers;
- Two separate mechanical-draft cooling towers (one wet and one dry);
- 230-kV switchyard w/ overhead high-voltage transmission lines;
- Air emissions control equipment;
- Aqueous ammonia storage tank;
- Above-ground water storage tanks; and
- Underground utility connections (electrical transmission lines, natural gas pipeline, potable water pipeline, reclaimed water pipeline and a sewer pipeline). (Ex. 200, pp. 3-2 – 3-3.)

4. Associated Facilities and Processes

a. Air Pollution Control

The CTGs employ air pollution emission controls designed to meet the stringent standards required by the San Diego Air Pollution Control District (SDAPCD). Air pollutants (or "emissions") from the combustion of natural gas in the CTGs will be controlled using state-of-the-art systems. The air pollutants that will be minimized, monitored and controlled include:

- Nitrogen Oxides (NO_X);
- Carbon Monoxide (CO);
- Particulate matter (PM);
- Volatile Organic Compounds (VOCs); and
- Oxides of sulfur (SO_X).

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

b. NO_X Production and Control Mechanisms

The PPEC would control NO_X emission production during the CTG combustion and post-combustion processes. The CTG combustors will be equipped with water injection capability to reduce thermal NO_X formed during the combustion process. Post-combustion NO_X emissions control would occur through the catalyst housings on the CTG discharge (one per CTG), which are equipped with selective catalytic reduction (SCR) catalyst modules to further reduce NO_X in the CTG exhaust gas. The SCR process will use 19 percent aqueous ammonia (NH_3) as the reducing agent in the presence of high-temperature to activate the catalyst. Diluted NH_3 vapor will be injected into the exhaust gas stream via a grid of nozzles located upstream of the catalyst module. The subsequent chemical reaction on the catalyst will reduce NO_X to nitrogen and water. The SCR equipment will include a reactor chamber, catalyst modules, NH_3 storage system, NH_3 vaporization and injection system, and monitoring equipment and sensors. (*Id.*)

c. CO and VOC Emissions

An oxidation catalyst will be installed within the catalyst housing to reduce the concentration of CO in the exhaust gas emitted to atmosphere to no greater than 4.0 ppmvd when adjusted to 15 percent oxygen (O_2) on a dry basis. (*Id.*)

d. Emissions Monitoring

Continuous Emissions Monitoring Systems (CEMS) will sample, analyze, and record fuel gas flow rate, NO_X and CO concentration levels, and the percentage of O_2 in the stack gas. This system will generate reports of emissions data in accordance with permit requirements and will send alarm signals to the plant's control system when emissions approach or exceed preselected limits. (*Id.*)

The remaining air pollutants listed above will be minimized by the use of natural gas as the sole fuel for the CTGs. Particulates from cooling tower drift will also be minimized by using a partial-dry cooling system. (Ex. 200, p. 3-4.)

e. Electrical Equipment, transmission and communications

Major Electrical Equipment and Systems: The net electric power generated by the PPEC facility would be transmitted to the power grid through a 230-kV interconnection with the SDG&E Otay Mesa switchyard. A small percentage of electric power would be utilized on site to power auxiliaries, such as pumps, natural gas compressors, cooling fans, control systems, and general facility electric loads, including lighting, heating, and air conditioning. Some of the auxiliary power would also be converted from alternating current (AC) to direct current (DC) and would be used as back-up power for control systems and other uses. (Ex. 200, p. 3-4.)

The CTGs will generate power at 13.8-kV, which will be stepped-up by fan-cooled generator step-up unit (GSU) transformers to 230-kV for transmission to the utility switchyard and grid. When the units are off-line, the auxiliary power would be back-fed through each step-up and auxiliary transformer. Once the units are running, they will supply their own auxiliary power. Surge arresters will be provided at the high-voltage bushings to protect the transformers from surges on the 230-kV system caused by lightning strikes or other system disturbances. The high-voltage side of the step-up transformers would be connected to gas-insulated (SF6) circuit breakers located in the facility's 230-kV switchyard. (*Id.*)

The facility's 230-kV switchyard will consist of a 230-kV radial feed type configuration, 230-kV circuit breakers and disconnect switches, and structural bus supports. An outgoing 230-kV generation tie line will be constructed using either Route A or Route B to connect the plant to the existing SDG&E Otay Mesa switchyard located approximately 1,800 feet east of the plant site. (*Id.)*

The DC power supply system for balance of plant (BOP) loads will consist of one 125V DC battery bank, two 125V DC full-capacity battery chargers, ground detectors, and distribution panels. The 125V DC battery bank will feed all station DC loads and the uninterruptible power supply (UPS). Additional 125V DC systems may also be supplied as part of the CTG equipment. (Ex. 200, p. 3.5.)

Under normal operating conditions, the battery chargers will supply DC power to the DC loads. The battery chargers will receive 480V, three-phase AC power from the AC power supply (480V) system and continuously float charge the battery while supplying power to the DC loads. The ground detection scheme will detect grounds on the DC power supply system. (*Id.*)

Under abnormal or emergency conditions when power from the AC power supply (480V) system is unavailable, the battery will supply DC power to the DC power supply system loads. Recharging of a discharged battery will occur whenever 480V power becomes available from the AC power supply (480V) system. The rate of charge will depend on the characteristics of the battery bank, battery charger, and the connected DC load during charging. However, the anticipated maximum recharge time will be 24 hours. (*Id.*)

The BOP 125V DC system will be used to provide control power to the 4.16-kV switchgear, the 480V secondary unit substations, and critical control circuits. (*Id.*)

<u>Transmission</u>: Transmission Route A would begin as an overhead power line along the north side of Calzada de la Fuente, extend approximately 1,700 feet east where it would then be routed underground for approximately 400 feet into the Otay Mesa switchyard. The total length of Route A would be approximately 2,100 feet. Transmission Route B begins as an overhead power line from the eastern edge of the project site, would run south approximately 550 feet, then turn east along the northern border of the parcels with APN 648-040-48 and APN 648-040-43 for 1,400 feet, and finally turn north for approximately 700 feet into the Otay Mesa switchyard. The total length of Route B would be approximately 2,650 feet. (Ex. 200, pp. 3-4 – 3-5.)

Communications: Communications hardware, including fiber-optic terminal equipment and a fiber optic cable would be used for the supervisory control and data acquisition system (SCADA) remote terminal unit (RTU) for station automation, as required by SDG&E. (Ex. 200, p. 3-5.)

f. Natural gas supply

The combustion turbine generators will fire natural gas exclusively. At full load, each CTG will require up to 819 MMBtu/hr lower heating value (LHV) of natural gas, for a total plant demand of 2,457 MMBtu/hr LHV. SDG&E will build, own, and operate a 12-inch high pressure gas pipeline running from SDG&E's nearby 36-inch 800-psig (per square inch gauge) gas pipeline. (*Id.*)

The piping will be installed underground from the connection at the SDG&E gas transmission line to the point where it enters the project site. At the project site boundary, the piping will be routed to the aboveground gas metering and regulation station. From the metering station the pipeline would be connected to onsite fuel gas compressors. (*Id.*)

There are two possible routes for the gas supply pipeline. Route A extends approximately 2,375 feet south along Alta Road, which is the same distance of the original Route A along Alta Road. The Modified Gas Line Route A then turns west on Otay Mesa Road for approximately 2,700 feet, and then turns south on Enrico Fermi Drive for approximately 2,700 feet to Airway Road. (Ex. 200, p. 3-6.)

Route B would extend approximately 2,375 feet south along Alta Road, turn west on Otay Mesa Road, and continue approximately 7,920 feet to Harvest Road at which point it would connect to the existing SDG&E natural gas pipeline for a total of approximately 10,300 feet. (Ex. 200, p. 3-6.)

g. Water demand and source of supply

Process water uses include plant service water, cooling system makeup, combustion turbine NO_X injection, and combustion turbine inlet air evaporative cooler makeup. The CTG injection water will be demineralized using an ultra filtration (UF) system, a reverse osmosis (RO) system, and skid-mounted ion exchange vessels. Process water will also serve as a secondary source of fire protection water. (Ex. 200, p. 3-6.)

Water supply and treatment: The PPEC will require 379 acre-feet of water per year for operations. The proposed supplier of the water is the Otay Water District (the "District"). The District is working to complete a planned expansion of its regional recycled water delivery system. (*Id.*)

Construction of the PPEC is anticipated to begin in February 2013 and the estimated commercial online date is May 2014. In the event that the District's expanded recycled water system has not been completed or is not operational, PPEC would rely on potable water supplied by the District until such time that recycled water becomes available. (*Id.*)

Upon the District's commissioning of the proposed Otay Mesa area recycled water system, PPEC will connect to a recycled water main either along Calzada de la Fuente or along Alta Road. (*Id.*)

Otay Water District will supply facility drinking water, showers, sinks, toilets, eye wash stations, and safety showers in hazardous chemical areas. It will also serve as the facility's primary source of fire protection water. (*Id.*)

The Enhanced Water Treatment System (EWT System) consists of: (1) a high-pH RO wastewater treatment system; (2) water recycle piping; (3) Final Wastewater Storage Tank (FWST); and (4) a wastewater tanker truck loading area. The equipment will be housed in the water treatment building. (Ex. 200, p. 3-7.)

Pretreatment processes upstream of the RO are designed to reduce the hardness, metals, and suspended solids in the wastewater. The RO process is designed to operate at an elevated pH that controls biological, organic, and particulate fouling, eliminates scaling due to calcium and metal salts, and increases organics rejection. (*Id.*)

Process wastewater (blowdown) from the wet surface-to-air coolers and the oil/water separator effluent will be stored in a 95,000 gallon Process Wastewater Collection Tank while awaiting treatment by the EWT System. Wastewater will be treated to produce both a recycled water stream and a final wastewater effluent. The recycled water stream produced from the EWT System will be piped back to the Raw Water Tank. The RO reject wastewater will be stored in the 20,000 gallon FWST. Water from the FWST will then be pumped into a tanker truck and

transported to the city of San Diego's industrial wastewater disposal facility referred to as Pump Station Number 1. (*Id.*)

Area drains will be located by mechanical equipment where it is determined that oil could mix with rainwater or other water sources. The water collected by these drains will go to the oil-water separator, which separates out any oil before the effluent goes to the sewer. The oil-contaminated fluid will be pumped out by a vacuum truck on an as-needed basis and disposed of at a facility specifically qualified to handle such waste. Hazardous containments will not have drains, but they will be pumped out by vacuum pump if hazardous materials are present. (*Id.*)

The sanitary waste drains will be sent to the San Diego County sewer line via the dedicated connection pipe that would also carry the RO rejects and cooling tower blowdown. (*Id.*)

h. Stormwater handling

Stormwater will be managed by employing Best Management Practices (BMPs) that prevent soil erosion and impacts on surrounding vegetation. Generally, gravel will be used in lieu of concrete and asphalt paving, where possible, to allow for on-site stormwater infiltration. Remaining stormwater will sheet flow into an on-site detention pond located at the northwest corner of the project site. From the basin it will flow to an existing 30-inch stormwater pipeline located along Calzada de la Fuente and from there into the regional storm water management and conveyance system. (*Id.*)

5. Project Construction and Operation

If approved by the Energy Commission, the Applicant proposes to initiate construction of the PPEC in February 2013. Construction of the generating facility, from site preparation and grading to commercial operation, is expected to require 16 months. The PPEC could begin commercial operation by May 2014. The average monthly workforce is projected to be 148 construction craft people, supervisory, support and construction management personnel on site during construction. The peak monthly workforce is projected to be 284 workers. The workforce level will peak between month 6 and month 10 of the construction period. Construction will typically take place between 7:00 a.m. and 5:30 p.m.,

Monday through Friday. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. (Ex. 200, p. 3-8.)

As an intermediate load and peaking facility, each CTG will be limited to operate no more than 4,000 hr/yr. The plant will be dispatched by SDG&E in accordance with its economic dispatch procedures. The time required for startup is approximately 10 minutes. The SDG&E contract allows for 500 startups and shutdowns per unit per calendar year in addition to the 4,000 hours of normal operation. (*Id.*)

Plant operations staff will include a total of four operators, four maintenance technicians, one environmental technician, one administrative staff member, one operations supervisor, and a plant manager. The plant will operate and be staffed 24 hours per day, seven days per week. Plant operations will be directed from a control room. All system equipment will be controlled through a programmable logic controller (PLC) or digital control system (DCS) system, and the project equipment will be integrated into this proven control system. (*Id.*)

6. Facility Closure

At the end of the PPEC's operational lifespan, the project would cease operation and be shut down. At that time, it would be necessary to ensure that the closure occurred in such a way that public health and safety and the environment were protected from adverse impacts. Although the setting for this project does not appear to present any special or unusual closure problems, it is impossible to foresee what the situation would be in 30 years or more when the project has ceased operation. Therefore, provisions must be made that provide the flexibility to deal with the specific situation and project setting at the time of closure. Laws, ordinances, regulations, and standards (LORS) pertaining to facility closure are identified in the technical sections of this assessment. Facility closure would be consistent with LORS in effect at the time of closure.

Facility closure can be either temporary or permanent and can result from either of two circumstances: 1) the facility is closed suddenly and/or unexpectedly due to unplanned circumstances, such as a natural disaster or other unexpected event (e.g., a temporary shortage of facility fuel); or 2) the facility is closed in a planned, orderly manner, such as at the end of its useful economic or mechanical life or due to gradual obsolescence.

Temporary Closure: Temporary or unplanned closure can result from a number of unforeseen circumstances, ranging from natural disaster to economic forces. For a short term unplanned closure, where there is no facility damage resulting in a hazardous substance release, the facility would be kept "as is," ready to resume operating when the unplanned closure event is rectified or ceases to restrict operations. No decommissioning plan would be submitted for a temporary shutdown.

In the event that there is facility damage, the project owner would notify the Energy Commission's Compliance Unit and follow the emergency Risk Management Plan (RMP) as appropriate. Depending upon the expected duration of the shutdown, chemicals may be drained from the storage tanks and other equipment. All waste (hazardous and non-hazardous) would be disposed of according to LORS in effect at the time of the closure. Facility security would be retained so that the facility is secure from trespassers. (Ex. 200, p. 3-9.)

Permanent Closure: The anticipated life of the generation facility is 30 years. However, if the facility were economically viable at the end of the 30-year operating period, it could continue to operate for a much longer period of time. As power plant operators continuously upgrade their generation equipment, and maintain the equipment up to industry standards, there is every expectation that the generation facility would have value beyond its expected life. (*Id.*)

Closure Mitigation: At the time of facility closure, decommissioning would be completed in a manner that: 1) protects the health and safety of the public; and, 2) is environmentally acceptable. One year prior to a planned closure, the project owner would submit to the Energy Commission a specific decommissioning plan that would include the following:

- 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 would 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 how the specific decommissioning would be accomplished in accordance with the LORS.
- Notification of state and local agencies.

- Once land has been used for industrial or commercial purposes, it rarely reverts back to its natural state. If the plant site is to return to its natural state, the specific decommissioning plan would include the removal of all aboveground and underground objects and material, and an erosion control plan that is consistent with sound land management practices.

(Ex. 200, pp. 3-9 – 3-10.)

In the event of an unplanned closure due to earthquake damage or other circumstances, the project owner would meet with the Energy Commission's Compliance Project Manager and local agencies and submit a detailed decommissioning closure plan in a timely manner. (*Id.*)

FINDINGS OF FACT

Based on the evidentiary record, we find as follows:

1. Pio Pico Energy Center, LLC will own and operate the PPEC project in the San Diego County, California.

2. The project will be a natural-gas fired, simple-cycle peaking/ load following facility rated at a gross generating capacity of 300 MW.

3. The project includes two transmission line corridors and a new natural gas supply line.

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

CONCLUSION OF LAW

We therefore conclude that the PPEC 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.

III. PROJECT ALTERNATIVES

As a general rule, the California Environmental Quality Act (CEQA), its 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. (Cal. Code Regs., tit. 14, §§ 15126.6(c)(e); *see also*, tit. 20, § 1765.)

The range of alternatives, including the "No Project" alternative, is governed by the "rule of reason" which requires consideration only of those alternatives necessary to permit informed decision making and public participation. CEQA states that an environmental document does not have to consider an alternative where the effect cannot be reasonably ascertained and whose implementation is remote and speculative. (Cal. Code Regs., tit. 14, § 15126.6(f)(3).)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Objectives

The project objectives are:

- Construct and operate a generating facility with a minimum, nominal rating of 300-megawatts (MW);
- Construct and operate a generating facility with the ability to provide quick start operations;
- Project shall be online by end of 2014;
- Located in SDG&E service territory;
- If natural gas-fired technology is used then heat rates will be no higher than 10,500 British thermal units per kilowatt hour (btu/kWh) and the project shall operate under a fuel tolling agreement with SDG&E under a 20-year contract;
- Capable of operating under all permits at annual capacity factors of a minimum of 30 percent with an availability of >98 percent; and
- Use flexible generating resources that can provide regulation during the morning and evening ramps and/or units that can be started and shut down as needed.

(Ex. 200, p. 6-2.)

The PPEC's potentially significant environmental impacts can be mitigated to a less than significant level by implementation of mitigation measures identified in

this Decision. However, for the purposes of this alternatives analysis, we consider whether any of the significant impacts could have been avoided or lessened by using an alternative site. We consider whether an alternative site could reduce impacts in the following environmental areas: air quality, biological resources, traffic & transportation, noise and visual resources.

2. Alternative Sites

The Applicant identified seven alternative sites. (Ex. 1, Figure 4.5-1.) What must be determined is whether any of the alternative sites could potentially attain most of the basic project objectives and potentially avoid or substantially lessen one or more of the significant impacts of the project. (Cal. Code Regs., tit. 14 §15126.6(a).) Staff applied the following criteria to each of the alternative sites selected by the Applicant:

a. A minimum of nine acres in size;
b. Have zoning that is compatible with the development of a power plant (i.e. industrial or heavy industrial) or be within the jurisdiction of a local government that would likely support a zone change for the development of a power plant;
c. Be located a minimum of 1,000 feet from the nearest noise receptor (i.e. residential neighborhood, school, etc);
d. Be located a minimum of 1,000 feet from the nearest key observation point over the view shed in which the site is located and would potentially adversely affect;
e. Be located within five miles of the nearest high voltage electrical transmission line;
f. Be located within five miles of the nearest natural gas trunk line; and
g. Be located within five miles of potable water and recycled water service mains.

(Ex. 200, p. 6-2.)

<u>Alternative Site “A” – North Main Street</u>

Site A is located on the north side of Main Street between Nirvana and Heritage Roads. This site is surrounded by recycling complexes to the north and west and undeveloped, mostly undisturbed, land to the east and south. This site is 18 acres in size and part of APN 6440500600 and therefore meets the minimum size requirement. (Ex. 200, p. 6-5.)

Site A is hilly and has a deep natural ravine running through the center of the site. Given this irregular topography, this site would require significantly more grading as compared to that of the proposed site which is already graded; however, despite the added engineering and construction costs associated with site excavation, at this stage of the analysis, the additional cost is presumed to be economically feasible in order to allow further analysis herein.

Biological Resources: Because the site is primarily undisturbed land located adjacent and just north of the Otay River, it has the potential to support sensitive biological resources, special-status wildlife species and special-status plant species. Although protocol level biological surveys have not been conducted, based upon a query of the California Natural Diversity Database (CNDDB), it is reasonable to assume the site has the potential to support habitat for the species listed in **Alternatives Table-1**, below. Given the foregoing, grading of this site would likely result in some level of significant impacts to biological resources.

ALTERNATIVES Table 1

Biological Resources Potentially Affected on Alternative Site "A"		
Common Name	**Scientific Name**	**Status***
Plants		
San Diego thorn-mint	*Acanthominta ilicifolia*	FT, SE, RPR 1B.1, S2, G2, MSCP
San Diego marsh-elder	*Iva hayesiana*	RPR 2.2, S2.2?, G3?
Robinson's pepper-grass	*Lepidium virginicum var. robinsonii*	RPR 2.2, G5T2?, S2.2
Laguna Mountains jewel-flower	*Streptanthus bernardinus*	RPR 4.3, S3.3, G3
Parry's tetracoccus	*Tetracoccus dioicus*	RPR 1B.2, S2.2, G3, MSCP
Invertebrates		
western beach tiger beetle	*Cicindela latesignata latesignata*	G4T1T2 S1
western tidal-flat tiger beetle	*Cicindela gabbii*	G4, S1

(Ex. 200, pp. 6-6 – 6-7.)

***Status Legend**
Federal FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range
FT = Federally listed, threatened: species likely to become endangered within the foreseeable future

State SE = State listed as endangered
Local MSCP = County of San Diego Multiple Species Conservation Plan covered species

California Native Plant Society Rare Plant Rank (RPR)
List 1B = Rare, threatened, or endangered in California and elsewhere
List 2 = Rare, threatened, or endangered in California but more common elsewhere
List 3 = Plants which need more information

List 4 = Limited distribution – a watch list
List 1A = Presumed extinct because they have not been seen or collected in the wild in California for many years. This list also includes plants which are presumed extirpated

Threat Rank
0.1 = Seriously threatened in California (high degree/immediacy of threat)
0.2 = Fairly threatened in California (moderate degree/immediacy of threat)
0.3 = Not very threatened in California (low degree/immediacy of threats or no current threats known)

Global Rank/State Rank
Global rank (G-rank) and State rank (S-rank) is a reflection of the overall condition of an element throughout its global (or State) range. Subspecies are denoted by a T-rank; multiple rankings indicate a range of values. State rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. An H-rank indicates that all sites are historical.
G1 or S1 = Critically imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 or S2 = Imperiled – At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
G3 or S3 = Vulnerable – At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
G4 or S4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 or S5 = Secure – Common; widespread and abundant.
G#G# and S#S# = Range Rank is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type.
Q = Questionable taxonomy that may reduce conservation priority.
H = Possibly extinct
? = Inexact numeric rank
T# = Infraspecific taxon refer to subspecies, varieties and other designations below the level of species.

Noise: The nearest noise receptors to Site A are residences along Quarterdeck Lane located about 1,500 feet southwest of the site. This distance meets the minimal 1,000 foot receptor distance criteria. (Ex. 200, p. 6-7.)

Visual Resources: The nearest KOPs are located along Quarterdeck Lane located about 1,500 feet southwest of the site. Many of these residences have substantial views of the Alternative Site “A”. Locating the PPEC at this site has the potential to substantially degrade the existing visual character and quality of the site and its surroundings. Due to the higher elevation and proximity of existing residential neighborhoods, development of the PPEC at this site would likely create an immitigable visual impact. The distance of this site to the nearest receptor does however meet the minimal 1,000 foot criteria. (*Id*.)

The nearest feasible 230-kV electrical interconnection point would be at the east end of Wiley Road, approximately two miles east of State Route 125. This is also the same point where the natural gas line would connect. Both the transmission interconnection and the natural gas line connections would be approximately five miles in length. The need for a new 25,000-foot, high-voltage transmission line and 52 new transmission line towers parallel with the Otay River valley would likely result in immitigable visual impacts on the view shed of the neighborhoods

located upslope of Main Street and Wiley Road, and impact the view shed of motorists who use these two thoroughfares. (*Id*.)

Traffic and Transportation: The site is far from either of the nearest airports. Traffic could be temporarily disrupted during construction due to trenching for underground utilities. (*Id*.)

Conclusion: Development of the PPEC on Alternative Site "A" would likely result in significant, direct impacts to biological resources as compared with no "direct" impacts resulting from development of the proposed site. Also, the increased noise levels could potentially affect breeding habitat of listed species that may exist along the adjacent Otay River. The increased noise levels could also impact the nearby residential communities.

Further, due to the topography of the area, development of this site would potentially result in immitigable impacts to visual resources by adversely changing the view for residents who live upslope of the project site and significantly impacting the view for motorists along Main Street and Wiley Road. These changes would result from the height of the exhaust stacks and the construction of more than 50 new transmission line towers together with five miles of high-voltage electrical transmission lines.

ALTERNATIVES Table 2

Biological Resources Potentially Affected on Alternative Site "B",		
Common Name	**Scientific Name**	**Status***
Plants		
San Diego thorn-mint	*Acanthominta ilicifolia*	FT, SE, RPR 1B.1, S2, G2, MSCP
San Diego marsh-elder	*Iva hayesiana*	RPR 2.2, S2.2?, G3?
Robinson's pepper-grass	*Lepidium virginicum var. robinsonii*	RPR 2.2, G5T2?, S2.2
Laguna Mountains jewel-flower	*Streptanthus bernardinus*	RPR 4.3, S3.3, G3
Parry's tetracoccus	*Tetracoccus dioicus*	RPR 1B.2, S2.2, G3, MSCP
Invertebrates		
western beach tiger beetle	*Cicindela latesignata latesignata*	G4T1T2 S1
western tidal-flat tiger beetle	*Cicindela gabbii*	G4, S1
Birds		
Least Bell's vireo	*Vireo Bellii pusillus*	FE, SE, MSCP

(Ex. 200, p. 6-9.)

Alternative Site “B” – South Main Street

Alternative Site “B” is located on the south side of Main Street between Nirvana Road and Brandywine Avenue. This site is surrounded by auto dealerships to the west and northwest, vacant disturbed lot to the north, warehouse facilities to the northeast, disturbed/undeveloped lot to the east and undisturbed open space to the south. Site B consists of approximately 10 acres. The site slopes to the south toward the Otay River valley. The entire site has been disturbed.

Biological Resources: Alternative Site “B” is completely disturbed and has only a minimal amount of vegetation. However, because it borders the Otay River it could impact the biological resources listed in **Alternatives Table 2**, above. (Ex. 200, p. 6-9.)

Visual Resources: The nearest KOPs are from residences located about 1,100 feet south on Dennery Road and residences located about 1,500 feet north on Jeremy Point Court. Many of these residences have substantial views of Alternative Site “B”. Locating the PPEC at this site has the potential to substantially degrade the existing visual character and quality from these KOPs. Due to the higher elevation and proximity of existing residential neighborhoods, development of the PPEC at this site would likely create an immitigable visual impact. Moreover, the need for a new 25,000-foot, high-voltage transmission line and 52 new transmission line towers parallel with the Otay River valley would likely result in immitigable visual impacts on the view shed of the neighborhoods located upslope of Main Street and Wiley Road, and impact the view for motorists who use these two thoroughfares. (*Id*.)

Traffic and Transportation: The site is far from either of the nearest airports. Traffic could be temporarily disrupted during construction due to trenching for underground utilities.

Conclusion: Development of the PPEC on Alternative Site “B” would likely result in significant, direct impacts to biological resources as compared with no “direct” impacts resulting from development of the proposed site.

Further, due to the topography of the area, development of this site would potentially result in immitigable impacts to visual resources by adversely changing the view for residents who live upslope of the project site and significantly impacting the view for motorists along Main Street and Wiley Road.

Alternative Site "C" – Maxwell Road

Site C is located on Maxwell Road about 1,000 feet north of Main Street and on the east side of Maxwell Road. It is surrounded by a municipal landfill to the northeast, auto recycling complex to the east, commercial buildings and parking to the west, and vacant disturbed undeveloped land to the south. (Ex. 200, p. 6-11.)

Biological Resources: Alternative Site "C" is mostly used as a parking lot and has very little vegetation. However, because the site borders undisturbed lands to the north and northwest which may have suitable habitat for flora and fauna, the development of the PPEC on this site could potentially impact the biological resources listed in **Alternatives Table 3**, below:

ALTERNATIVES Table 3

Biological Resources Potentially Affected on Alternative Site "C"		
Common Name	**Scientific Name**	**Status[1]**
Plants		
San Diego thorn-mint	*Acanthominta ilicifolia*	FT, SE, RPR 1B.1, S2, G2, MSCP
Robinson's pepper-grass	*Lepidium virginicum var. robinsonii*	RPR 2.2, G5T2?, S2.2
Laguna Mountains jewel-flower	*Streptanthus bernardinus*	RPR 4.3, S3.3, G3
Parry's tetracoccus	*Tetracoccus dioicus*	RPR 1B.2, S2.2, G3, MSCP
Invertebrates		
western beach tiger beetle	Cicindela latesignata latesignata	G4T1T2 S1
western tidal-flat tiger beetle	Cicindela gabbii	G4, S1

(Ex. 200, p. 6-11.)

Noise Levels: The nearest noise receptors to Site C are residences located about 1,300 feet northeast on Jeremy Point Court. These nearby receptor locations meet the minimal 1,000 foot receptor distance criteria. (*Id.*)

Visual Resources: The nearest KOPs are from residences located about 1,100 feet south on Dennery Road and residences located about 1,500 feet north on Jeremy Point Court. Many of these residences have substantial views of Alternative Site "C". Locating the PPEC at this site has the potential to substantially degrade the existing visual character and quality of the views from these KOPs. Due to the higher elevation and proximity of existing residential neighborhoods, development of the PPEC at this site would likely create an immitigable visual impact. Moreover, The need for a new 25,000-foot, high-voltage transmission line and 52 new transmission line towers parallel with the Otay River valley would likely result in immitigable visual impacts on the view

shed of the neighborhoods located upslope of Main Street and Wiley Road, and impact the view for motorists who use these two thoroughfares. (Ex. 200, pp. 6-11 – 6-12.)

Traffic and Transportation: The site is far from either of the nearest airports. Traffic could be temporarily disrupted during construction due to trenching for underground utilities.

Conclusion: Development of the PPEC on Alternative Site "C" could result in direct and or indirect impacts to biological resources.

Further, due to the topography of the area, development of this site would potentially result in immitigable impacts to visual resources by adversely changing the view for residents who live upslope of the project site and significantly impacting the view for motorists along Main Street and Wiley Road. These changes would result from the height of the exhaust stacks and the construction of more than 50 new transmission line towers together with five miles of high-voltage electrical transmission lines.

Alternative Site "D" – Lower Otay Reservoir Mesa

The Lower Otay Reservoir Mesa site is located adjacent to the Otay Lakes Water Treatment Plant, and adjacent to and to the west of the Otay Lakes County Park. To the south and west of the site is partially disturbed open space preserve. Site D is on a 15-acre mesa that is perched midway between the ridge lines to the north and the Otay River valley to the south. The mesa is located within the Multiple Species Conservation Program (MSCP) which would require that the site be removed from the MSCP and additional adjacent and biologically comparable land be added to the MSCP elsewhere. (Ex. 200, p. 6-13.)

Noise Levels: The nearest noise receptor to this site is a county park ranger house that is located about 1,200 feet away. With the exception of a park ranger house, the nearest receptors to this site are in the community of Otay Ranch, about one mile to the northwest. (*Id*.)

Biological Resources: Due to the location within the MSCP, development of this site would result in significant impacts to biological resources. Therefore the U.S. Fish & Wildlife Service (USFWS) and the California Department of Fish & Game (CDFG) formally opposed the use of this site for a power plant. (Ex. 200, p. 6-14.)

Conclusion: Due to the potential of not being able to obtain a necessary permit for development through concurrence from the CDFG and USFWS to amend the MSCP, and the high biological cost in terms of impacts within the MSCP, this site is therefore ruled out as an environmentally preferred alternative.

Alternative Sites "E", "F" and "G"- Otay Mesa Road

Each of these parcels (collectively referred to as Alternative Site "E" in the FSA) was eliminated during the evaluation process once it became evident that the height of the exhaust stacks posed a hazard for aircraft arriving and departing from the nearby Brown Field airport. (*Id*.)

We therefore conclude that that none of the alternative sites considered are superior to the proposed site.

3. Alternative Fuels and Technologies

The record examines various generation technology alternatives, as well as conservation and demand side management. The various generation alternatives considered by Applicant and Staff were all deemed inferior to the project site due to infeasibility, failure to conform to the project objectives, or lack of environmental benefit. Intervenor Simpson presented the testimony of Bill Powers, P.E., an engineer with nearly 30 years' experience in the energy field, who opined that a combination of distributed solar generation (e.g, rooftop photovoltaic panels), battery and thermal storage options, and demand side management could obviate the need for the PPEC. (Ex. 302.)

In rebuttal, Staff presented the testimony of David Vidaver, an Electric Generation System Program Specialist with the California Energy Commission. Mr. Vidaver stated that the PPEC would provide a number of services that cannot be provided by rooftop solar, including the ability to change output over a wide range within a few minutes, in order to meet load-following needs and provide frequency response in the San Diego area. (Ex 206.)

Mr. Powers testified at length about the availability of solar resources during the top 100 demand hours of the year. He stated that the actual availability of solar resources was 99 percent during the top 100 hours. (Ex. 302.) Mr. Vidaver countered this by pointing out that while some solar resources might be available, the more important factor is the performance of those resources. According to Mr. Vidaver, "availability bears little if any relationship to output." Mr. Vidaver further stated that the output of solar resources is highly variable; that

any amount of installed nameplate capacity can reliably contribute only a part of that capacity to the grid. (Ex. 206.)

Nothing in the evidence persuades us that solar or wind generation resources, combined with storage options in their respective, current states of commercial development, can serve as a substitute for PPEC's ability to provide up to 300MW of flexible, reliable, and dispatchable, load-following capacity. Solar and wind technologies increasingly are playing an important role in meeting the state's energy demands. At this time, however, those resources cannot replace facilities such as the PPEC. We are confident that the state's energy policies and laws will ensure the continuing development of renewable generation and storage resources.

One alternative to meeting California's electricity demand with new generation is to reduce the demand for electricity. Such conservation and demand side measures include reducing energy use by increasing energy efficiency and conservation, implementing commensurate building and appliance standards, and addressing load management and fuel substitution.

Even with a great variety of federal, state, and local demand side management programs, the state's electricity use is still increasing. Current demand side programs are not sufficient to satisfy the diverse array of future electricity needs, nor is it likely that even more aggressive demand side programs could accomplish this, given the economic and population growth rates in recent years. Therefore, although it is likely that federal, state, and local demand side programs will receive even greater emphasis in the future, both new generation and new transmission facilities are needed in the immediate future and beyond to maintain adequate supplies.

4. No Project Alternative

The "No Project" alternative assumes that the project is not constructed. The purpose of this analysis is to provide a comparison of the impacts of approving the proposed project against the impacts of not approving it. (Cal. Code Regs., tit. 14, § 15126.6(i).)

If the project were not built, San Diego Gas & Electric (SDG&E), as a utility provider, would not benefit from the efficient source of a local 300 MW electrical generation facility which this project would provide. Additionally, the "No Project" alternative would not allow SDG&E to meet the peak energy demands of its

customers as contemplated in its Request for Offers for which the PPEC bid was selected. Nor would SDG&E be able to further support Local Resource Adequacy requirements, under Public Utilities Code section 380. If the PPEC were not built, there would be less quick-start, generating assets that can compensate for the intermittency of solar and wind power generation facilities. (Ex. 200, p. 6-17.)

In light of the reliability mandates, peak energy demands and the need to have quick start generation capacity to compensate for the intermittency of renewable resources such as wind and or solar-electric power, in the absence of the proposed PPEC, other power plants would likely be constructed in the region to supply the SDG&E's demand for additional generation capacity that meets these needs. We therefore conclude that the "No Project" alternative would not be a reasonable alternative to the proposed project to meet existing needs.

FINDINGS OF FACT

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

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

2. The record contains an adequate review of alternative sites, linear routings, fuels, technologies, and the "No Project" alternative.

3. Alternative fuels and technologies are not capable of meeting project objectives.

4. No site alternative identified is capable of meeting the stated project objectives and applicable siting criteria.

5. No feasible alternative site has been identified which would lessen project impacts.

6. The "No Project" alternative would not avoid or substantially lessen potentially significant environmental impacts.

7. Implementation of the conditions of certification contained in this Decision will ensure that the PPEC does not create any significant direct, indirect, or cumulative adverse environmental impacts.

CONCLUSION OF LAW

We conclude, therefore, that the record contains a sufficient analysis of a reasonable range 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.

IV. COMPLIANCE AND CLOSURE

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

SUMMARY OF THE EVIDENCE

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

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

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

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

The second general element of the Plan contains the specific “conditions of certification.” These are found following the summary and discussion of each individual topic area in this Decision. The individual conditions contain the

measures required to mitigate potentially adverse project impacts associated with construction, operation, and closure to levels of insignificance. Each condition also includes a verification provision describing the method of assuring that the condition has been satisfied.

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

FINDINGS OF FACT

The record 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.

2. We adopt the following Compliance Plan as part of this Decision.

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 PPEC will be designed, constructed, operated, and closed in conformity with applicable law.

GENERAL CONDITIONS OF CERTIFICATION

DEFINITIONS

DEFINITIONS

The following terms and definitions are used to establish when conditions of certification are implemented.

PRE-CONSTRUCTION SITE MOBILIZATION

Site mobilization is limited to preconstruction activities 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/or 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; and
5. ensuring that compliance files are maintained and accessible.

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

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval, the approval will involve all appropriate Energy Commission staff and management. All submittals must include searchable electronic versions (pdf or MS Word files).

PRE-CONSTRUCTION AND PRE-OPERATION COMPLIANCE MEETING

The CPM usually schedules pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings is to assemble both the Energy Commission’s and project owner’s technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission’s conditions of certification. This is to confirm that all applicable conditions of certification have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight and to preclude any last minute,

unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

ENERGY COMMISSION RECORD

The energy commission shall maintain the following documents and information as a public record, in either the compliance file or dockets file, for the life of the project (or other period as required):

1. all documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
2. all monthly and annual compliance reports filed by the project owner;
3. all complaints of noncompliance filed with the Energy Commission; and
4. all petitions for project or condition 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
(11-AFC-01C)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

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

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

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

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

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

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

If the project owner anticipates commencing project construction as soon as the project is certified, it may be necessary for the project owner to file compliance submittals prior to project certification. Compliance submittals should be completed in advance where the necessary lead time for a required compliance event extends beyond the date anticipated for start of construction. The project owner must understand that the submittal of compliance documents prior to

project certification is at the owner's own risk. Any approval by Energy Commission staff is subject to change, based upon the Commission Decision.

Compliance Reporting

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

Compliance Matrix (COMPLIANCE-5)

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

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;
7. the compliance status of each condition, e.g., "not started," "in progress" or "completed" (include the date); and
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 these General Conditions.

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 Executive Director 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 of the business meeting at which the Energy Commission adopts the Final Decision. 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 a 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 the 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 if 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 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 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, that are compliant with LORS and will not have significant environmental impacts may be authorized by the CPM as a staff approved project modification pursuant to Section 1769(a) (2). Once Staff files an intention to approve the proposed project modifications, any person may file an objection to Staff's determination within 14 days of service on the grounds that the modification does not meet the criteria of Section 1769 (a)(2). If a person objects

to Staff's determination, the petition must be processed as a formal amendment to the Decision and must be approved by the full Commission at a noticed business meeting or hearing.

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.

Notification to CPM of a Situation Requiring an Unplanned Response from an Emergency Services Agency (COMPLIANCE 15)

In the event of any incident that requires a response from fire, hazardous materials, medical, or police emergency services (as a result, for example, of personal injury, hazardous materials spill, flood, fire, or explosion, etc), the project owner shall notify the CPM within two hours of the initiation of the event by telephone, fax, or e-mail, to report the circumstances of the event, its current status, and its expected duration.

The project owner shall provide the CPM with all reports that have been prepared regarding any such incident within 10 days of preparation of those documents. This requirement covers any incident reports prepared by the project owner, as well as reports prepared by third parties to which the project owner has access. Such reports shall be unredacted and in their original form.

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.

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 an 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	

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 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; and • 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 Executive Director 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.
COMPLIANCE-15	Notification to CPM of Unplanned Response from Emergency Services	The project owner shall notify the CPM within two hours to report the circumstances of the event. The project owner shall provide the CPM with all unredacted, original form reports that have been prepared regarding any such incident within 10 days of preparation of those documents.

ATTACHMENT A
COMPLAINT REPORT/RESOLUTION FORM

COMPLAINT LOG NUMBER:_____ DOCKET NUMBER:_____
PROJECT NAME:_____

NAME:_____ PHONE NUMBER:_____

ADDRESS:_____

COMPLAINANT INFORMATION

DATE COMPLAINT RECEIVED:_____ TIME COMPLAINT RECEIVED:_____

COMPLAINT RECEIVED BY: ☐ TELEPHONE ☐ IN WRITING (COPY ATTACHED)

DATE OF FIRST OCCURRENCE:_____

DESCRIPTION OF COMPLAINT (INCLUDING DATES, FREQUENCY, AND DURATION):_____

_____

_____

FINDINGS OF INVESTIGATION BY PLANT PERSONNEL:_____

_____

_____

DOES COMPLAINT RELATE TO VIOLATION OF A CEC REQUIREMENT? ☐ YES ☐ NO

DATE COMPLAINANT CONTACTED TO DISCUSS FINDINGS:_____

DESCRIPTION OF CORRECTIVE MEASURES TAKEN OR OTHER COMPLAINT RESOLUTION:_____

_____

_____

DOES COMPLAINANT AGREE WITH PROPOSED RESOLUTION? ☐ YES ☐ NO

IF NOT, EXPLAIN:_____

_____

COMPLAINT CORRECTIVE ACTION

IF CORRECTIVE ACTION NECESSARY, DATE COMPLETED:_____

DATE FIRST LETTER SENT TO COMPLAINANT (COPY ATTACHED):_____

DATE FINAL LETTER SENT TO COMPLAINANT (COPY ATTACHED):_____

OTHER RELEVANT INFORMATION:_____

_____

"This information is certified to be correct."

PLANT MANAGER SIGNATURE:_____ DATE:_____

(ATTACH ADDITIONAL PAGES AND ALL SUPPORTING DOCUMENTATION, AS REQUIRED)

V. ENGINEERING ASSESSMENT

The broad engineering assessment conducted for the Pio Pico Energy Center (PPEC) project consists of separate analyses that examine facility design, engineering, efficiency, and reliability aspects. These analyses include the on-site power generating equipment and project-related linear facilities.

A. FACILITY DESIGN

This review covers several technical disciplines including the civil, electrical, mechanical, and structural engineering elements related to project design and construction. In considering the adequacy of the design plans, the Commission reviews whether the power plant and linear facilities are described with sufficient detail to ensure that the project can ultimately 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 address unique site conditions that could adversely impact public health and safety, the environment, or the operational reliability of the project.

Lists of LORS applicable to each engineering discipline (civil, structural, mechanical, and electrical) are described in the AFC. (Ex. 1, Appendices A through F.) Key LORS are listed in **Facility Design Table 1,** below:

FACILITY DESIGN Table 1
Key Engineering Laws, Ordinances, Regulations and Standards (LORS)

Applicable LORS	Description
Federal	Title 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health standards
State	2010 (or the latest edition in effect) California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations)
Local	San Diego County regulations and ordinances
General	American National Standards Institute (ANSI) American Society of Mechanical Engineers (ASME) American Welding Society (AWS) American Society for Testing and Materials (ASTM)

Condition of Certification **MECH-2** requires the project owner to obtain approval of the pressure vessels from California Occupational Safety and Health Administration (Cal-OSHA) in order to satisfy Title 29 Code of Federal Regulations' safety requirements.

For the project to be built in a manner that would ensure public health and safety and operational integrity of project equipment, the LORS listed above in **FACILITY DESIGN Table 1** under the "**General**" heading, must also be complied with by the project

SUMMARY AND DISCUSSION OF THE EVIDENCE

The 10-acre PPEC site is located in an unincorporated area of San Diego County, known as Otay Mesa. The PPEC site is comprised of disturbed and development-prepared land within an industrial area. The site is located in the southeast quadrant of the Alta Road and Calzada de la Fuente intersection. For more information on the site and its related project description, please see the **Project Description** section of this Decision. (Ex. 200, p. 5.1-2.)

The PPEC project will be a nominal 300 megawatt (MW) peaking and load following power plant using three General Electric LMS100 natural gas-fired combustion turbine generators. Each combustion turbine generator will utilize a mechanical inlet air chiller to maintain maximum output and efficiency. The power generation process will combust natural gas to rotate a turbine which drives an electrical generator. The electrical generator will deliver power to a step-up transformer in the PPEC switchyard. The transformer will be connected to a 230-kV overhead high-voltage, electrical conductor leading from the PPEC switchyard to the existing SDG&E Otay Mesa switchyard located approximately 1,800 feet east of the plant site. From the switchyard, the conductor will interconnect with the transmission grid. (Ex. 200, p. 3-2.)

Natural gas for the PPEC will be delivered via a new 12-inch, natural gas pipeline owned and maintained by SDG&E Company. The piping will be installed underground from the connection at the SDG&E gas transmission line to the interconnection point with the project site. At the project site boundary, the piping will be routed to the aboveground gas metering and regulation station. From the metering station the pipeline will be connected to onsite fuel gas compressors. (Ex. 200, p. 3-5.)

There are two possible routes for the gas supply pipeline. **Route A** extends approximately 2,375 feet south along Alta Road. The Modified Gas Line Route A

then turns west on Otay Mesa Road for approximately 2,700 feet, and then turns south on Enrico Fermi Drive for approximately 2,700 feet to Airway Road, at which point it will connect to an existing SDG&E natural gas pipeline. (Ex. 200, p. 3-6.)

Route B extends approximately 2,375 feet south along Alta Road, turns west on Otay Mesa Road, and continues approximately 7,920 feet to Harvest Road at which point it will connect to the existing SDG&E natural gas pipeline for a total of approximately 10,300 feet. (*Id*.)

1. Site Preparation and Development

The record includes an evaluation of the proposed design criteria for grading, flood protection, erosion control, site drainage, and site access, in addition to the criteria for designing and constructing linear support facilities such as natural gas and electric transmission interconnections. The Applicant proposes the use of accepted industry standards, design practices, and construction methods in preparing and developing the site. The evidence indicates that this project, including its linear facilities, will comply with all applicable site preparation LORS. To ensure compliance, we will impose the conditions of certification listed below and in the **Geology and Paleontology** section of this Decision.
(Ex. 200, p. 5.1-3.)

Staff's expert testimony concluded that the project and its linear facilities as proposed in preliminary design form, will comply with all applicable site preparation LORS with implementation OF Conditions of Certification **GEN-1** through **GEN-8**, **CIVIL-1** through **CIVIL-4**, **STRUC-1** through **STRUC-4**, **MECH-1** through **MECH-3**, and **ELEC-1** below and **Geology and Paleontology** Conditions of Certification **PAL-1** through **PAL-4**. (Ex. 200, pp. 5.1-5 - 5.1-6.)

We concur with Staff's determination. Collectively, these conditions (1) require the PPEC project to be designed and constructed in accordance with specified engineering LORS and (2) mandate design review, plan checking, and field inspections by the chief building official (CBO) or an Energy Commission delegate. For instance, Condition **GEN-1** requires the project owner to design, construct, and inspect the project in accordance with the 2010 California Building Standards Code, which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California

Reference Standards Code, and other applicable codes and standards in effect when the design and construction of the project actually begin. (Ex. 200, pp. 5.1-6 - 5.1-7.)

GEN-2, **GEN-3**, **GEN-7**, **GEN-8, CIVIL-1**, **STRUC-1** – **STRUC-4**, **MECH-1**, **MECH-3**, **ELEC-1** require specified reviews by and approvals from the CBO, Energy Commission Compliance Program Manager (CPM), or both. **GEN-4** through **GEN-6** require registered engineers and qualified inspectors to supervise various aspects of design and implementation. **STRUC-4** mandates that tanks and vessels containing quantities of toxic or hazardous material must comply with the 2010 version of the California Building Code. (Ex. 200, pp. 5.1-7 - 5.1-20.)

Compliance with federal and state Occupational Safety and Health Standards (OSHS) is mandated by Condition **MECH-2**. (Ex. 200, pp. 5.1-19 - 5.1-20.)

Implementation of **Geology and Paleontology** Conditions of Certification **PAL-1** through **PAL-4** will mitigate potential construction-related impacts to paleontological resources to less than significant levels. Their implementation requires significant information sharing and interaction among the project owner, paleontological resource monitors, and the CPM. (Ex. 200, pp. 5.2-19 - 5.2-23.)

2. Major Structures, Systems, and Equipment

Major structures, systems, and equipment are necessary for power production, costly or time consuming to repair or replace, used for the storage, containment, or handling of toxic/hazardous materials, or could become potential health and safety hazards if not constructed according to applicable engineering LORS. The major equipment and facilities include the following:

1. Three General Electric LMS100 natural gas-fired combustion turbine generators;
2. Inlet air evaporative coolers;
3. Two separate mechanical-draft cooling towers (one wet and one dry);
4. 230-kV switchyard w/ overhead high-voltage transmission lines;
5. Air emissions control equipment;
6. Aqueous ammonia storage tank;
7. Above-ground water storage tanks; and

8. Underground utility connections (electrical transmission lines, natural gas pipeline, potable water pipeline, reclaimed water pipeline and a sewer pipeline). (Ex. 200, pp. 3-2 – 3-3.)

Project Description - Figure 1, Site Plan shows the general arrangement and layout of the facility. (Ex. 200, p. 3-3.)

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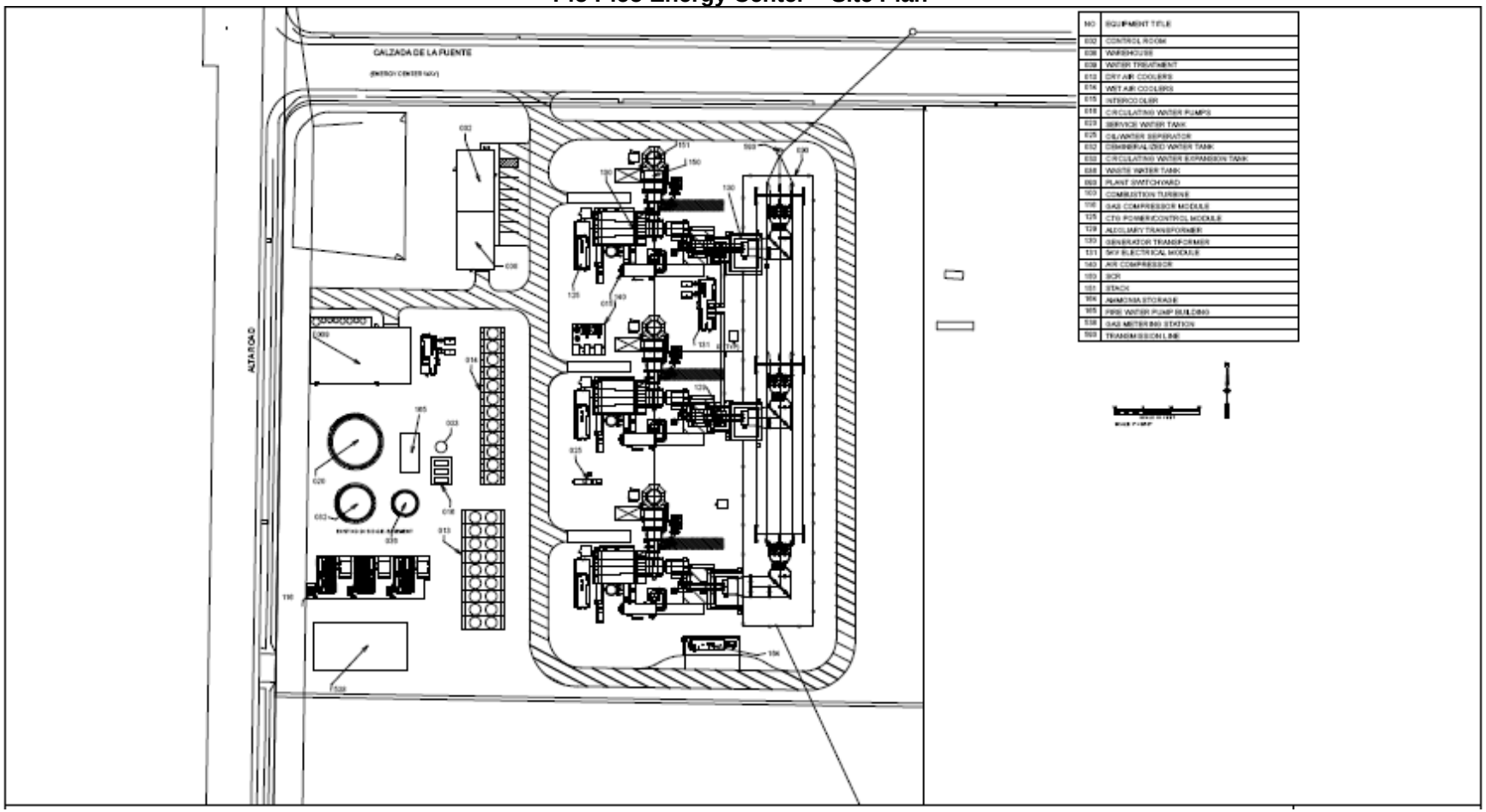
PROJECT DESCRIPTION – FIGURE 1

Pio Pico Energy Center – Site Plan



Source: Ex. 1, Figure 3.1-3A.

PPEC will be designed and constructed to the 2010 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and other applicable codes and standards in effect when the design and construction of the project actually begin. If the initial designs are submitted to the chief building official (CBO) for review and approval after the update to the 2010 CBSC takes effect, the 2010 CBSC provisions must be replaced with the updated provisions. (Ex. 200, p. 5.1-3.)

And, because the California Building Code requires certain power plant structures to undergo dynamic lateral force (structural) analysis to determine their seismic design criteria while allowing others to be designed using a static analysis procedure, Condition of Certification **STRUC-1** ensures the project will submit its proposed lateral force procedures to the CBO for review and approval before construction begins. (Ex. 200, pp. 5.1-3 – 5.1-4.)

We find that compliance of the above-described LORS and mitigation measures will ensure that the project's major structures, systems, and equipment are designed and constructed to reduce or avoid impacts that include potential health and safety hazards.

3. Project Quality Procedures

The Applicant describes a quality program intended to inspire confidence that its systems and components will be designed, fabricated, stored, transported, installed, and tested in accordance with all appropriate power plant technical codes and standards. (Ex. 1, § 3.12.6, Appendices A through F.) Compliance with design requirements will be verified through specific inspections and audits. Implementation of this quality assurance/quality control (QA/QC) program will ensure that PPEC is actually designed, procured, fabricated, and installed as described in this AFC. (Ex. 200, p. 5.1-4.)

Staff evaluated the Applicant's project quality control plans and independently determined that the quality program is adequate to ensure that systems and components will be designed, fabricated, stored, transported, installed, and tested in accordance with all appropriate power plant technical codes and standards. Thus, to ensure that the Applicant does in fact implement the

proposed quality assurance/quality control (QA/QC) program, we recommend implementation of design and construction–related conditions of certification set forth below.

4. Compliance Monitoring

Under Section 104.1 of the 2010 CBC, the CBO is authorized and directed to enforce all provisions of the CBC. The Energy Commission itself serves as the building official, and has the responsibility to enforce the code, for all of the energy facilities it certifies. In addition, the Energy Commission has the power to interpret the CBC and adopt and enforce both rules and supplemental regulations that clarify application of the CBC's provisions. (Ex. 200, p. 5.1-4.)

The Energy Commission's design review and construction inspection process conforms to CBC requirements and ensures that all facility design conditions of certification are met. As provided by Section 103.3 of the 2010 CBC, the Energy Commission appoints experts to perform design review and construction inspections and act as delegate CBOs on behalf of the Energy Commission. These delegates may include the local building official and/or independent consultants hired to provide technical expertise that is not provided by the local official alone. The Applicant, through permit fees provided by the CBC, pays the cost of these reviews and inspections. (Ex. 200, p. 5.1-4.)

We will impose conditions of certification for protection of public health and safety and compliance with engineering design LORS. Some of these conditions address the roles, responsibilities, and qualifications of the engineers who will design and build the project (Conditions of Certification **GEN-1** through **GEN-8**). These engineers must be registered in California and sign and stamp every submittal of design plans, calculations, and specifications submitted to the CBO. These conditions require that every element of the project's construction (subject to CBO review and approval) be approved by the CBO before it is performed. They also require that qualified special inspectors perform or oversee special inspections required by all applicable LORS. (Ex. 200, p. 5.1-4.)

While the Energy Commission and delegate CBO have the authority to allow some flexibility in scheduling construction activities, these conditions are written so that no element of construction (of permanent facilities subject to CBO review and approval) which could be difficult to reverse or correct can proceed without prior CBO approval. Elements of construction that are not difficult to reverse may proceed without approval of the plans. The Applicant bears the responsibility to

fully modify construction elements in order to comply with all design changes resulting from the CBO's subsequent plan review and approval process. (Ex. 200, pp. 5.1-4 - 5.1-5.)

5. Facility Closure

The evidentiary record also addresses project closure activities, which could range from "mothballing" the facility (i.e., closing or not using for a long time with the possibility of opening or being used again in the future) to removing all equipment and restoring the site. To ensure that decommissioning of the PPEC 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. Related requirements are discussed in the **Compliance** section of this Decision. (Ex. 200, p. 5.1-5.)

6. Compliance with LORS

As discussed above and shown by the language of the conditions of certification, the project will comply with the federal and state occupational safety and health requirement and the requirements of the most current California Building Standards Code (and the codes contained therein) requirements.

The evidence also shows that the project's design and construction will comply with the applicable local and general codes identified in **Facility Design Table 1**.

FINDINGS OF FACT

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

1. The PPEC project is currently in the preliminary design stage.

2. The evidentiary record identifies the applicable laws, ordinances, regulations, and standards (LORS) that apply to this project.

3. The evidentiary record contains and independent evaluation of the Applicant's proposed design criteria, including identification of criteria essential to public health and safety.

4. The evidentiary record contains sufficient information to establish that the 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.

5. The conditions of certification set forth below provide, in part, that independent qualified personnel will perform design review, plan checking, and field inspections of the project.

6. 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.

7. The General Conditions included in the **Compliance** section of this Decision, establish requirements to be followed in the event of facility closure.

CONCLUSION OF LAW

Implementation of the conditions of certification listed below will ensure that the PPEC project will be designed and constructed in conformance with the applicable laws pertinent to the engineering aspects summarized in **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct, and inspect the project in accordance with the 2010 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval (the CBSC in effect is 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. 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 2010 CBSC is in effect, the 2010 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 CPM a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation, and inspection requirements of the applicable LORS and the Energy Commission's decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the certificate of occupancy within 30 days of receipt from the CBO.

Once the certificate of occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility that requires CBO approval for compliance with the above codes. The CPM will 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, and master drawings and master specifications list. The master drawings and master specifications list shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures, systems, and equipment. Major structures, systems, and equipment are structures and their associated components or equipment that are necessary for power production, costly or time consuming to repair or replace, are used for the storage, containment, or handling of hazardous or toxic materials, or could become potential health and safety hazards if not constructed according to applicable engineering LORS. The schedule shall contain the date of each submittal to the CBO. 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 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, and the master drawings and master specifications list of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures, systems, and equipment defined above in Condition of Certification **GEN-2**. Major structures and equipment shall be added to or deleted from the list only with CPM approval. The project owner shall provide schedule updates in the monthly compliance report.

GEN-3 The project owner shall make payments to the CBO for design review, plan checks, and construction inspections, based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 2010 CBC, 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, or a structural or civil engineer, as the resident engineer (RE) in charge of the project. 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 RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project, respectively. A project may be divided into parts, provided that each part is clearly defined as a distinct unit. Separate assignments of general responsibility may be made for each designated part.

The RE 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 (or his delegate) must be located at the project site, or be available at the project site within a reasonable period of time, during any hours in which construction takes place.

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

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

Verification: At least 30 days (or project owner- and CBO-approved alternative 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 RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.

If the RE or the delegated engineer(s) 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 handled 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.

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, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads and sanitary sewer systems; and
    3. Provide consultation to the RE during the construction phase of the project and recommend changes in the design of the civil works facilities and changes 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;
3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with requirements set forth in the 2010 CBC (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 RE.

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.

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 2010 CBC (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 RE during design and construction of the project;
3. Monitor construction progress to ensure compliance with engineering LORS;
4. Evaluate and recommend necessary changes in design; and
5. Prepare and sign all major building plans, specifications, and calculations.

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 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 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, including prefabricated assemblies, 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 2010 CBC. All transmission facilities (lines, switchyards, switching stations, and substations) are handled 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. Inspect the work assigned for conformance with the approved design drawings and specifications;
3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction,

then, if uncorrected, to the CBO and the CPM for corrective action; and

4. Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications, and other provisions of the applicable edition of the CBC.

Verification: At least 15 days (or 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. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification and, if appropriate, applicable sections of the CBC and/or other LORS.

Verification: The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next monthly compliance report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval and the revised corrective action to obtain CBO's approval.

GEN-8 The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. The project owner shall notify the CPM after obtaining the CBO's final approval. The project owner shall retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or at another accessible location during the operating life of the project. 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 shall provide to the CBO three sets of electronic copies of the above documents at the project owner's expense. These are to be provided in the form of "read only" (Adobe .pdf 6.0 or newer version) files, 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. A construction storm water pollution prevention plan (SWPPP);
4. Related calculations and specifications, signed and stamped by the responsible civil engineer; and
5. Soils, geotechnical, or foundation investigations reports required by the 2010 CBC.

Verification: At least 15 days (or 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.

Verification: The project owner shall notify the CPM within 24 hours, when earthwork and construction is stopped as a result of unforeseen adverse

geologic/soil conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.

CIVIL-3 The project owner shall perform inspections in accordance with the 2010 CBC. 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. 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 state that the work within his/her area of responsibility was done in accordance with the final approved plans.

Verification: Within 30 days (or 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, the project owner shall submit plans, calculations and other supporting documentation to the CBO for design review and acceptance for all project structures and equipment identified in the CBO-approved master drawing and master specifications lists. The design plans and calculations shall include the lateral force procedures and details as well as vertical calculations.

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;
3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation;
4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations, and specifications shall be signed and stamped by the responsible design engineer; and
5. Submit to the CBO the responsible design engineer's signed statement that the final design plans conform to applicable LORS.

Verification: At least 60 days (or project owner and CBO approved alternative time frame) prior to the start of any increment of construction of any structure or component listed in the CBO approved master drawing and master specifications list, 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 (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and
5. Reports covering other structural activities requiring special inspections shall be in accordance with the 2010 CBC.

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. The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

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

STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 2010 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.

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 2010 CBC shall, at a minimum, be designed to comply with the requirements of that chapter.

Verification: At least 30 days (or 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 the CBO-approved master drawing and master specifications list. 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.

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, which may include, but are not limited to:

- American National Standards Institute (ANSI) B31.1 (Power Piping Code);
- ANSI B31.2 (Fuel Gas Piping Code);
- ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
- ANSI B31.8 (Gas Transmission and Distribution Piping Code);
- NACE R.P. 0169-83;
- NACE R.P. 0187-87;
- NFPA 56;
- Title 24, California Code of Regulations, Part 5 (California Plumbing Code);
- Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);
- Title 24, California Code of Regulations, Part 2 (California Building Code); and
- San Diego County codes.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency.

Verification: At least 30 days (or project owner and CBO approved alternative time frame) prior to the start of any increment of major piping or plumbing construction listed in the CBO approved master drawing and master specifications list, 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.

The project owner shall:

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

Verification: At least 30 days (or project owner and CBO approved alternative 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.

Verification: At least 30 days (or 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 110 Volts or higher (see a representative list, below) the project owner shall submit, for CBO design review and approval, the proposed final design, specifications, and calculations. 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. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in conditions of certification in the **Transmission System Engineering** section of this Decision.

A. Final plant design plans shall include:

1. one-line diagram for the 13.8-kV, 4.16-kV and 480 V systems;
2. system grounding drawings;
3. lightning protection system; and
4. hazard area classification plan.

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;
7. lighting energy calculations; and
8. 110 volt system design calculations and submittals showing feeder sizing, transformer and panel load confirmation, fixture schedules and layout plans.

C. The following activities shall be reported to the CPM in the monthly compliance report:

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

Verification: At least 30 days (or project owner- and CBO-approved alternative 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 PPEC 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), Appen. F.)

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

The inefficient and unnecessary consumption of energy, in the form of non-renewable fuels such as natural gas and oil, constitutes an adverse environmental impact. An adverse impact can be considered significant if it results in:

- adverse effects on local and regional energy supplies and energy resources;
- a requirement for additional energy supply capacity;
- noncompliance with existing energy standards; or
- the wasteful, inefficient, and unnecessary consumption of fuel or energy.

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

Summary and Discussion of the Evidence

1. Project Energy Requirements and Energy Use Efficiency

In this section of the Decision we examine 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. In addition, the evidence addresses whether there are feasible alternatives which would reduce any wasteful, inefficient, or unnecessary energy consumption attributable to the project.

The project objective is to provide flexible peaking and load following power generation services during periods of high demand (especially during the morning and evening ramps). (Ex. 200, p. 5.3-3.)

Any power plant large enough to fall under Energy Commission siting jurisdiction will consume large amounts of energy. The record shows that under average ambient conditions, PPEC would burn natural gas at a nominal rate of 2,457 million Btu[1] per hour LHV. This is a substantial rate of energy consumption, and holds the potential to impact energy supplies. Under typical ambient conditions, electricity would be generated at a full load efficiency of approximately 43 percent LHV. This efficiency level compares favorably with the average fuel efficiency of a typical simple cycle power plant. (Ex. 200, p. 5.3-2.)

PPEC will use three GE LMS100 gas turbine generators, the newest and most efficient such machine available. This model of the LMS100 is nominally rated at 103.5 MW at a fuel efficiency of 43.6 percent. The PPEC project would actually produce 300 MW (100 MW per machine) net output, at a site rated fuel efficiency of 43 percent LHV, based on typical ambient conditions. This site rating differs from nominal figures due to site-specific ambient conditions (altitude and temperature), power losses from parasitic loads, and reduced system output due to flow losses caused by the inlet air cooling system and the SCR unit installed on the exhaust of each turbine. (Ex. 200, p. 5.3-4.)

The PPEC project would be configured as three simple cycle power plants in parallel, in which electricity is generated by three natural gas-fired turbine generators. This configuration, with its short start-up time and fast ramping[2] capability, is well suited to providing peaking power. Further, when reduced output is required, one or more turbine generators can be shut down, allowing the remaining machine(s) to produce a percentage of the full power at optimum efficiency, rather than operating a single, larger machine at a less efficient part-load output. (Ex. 200, p. 5.3-3.)

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[1] British thermal units.

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

The Applicant intends for PPEC to operate as a peaking and load following facility with a total annual capacity factor of no more than 46 percent. (Ex. 200, p. 5.3-1.)

The evidence indicates that the proposed turbines embody the most fuel-efficient electric generation technology available. And, with respect to the efficiency of the selected gas turbine inlet air-cooling method, the evidence establishes that there are no alternatives to the chosen evaporative cooling technology that could significantly reduce energy consumption. According to the evidence, commonly used inlet air-cooling techniques include the evaporative cooler (or fogger) and the chiller. GE has done three things differently on the LMS100. First, it has removed the limitations of the low pressure spool inherent in GE's popular LM6000 aeroderivative engine by adding an aero engine taken from GE's industrial Frame 6 machine. Second, GE has employed a much more effective compressor interstage cooling system which ducts the air discharged from the low pressure compressor away from the machine, where it can be more effectively cooled by a separate cooling system; then ducted back into the high pressure compressor. Third, GE has provided a third shaft, independent of the first two spools, to carry the power turbine, which is in turn coupled to the electric generator. Since the LMS100's power turbine and generator are not mechanically coupled to the low pressure spool, this spool is free to spin at optimum speed (approximately 5,300 rpm at full load). (Ex. 200, p. 5.3-5.)

Thus, the evidence establishes that the project's simple cycle configuration and the chosen generating equipment represent the most efficient feasible combination to satisfy the Applicant's stated project objectives. There is no evidence of any gas-fired alternatives that could significantly reduce energy consumption.

2. Impacts on Energy Supplies

Natural gas will be delivered to the project site via either a new (up to 12-inch diameter) approximately 8000-foot long natural gas pipeline, or a new (up to 12-inch diameter) approximately 10,300-foot long natural gas pipeline, that would be connected to an existing 36-inch San Diego Gas and Electric Company (SDG&E) natural gas transmission pipeline. (Ex. 200, p. 5.3-2.)

Moreover, the evidence shows that only natural gas burning technologies are feasible for this project. Other technologies are either incapable of providing the

PPEC project's ancillary services of flexible morning and evening start-ups and shutdowns as needed, and quick cold-start capability that is dispatchable (*e.g.,* solar, wind), are unavailable in the area (*e.g.*, wind, geothermal, biomass), or are too highly polluting (*e.g.*, coal, oil). (Ex. 200, p. 5.3-4, see also the **Alternatives** section of this Decision.)

3. Cumulative Impacts

A project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (Cal. Code Regs., tit. 14, § 15065(a)(3).)

Neither the Applicant nor Staff identified nearby projects that could potentially combine with the PPEC project to create cumulative impacts on natural gas resources. The SDG&E natural gas supply system draws from extensive supplies originating in the Rocky Mountains, in the southwest, and in Canada. We find that the SDG&E system is adequate to supply the PPEC project without adversely impacting its other customers. (Ex. 200, p. 5.3-7.)

4. Noteworthy Project Benefits

The Applicant proposes to provide flexible peaking power and ancillary services, such as load following, during periods of high demand. By doing so in this most fuel-efficient manner, i.e., employing the most modern peaking gas turbine generators available, the PPEC project will provide a benefit to the electric consumers of California. (Ex. 200, p. 5.3-7.)

FINDINGS OF FACT

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

1. The PPEC project will provide approximately 300 MW of peaking and load following generation and ancillary services, operate in a simple cycle mode, and use three GE LMS100 gas turbine generators, the newest and most efficient such machine available.

2. Under average annual ambient conditions, the project will generate electricity at a full load efficiency of approximately 43 percent LHV.

3. The project's simple cycle configuration, short start-up time, and fast ramping capability are appropriate for providing peaking and load following generation in an efficient manner.

4. The project will not require the development of new fuel supply resources.

5. The project will consume natural gas in as efficient a manner as practicable.

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

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

CONCLUSION OF LAW

We therefore conclude that the PPEC 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.

C. POWER PLANT RELIABILITY

We must determine whether the project will be designed, sited, and operated to ensure safe and reliable operation. (Pub. Resource Code, § 25520(b); Cal. Code Regs., tit. 20, § 1752(b)(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 (California ISO) that purchase, dispatch, and sell electric power throughout the State. The California ISO 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. (Ex. 200, p. 5.4-1.)

The California ISO 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 California ISO 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 by ensuring: (1) adequate levels of equipment availability; (2) plant maintainability with scheduled maintenance outages; (3) fuel and water availability; and, (4) resistance to natural hazards. 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, pp. 5.4-1 – 5.4-2.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The 300-megawatt (MW) (nominal net output) simple cycle PPEC project will provide flexible peaking and load following power generation services during periods of high demand in the San Diego area. The evidence predicts an equivalent availability factor of at least 98 percent. The Applicant expects to operate the plant at a capacity factor of 46 percent during each year of its operating life. (Ex. 200, p. 5.4-2.)

1. Equipment Availability

Equipment availability for PPEC 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 common 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. To ensure these measures are taken, we have incorporated appropriate conditions of certification in the **Facility Design** section of this Decision. (Ex. 200, p. 5.4-3.)

2. Plant Maintainability

A generating facility called on to operate in base-load service for long periods of time must be capable of being maintained while operating. A typical approach for achieving this is to provide redundant examples of those pieces of equipment most likely to require service or repair. Because the PPEC project will consist of three combustion turbine generators, operating in parallel as independent equipment trains, it is inherently reliable. A single equipment failure cannot disable more than one train, which allows the plant to continue to generate, but at reduced output (approximately 66 percent of full plant output). Furthermore, all plant ancillary systems are designed with adequate redundancy to ensure continued operation in the face of equipment failure. Examples of plant equipment redundancy include two 100 percent capacity cooling water pumps; three 50 percent capacity natural gas compressors; two 60 percent capacity demineralized/reverse osmosis systems; and two 100 percent capacity auxiliary transformers. We find that equipment redundancy described in the record is sufficient for a project such as this. (Ex. 200, pp. 5.4-3 – 5.4-4.)

The PPEC will establish a preventive plant maintenance program typical of the industry. The Applicant will base its maintenance program on the maintenance recommendations that the equipment manufacturers provide with their products. The program will encompass preventive and predictive maintenance techniques. Maintenance outages will be scheduled for periods of low electricity demand. In light of these plans, we find that the project will be adequately maintained to ensure acceptable reliability. (Ex. 200, p. 5.4-4.)

3. Fuel and Water Availability

For any power plant, the long-term availability of fuel and of water for cooling or process use is necessary to ensure reliability. The insufficiency of reliable sources of fuel and water may restrict the service life and the economic viability of the power plant. (Ex. 200, p. 5.4-4.)

PPEC will burn natural gas supplied by San Diego Gas and Electric Company (SDG&E). There are two possible routes for the gas supply pipeline. Both routes would connect to an existing SDG&E natural gas pipeline, but at different locations. **Route A** extends approximately 2,375 feet south along Alta Road, which is the same distance of the original Route A along Alta Road. The Modified Gas Line Route A then turns west on Otay Mesa Road for approximately 2,700 feet, and then turns south on Enrico Fermi Drive for approximately 2,700 feet to Airway Road, at which point it would connect to an existing SDG&E natural gas pipeline, (see **Project Description - Figure 3, Alternative Routes for Natural Gas Line**). (Ex. 200, p. 5.4-4.)

Route B would extend approximately 2,375 feet south along Alta Road, turn west on Otay Mesa Road, and continue approximately 7,920 feet to Harvest Road at which point it would connect to the existing SDG&E natural gas pipeline for a total of approximately 10,300 feet. The pipeline will be constructed, owned, and operated by SDG&E. (Ex. 200, pp. 5.4-4 – 5.4-5.)

SDG&E's natural gas supply system represents a resource of considerable capacity and offers access to adequate supplies of gas from the Rocky Mountains, Canada, and the Southwest. Also, PPEC has a 20-year fuel tolling agreement for SDG&E to provide natural gas to the project. We find that there will be adequate natural gas supply and pipeline capacity to meet the project's needs. (Ex. 200, p. 5.4-5.)

PPEC will use water for plant service needs, cooling system makeup, combustion turbine injection, combustion turbine evaporative cooling makeup, and secondary fire protection. This water will be supplied by Otay Water District (OWD). OWD reviewed and approved the Water Supply Assessment Report required by state law, and this demonstrates a sufficient likelihood of a reliable supply of water. (For further discussion of water supply, see the **Soil and Water Resources** section of this Decision.) (Exs. 56; 200, p. 5.4-5.)

4. Natural Hazards

Natural forces can threaten the reliable operation of a power plant. High winds, tsunamis (tidal waves), seiches (waves in inland bodies of water), and flooding would not likely represent a hazard for this project, but seismic shaking (earthquake) may present a credible threat to reliable operation of the PPEC. (Ex. 200, p. 5.4-5.)

The site lies within seismically active Southern California. However, no active or potentially active faults have been identified near the project site. The PPEC project will be designed and constructed to the latest applicable LORS (PPEC 2011a, AFC Appendices A through F). Compliance with current seismic design LORS represents an upgrading of performance during seismic shaking compared to older facilities since these LORS have been continually upgraded. Because it will be built to the latest seismic design LORS, this project will likely perform at least as well as, and perhaps better than, existing plants in the electric power system. Conditions of certification in **Facility Design** ensure compliance with relevant LORS. In light of the general historical performance of California power plants and the electrical system in seismic events, the evidence demonstrates that the power plant will functional reliably during earthquakes. (Ex. 200, p. 5.4-5.)

The site is at an elevation of approximately 635 feet above mean sea level and is not within a 100-year flood zone. With proper plant design (ensured by adherence to the proposed **Facility Design** conditions of certification), the evidence indicates that the power plant will not likely experience functional unreliability due to flooding. For further discussion, see the **Soil and Water Resources** and **Geology and Paleontology** of this Decision. (Ex. 200, p. 5.4-5.)

5. Comparison to Industry Norms

The North American Electric Reliability Corporation (NERC) maintains industry statistics for availability factors (as well as other related reliability data). The NERC regularly polls North American utility companies on their project reliability through its Generating Availability Data System and periodically summarizes and publishes those statistics on the Internet at http://www.nerc.com. NERC reports an availability factor of 91.5 percent as the generating unit average figure for the years 2005 through 2009 for gas turbine units (50 MW and larger). (Ex. 200, p. 5.4-6.)

The model of gas turbine that would be employed in the PPEC project has been on the market for several years now and can be expected to exhibit typically high availability. General Electric (GE), manufacturer of the LMS100 gas turbines, pursued a development program for these units that is nearly unprecedented in the gas turbine industry. New turbines typically undergo only systems tests during development, leaving final testing and shakedown to the initial commercial units. After the costly debacle that attended the release of GE's Frame 7F machine in the mid-1990s, GE committed to build and own the initial LMS100

power plant itself. Only after the machine had been thoroughly tested and proven did GE sell this initial plant to its ultimate owner, and proceed to deliver LMS100 machines to additional customers. That first machine, destined for the Basin Electric Power Cooperative's Groton, SD station, was delivered in late 2005 and was turned over to its new owner in summer 2006. (Ex. 200, p. 5.4-6.)

The annual availability factor of at least 98 percent appears reasonable compared to the NERC figure for similar plants throughout North America and in light of the GE's development program. In fact, these machines can well be expected to outperform the fleet of various (mostly older) gas turbines that make up the NERC statistics. Further, since the plant will be operating in parallel with the three units at the PPEC facility, maintenance can be scheduled during those times of year when plant output is not required to meet market demand, typical of industry standard maintenance procedures. The undisputed estimate of plant availability contained in the record, therefore, appears realistic. The stated procedures for assuring design, procurement, and construction of a reliable power plant appear to be in keeping with industry norms, and we find they are likely to yield an adequately reliable plant. (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 PPEC.

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

3. Implementation of Quality Assurance/Quality Control (QA/QC) programs during design, procurement, construction, and operation of the PPEC plants, along with adequate maintenance and repair of the equipment and systems, will ensure the project is adequately reliable.

4. 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.

5. PPEC will have appropriate redundancy of function.

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

7. The project will meet or exceed industry norms for reliability, including reliability during flooding or seismic events.

8. PPEC will not degrade the overall electrical system.

9. The North American Electric Reliability Corporation reports an availability factor of 91.5 percent as the generating unit average figure for the years 2005 through 2009 for gas turbine units (50 MW and larger).

10. An availability factor of 98 percent is achievable by the PPEC.

CONCLUSION OF LAW

We therefore conclude that PPEC will meet industry norms and not degrade the overall reliability of the electrical system. The project will be adequately reliable. 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. Resources Code, § 25107.) In conducting its review of a power plant AFC, the Commission assesses the engineering and planning design of new transmission facilities associated with a proposed project to ensure compliance with applicable LORS required for safe and reliable electric power transmission. The Commission also conducts an environmental review of the "whole of the action" related to the power plant proposal. This may include examining the environmental effects of facilities made necessary by the construction and operation of the proposed power plant but not licensed by the Commission. (Cal. Code Regs., tit. 14 § 15378.)

Additionally, 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.) Thus, the Commission must identify the system impacts and necessary new or modified transmission facilities required downstream of the proposed interconnection. The record indicates that the Applicant in this case has adequately identified all necessary interconnection facilities based on the information currently available.

The California Independent System Operator (California ISO) is typically responsible for ensuring electric system reliability for participating entities and determines both the standards necessary to achieve system reliability and whether a proposed project conforms to those standards. The Energy Commission routinely works in conjunction with the California ISO in assessing a project. Commission staff normally relies on the California ISO, or the interconnecting utility for the analysis of impacts on the transmission grid as well as the identification and approval of required new or modified facilities downstream from the proposed interconnection. The proposed project would connect to the SDG&E transmission network and requires analysis by SDG&E and approval of the California ISO.

We also evaluate the project's compliance with the following applicable laws, ordinances, regulations, and standards (LORS):

- California Public Utilities Commission General Order 95, *Rules for Overhead Electric Line Construction* – Establishes uniform requirements for construction of overhead transmission lines. Compliance with this order ensures adequate

service and safety to persons engaged in the construction, maintenance, and operation or use of overhead electric lines and to the public generally.

- California Public Utilities Commission General Order 128, *Rules for Construction of Underground Electric Supply and Communications Systems* - Establishes uniform requirements and minimum standards to be used for underground supply systems to ensure adequate service and safety to persons engaged in the construction, maintenance, and operation or use of underground electric lines and public generally.
- National Electric Safety Code (1999) – Provides electrical, mechanical, civil, and structural requirements for overhead electric line construction and operation.
- Western Electricity Coordinating Council (WECC) Planning Standards and North American Electric Reliability Corporation (NERC) Planning Standards – These merged standards require the continuity of service to loads as the first priority, and preservation of interconnected operation as a secondary priority. The standards provide planning for electric systems to withstand the more probable forced and maintenance outage system contingencies at projected customer demand and anticipate electricity transfer levels, while continuing to operate reliably within equipment and electric system thermal, voltage, and stability limits.
- NERC Reliability Standards for the Bulk Electric Systems of North America – Provide national policies, standards, principles, and guidelines to ensure the adequacy and security of the electric transmission system. These standards provide for system performance levels under normal and contingency conditions. (Ex. 200, pp. 5.5-3 – 5.5-4.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Transmission Facilities Description

Two generator tie-line routes have been proposed to interconnect the PPEC to the Otay Mesa switchyard. Generator tie-line route A consists of both 230-kV overhead conductor and 230-kV underground cable. Route A would be built along Calzada de la Fuente, extend east for approximately 1,700 feet and then routed underground for approximately 400 feet into the Otay Mesa switchyard. The 1,700 feet- long overhead generator tie-line would be built with 1113 kcmil aluminum conductor steel-reinforced (ACSR) and the 400 feet-long underground tie-line would be built with 2300 kcmil aluminum cross-linked polyethylene cable (Al XLPE). The total Route A length is approximately 2,100 feet long. (Ex. 200, p. 5.5-4.)

Route B would be an 230-kV overhead transmission line built from the east side of the PPEC project site, run south for approximately 550 feet then east for approximately 1,400 feet, then run north for approximately 700 feet into the Otay Mesa switchyard. With a total length of 2,650 feet, the Route B 230-kV overhead generator tie-line would be built with 1113 kcmil ACSR conductor. (Ex. 200, p. 5.5-5.)

The overhead generator tie-line would be supported by typical 90-foot height single-pole structures. The underground section of the proposed Route A underground cable would use typical six-foot deep 230-kV duct bank. (*Id.*)

The generator tie-line would then be connected to the existing Otay Mesa switchyard. Power would be distributed to the grid via existing transmission lines from the Otay Mesa switchyard (Ex. 1, section 3.5.5, 3.7, Figure 3.5-3, Figure 3.7-1B, Figure 3.7-1C, Figure 3.7-1D, Figure 3.7-2.)

Conditions of Certification **TSE-1** through **TSE-7** ensure these facilities comply with LORS.

2. System Impact Study

The August 24, 2011, C1C2 projects Phase II Interconnection Study Report was prepared by the California ISO in coordination with SDG&E. The Phase II Interconnection Study modeled the PPEC project with a net output of 308 MW. (Ex. 200, p. 5.5-6.)

The Power Flow base cases use the 1-in-10 year load forecast for the SDG&E Area. The 2014 Heavy Summer peak load and 2014 Light Load base cases included all pre-C1C2 generation projects and the associated network upgrades and special protection systems, as well as all the California ISO approved transmission upgrade projects through 2014. The Phase II Interconnection Study also included a second Hassayampa-North Gila 500-kV transmission line in the Arizona Public Service area which was expected to begin operating in 2014. The detailed study assumptions are described in the Phase II Interconnection Study. (*Id.*)

The power flow studies were conducted using 2014 heavy summer and 2014 light load base cases with and without the proposed C1C2 generation projects interconnected to the SDG&E grid at each project's proposed interconnection point. The Power Flow study assessed the C1C2 generation projects' impact on

thermal loading of the transmission lines and equipment. Short circuit studies were conducted to determine if the C1C2 generation projects would overstress existing substation facilities. Transient Stability Analysis was conducted using the 2015 heavy summer and 2015 light load base cases to determine whether the C1C2 generation projects would create instability in the system following certain selected outages. Post-Transient Voltage Stability Analysis was conducted using the 2015 heavy summer and the 2015 light load base cases to determine whether the C1C2 generation projects would create voltage deviations in the system following lines and equipment outages. (*Id.*)

a. Power Flow Study

The C1C2 Phase II Interconnection Study identified pre-project overload criteria violations under the 2014 heavy summer and the 2014 light load study conditions. Pre-project overloads are caused by either existing system conditions or by projects with higher positions in the SDG&E's generator interconnection queue. The study concluded that the addition of the C1C2 projects would cause normal overloads and emergency overloads. Section four and five of the Individual Project Report listed details of the Power Flow study results and proposed mitigation measures (Ex. 200, p. 5.5-6.)

The Power Flow study indicated that the C1C2 projects and specifically the PPEC project would cause transmission line overloads in the Otay Mesa area under normal operating conditions using the 2014 heavy summer peak and the 2014 light load study cases.

The Power Flow study indicated that the C1C2 projects would cause overloads in the following areas and transmission lines using the 2014 heavy summer peak load and the 2014 light load study cases.

- Otay Mesa Area
- Otay Mesa - Miguel 230-kV line #1
- Otay Mesa - Miguel 230-kV line #2
- Escondido – Palomar 230-kV line #1
- Escondido – Palomar 230-kV line #2
- Friars - Doublet Tap 138-kV line

The Power Flow study indicated that C1C2 projects would cause overloads in the following areas and transmission lines using the 2014 heavy summer peak load and the 2014 light load study cases.

- Otay Mesa Area
- Bernardo - Felicita Tap 69-kV line
- Mission - Old Town 230-kV line
- Cannon - San Luis Rey 138-kV line

The Power Flow study indicated that C1C2 projects would cause overloads to the SCE transmission system. Details are listed in the Phase II Interconnection Study, Ex.97.

Mitigation

Mitigation of the above transmission line overloads has been identified in two categories: Reliability Network Upgrades and Delivery Network Upgrades. Reliability upgrades are required in order to meet system reliability standards for the interconnection of the projects in the studied cluster. Delivery network upgrades are required only when an interconnecting generator requests full delivery interconnection service, often required in order to receive capacity payments or meet contractual requirements. PPEC is a full delivery generator and thus delivery network upgrades identified for the generating cluster could be downstream impacts of the PPEC.

Under the Reliability Network Upgrades**,** installation of Special Protection System (SPS) measures are recommended to mitigate the following line overloads.

- Otay Mesa - Miguel 230-kV line #1 and #2.
- Modify the existing SPS to drop generation in the Otay Mesa Substation area to mitigate Category B line overloads for outages on either the Otay Mesa - Miguel 230-kV line #1 or #2. Also, the modified SPS would mitigate Category C overloads for outages on both of the Otay Mesa - Miguel 230-kV lines. The SPS cost allocation for the PPEC is 100 percent which means that the PPEC is the primary responsible party.
- Bernardo - Felicita Tap 69-kV line.
- Install SPS to protect the Bernardo - Felicita Tap 69-kV line for Category C contingency for outage on both Escondido - Palomar Energy 230-kV lines. The SPS cost allocation for the PPEC is 100 percent which means that the PPEC is the primary responsible party.
- Mission - Old Town 230-kV line.

- Install SPS to drop some of the C1C2 generations to protect the Bernardo - Feliciata Tap 69-kV line for Category C contingency. The SPS cost allocation for the PPEC is 100 percent which means that the PPEC is the primary responsible party.
- Cannon - San Luis Rey 138-kV line.
- Install SPS to trip the San Luis Rey 138/69-kV transformer bank to protect the Cannon - San Luis Rey 138-kV line for the Category C contingency outage on both of the Encina - San Luis Rey 230-kV line and the Encina - San Luis Rey - Palomar 230-kV line. The SPS cost allocation for the PPEC is 100 percent which means that the PPEC is the primary responsible party.

Under the Delivery Network Upgrades**,** the Phase II Interconnection Study recommends reconfiguration and reconductoring of the overloaded transmission lines to allow for the full delivery of generation. The reconductoring of existing transmission lines owned by SDG&E would be licensed by the California Public Utilities Commission (CPUC). Through the CPUC licensing process, environmental impacts would be identified and, where necessary, mitigated. Reconductoring would be a reasonably foreseeable consequence of the PPEC. Staff's environmental analysis of the reconductoring activities is set forth in the evidence. (Ex. 200, pp 5.5-22 – 5.5-60.)

- <u>Reconfigure TL23041 and TL23042 at Miguel Substation</u>

  Reconfigure TL23041 and TL23042 at Miguel Substation and create two 230-kV lines connecting the Otay Mesa and Miguel Substations. The interconnection between these two substations would require the installation of a 600 foot long transmission line using 900 ACSS/AW overhead conductor, steel poles, new 230-kV breakers, disconnect switches, relays and other interconnection equipment. This reconfiguration will mitigate Category A, B, and C overloads in the Otay Mesa area. The cost allocation for the PPEC is approximately 85 percent which means that the PPEC is the primary responsible party for this reconfiguration and that even if all the other projects in the cluster were never built; the reconfiguration would likely be required for the PPEC.

- <u>Reconductor a portion of the Escondido - Palomar Energy #1 and #2 230-kV lines and convert two existing 69-kV overhead lines to underground cables.</u>

  Reconductor a 1,200 foot portion of Escondido - Palomar Energy #1 and #2 230-kV lines that are currently strung with 605 ACSS/AW conductor to 900 ACSS/AW conductor. The reconductoring would require installation of new cross arms for a 230-kV pole.

  Convert two existing 69-kV overhead lines which are currently located 60 feet east of the Escondido – Palomar Energy lines to two underground

cables. The underground portion of the 69-kV cable is approximately 600 feet long south of the Escondido Substation.

The upgrades will mitigate Category B overloads. The cost allocation for the PPEC is approximately 31 percent which means that the PPEC is partly responsible for the upgrade.

- Reconductor Friars - Doublet Tap 138-kV line

  Reconductor a 10,500 foot portion of the Friars - Doublet Tap 138-kV line with 636 ACSR/AW conductor or a conductor with higher capacity. The reconductoring will mitigate Category B overloads. The cost allocation for the PPEC is approximately 70 percent which means that the PPEC is the primary responsible party for this reconductoring and that even if all the other projects in the cluster were never built; the reconductoring would likely be required for the PPEC.

The C1C2 Phase II Interconnection Study also identified transmission line overloads to the SCE transmission system due to the addition of the C1C2 generation projects. The following Delivery Network Upgrades are recommended for the SCE system.

- Loop Lugo – Mohave 500-kV line into Pisgah Substation
- Add series capacitor banks on Nipton – Pisgah and Mohave – Pisgah 500-kV lines
- Add new Red Bulff – Valley 500-kV line
- Add new Colorado River – Red Bluff 500-kV line

The cost allocation of each upgrade listed above for the PPEC is approximately from five percent to seven percent which means that the PPEC is not the primary responsible party for these upgrades. We find that these upgrades should not be considered a reasonably foreseeable consequence of the PPEC. (Ex. 200, pp. 5.5-6 – 5.5-9.)

b. Transient Stability Analysis

Transient stability studies were conducted using the 2015 heavy summer and 2015 light load base cases to ensure that the transmission system remained in operating equilibrium, as well as operating in a coordinated fashion, through abnormal operating conditions after the C1C2 generation projects became operational. Disturbance simulations were performed for a study period of 10 seconds for pre-C1C2 generation projects cases and 20 seconds for the post-C1C2 generation project cases to determine whether the C1C2 generation projects would create any system instability during line and generator outages. The Transient Stability Study result indicated that the PPEC would not cause

adverse impacts on the stable operation of the transmission system following the selected Category “B” and Category “C” outages. (Ex. 200, p. 5.5-10.)

c. Short Circuit Analysis

Short Circuit studies were performed to determine the degree to which the addition of the C1C2 generation projects increase fault duties at SDG&E’s substations, adjacent utility substations, and the other 69-kV, 138-kV, 230-kV and 500-kV busses within the study area. The fault duties were calculated with and without the C1C2 generation projects to identify any equipment overstress conditions. Buses electrically adjacent to C1C2 generation projects and their short circuit duties are listed in **Appendix A**. The short circuit duties related just to the PPEC are listed in Attachment 4. The short circuit initial study identified that the C1C2 generation projects along with the PPEC plus the associated delivery network upgrades will not cause any circuit breakers in the SDG&E system to be overstressed. (Ex. 200, p. 5.5-10.)

The reconfiguration at the SDG&E Miguel 230 Substation would overstress circuit breaker(s) in the Tijuana 230-kV bus in the Comision Federal de Electricidad (CFE) system. The California ISO would coordinate with the CFE to further analyze the impacted equipment and identify the required mitigation. (*Id.*)

Thus, we find that the System Impact Study indicates that the project interconnection will comply with NERC/WECC planning standards.

3. Cumulative Impacts

Potential cumulative impacts on the transmission network are identified through the utility generator interconnection process. This process analyzes not only the impacts of the proposed project but also all other projects ahead of the studied project in the generation interconnection queue.

The TSE analysis focuses on whether or not a proposed project will meet required codes and standards. At all times the transmission grid must remain in compliance with reliability standards, whether one project or many projects interconnect. Potential cumulative impacts on the transmission network are identified through the California ISO and utility generator interconnection process. In cases where a significant number of proposed generation projects could affect a particular portion of the transmission grid, the interconnecting utility

or the California ISO can study the cluster of projects in order to identify the most efficient means to interconnect all the proposed projects. (Ex. 200, p. 5.5-11.)

4. Compliance with LORS

The System Impact Study indicates that the project interconnection would comply with NERC/WECC planning standards. For the reasons discussed above in this analysis, we also find that the project will meet all applicable LORS with implementation of the conditions of certification.

5. Public and Agency Comment

No comments were received on Transmission System Engineering.

FINDINGS OF FACT

1. The proposed PPEC interconnection facilities and their terminations will all be adequate in accordance with NESC standards, GO-95 Rules, industry standards, and good utility practices, and are acceptable according to the engineering LORS identified in **Appendix A**.

2. The record includes a System Impact Study (SIS) which analyzes potential reliability and congestion impacts that could occur when the PPEC project interconnects to the grid.

3. The interconnection of the PPEC would cause new transmission line overloads under normal and contingency conditions. These overloads would be prevented by installation of SPS, reconfiguration of existing transmission lines, and reconductoring overloaded transmission lines.

4. The interconnection of the PPEC and other generators included in the Phase II Interconnection Study would not result any overstressed breakers in the SDG&E system. Other existing breakers are adequate to withstand the post project incremental fault currents described in the Short Circuit Study.

5. The PPEC will meet the requirements and standards of all applicable LORS upon compliance with the conditions of certification.

CONCLUSIONS OF LAW

1. 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 PPEC project will not contribute to significant adverse direct, indirect, or cumulative impacts.

2. The conditions of certification below ensure that the transmission-related aspects of the PPEC 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.

CONDITIONS OF CERTIFICATION

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

Verification: Prior to the start of construction, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment listed 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.

1. Breakers
2. Step-up transformer
3. Switchyard
4. Busses
5. Surge arrestors
6. Disconnects
7. Take-off facilities
8. Electrical control building
9. Transmission pole/tower
10. Grounding system

TSE-2 Before the start of construction, the project owner shall assign to the project an electrical engineer and at least one of each of the following:

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 and 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 either a civil engineer or a 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, or 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 as required by **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 earth work and require changes; if site conditions are unsafe or do not conform with the predicted conditions used as the basis for design of earth work 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: Prior to the start of rough grading, the project owner shall submit to the CBO for review and approval the names, qualifications, and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

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

TSE-3 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend corrective action (2001 California Building Code, 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 refer to 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 the disapproval, along with the revised corrective action required to obtain the CBO's approval.

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

A. receipt or delay of major electrical equipment;

B. testing or energization of major electrical equipment; and

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

Verification: Prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, and outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer verifying compliance with all 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, and 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. Once approved, the project owner shall inform the CPM and CBO of any anticipated changes to the design, and shall submit a detailed description of the proposed change and complete engineering, environmental, and

economic rationale for the change to the CPM and CBO for review and approval.

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

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

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

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

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

F. The project owner shall provide to the CPM:

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

   ii) A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation, for which the project is responsible, are acceptable; and

   iii) A copy of the executed LGIA signed by the California ISO and the project owner and approved by the Federal Energy Regulatory Commission.

Verification: Prior to the start of construction or start of modification of transmission facilities, the project owner shall submit to the CBO for approval:

A. Design drawings, specifications, and calculations conforming with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the *High Voltage Electric Safety Orders*, CA ISO standards, National Electric Code (NEC) and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems, and major switchyard equipment;

B. For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[1]

[1] 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 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;

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

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

E. A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation, for which the project is responsible, are acceptable,

F. A copy of the executed LGIA signed by the California ISO and the project owner and approved by the Federal Energy Regulatory Commission.

Prior to the start of construction or modification of transmission facilities, the project owner shall inform the CBO and the CPM of any anticipated changes to the design that are different from the design previously submitted and approved and shall submit a detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change to the CPM and CBO for review and approval.

TSE-6 The project owner shall provide the following notice to California ISO 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 California ISO 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 California ISO Outage Coordination Department.

Verification: The project owner shall provide copies of the California ISO letter to the CPM when it is sent to the California ISO one week prior to initial synchronization with the grid. The project owner shall contact the California ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the California ISO 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, California Code of Regulations, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", applicable interconnection standards, NEC and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

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

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

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

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

E. TRANSMISSION LINE SAFETY AND NUISANCE

The project's transmission lines must be constructed and operated in a manner that protects environmental quality, assures public health and safety, and complies with applicable law. This section summarizes the analysis of record concerning the potential impacts of the transmission tie-line on aviation safety, radio-frequency interference, audible noise, fire hazards, nuisance shocks, hazardous shocks, and electromagnetic field exposure.

The following federal, state, and local laws and policies apply to the control of the field and nonfield impacts of electric power lines. Staff's analysis examines the project's compliance with these requirements as related to the two candidate lines proposed.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS
TRANSMISSION LINE SAFETY AND NUISANCE (TLSN) Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

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.

Applicable LORS	Description
Audible Noise	
Local	
County of San Diego Noise Ordinances.	Establishes noise standards for the different land uses in the county.
East Otay Mesa Specific Plan (Chapter 3, Land use Regulations).	Establishes exterior noise standards for receptors in East Otay Mesa.
Hazardous and Nuisance Shocks	
State	
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.
CPUC GO 128. Rules for Construction of Underground Electric Supply and Communications Systems	Applies to the design construction of underground transmission lines. Specifically establishes requirements and minimum standards to be used for the underground installation AC power and communication circuits.
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	
CPUC GO-131-D, ”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.

Applicable LORS	Description
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.

(Ex. 200, pp. 4.11-1 – 4.11-3.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Pio Pico Energy Center (PPEC) will be located on a disturbed and development-prepared land parcel in Otay Mesa, an unincorporated area of San Diego County. The project site is a 10-acre lot in the southeast corner of the Alta Road and Calzada de la Fuente intersection. The generated power would be transmitted to the San Diego Gas and Electric (SDG&E) power grid through the existing 230-kV SDG&E Otay Mesa switchyard located approximately 1,800 feet east of the project site. This power transmission will be made with a 230-kV line to be located within one of two candidate routes identified respectively by the Applicant as Route A and Route B. (Exs. 1, p 5.9-2; 200, p. 4.11-3.)

Route A would begin from PPEC's on-site switchyard and run along the Calzada de la Fuente to its connection point within the Otay Mesa switchyard. The first 1,700 feet would be located overhead while the last 400 feet would be located underground making for a total of 2,100 feet. Route B would begin from the PPEC switchyard and run along the eastern edge of the site, proceeding 550 feet and then turning east for 1,400 feet and finally turning north for approximately 700 feet into the Otay Mesa switchyard. The entire line would be located overhead throughout this 2,650-foot route. (Ex. 200, pp. 4.11-3 - 4.11-4.)

The area around PPEC and the two candidate line routes is zoned for light and heavy industrial uses and habitat conservation. There are a few rural residences the nearest of which are approximately 4,700 feet to the southwest. Either of the proposed routes would allow for an 80-foot right-of-way placing each line away from areas of possible human habitation. The absence of residences in the immediate vicinity means that there would not be the types of residential field exposure at the root of the health concern of recent years. (Ex. 200, p. 4.11-4.)

The Line A alternative would consist of the following segments and structures:

- The 1,700-foot overhead portion stretching from the PPEC on-site switchyard to the point where the remaining 400-foot portion would be undergrounded to the connecting points within the 230-kV SDG&E Otay Mesa switchyard; and
- 65-foot and 90-foot steel monopole support structures for the conductors in the overhead section and the underground 230-kV duct bank for the underground section. (Ex. 200, p. 4.11-4.)

The Line B Alternative would consist of the following:

- The 2,650-foot overhead segment stretching from the PPEC on-site switchyard to the connecting point within the Otay Mesa switchyard; and
- The 90-foot support structures for the line's conductors. (Ex. 200, p. 4.11-4.)

Either of the two candidate lines would be owned, operated, and maintained by the Applicant according to SDG&E guidelines that ensure line safety, efficiency, reliability and maintainability. The Applicant has provided the design and structural dimensions of the proposed line structures as related to safety, reliability, and field reduction. (Ex. 200, p. 4.11-4.)

1. Potential Impacts

Laws, ordinances, regulations, and standards (LORS) have been established to ensure that transmission line impacts are below levels of potential significance. As summarized below, the record shows that the project will comply with all applicable LORS and, therefore, any transmission line-related safety and nuisance impacts will not be significant. (Ex. 200, p. 4.11-4.)

a. Aviation Safety

Any potential hazard to area aircraft would relate to the potential for collision in the navigable airspace. As noted by the Applicant, regulations require FAA notification in cases of structures over 200 feet from the ground. Notification is also required if the structure is to be below 200 feet in height but would be located within the restricted airspace in the approaches to public or military airports. For airports with runways longer than 3,200 feet, the restricted space is defined by the FAA as an area extending 20,000 feet (3.98 miles) from the runway, with no obstructing structures for whom the ratio of distance from runway to height is greater than 100:1. For airports with runways of 3,200 feet or less, the restricted airspace would be an area that extends 10,000 feet from this

runway. For heliports, the restricted space is an area extending 5,000 feet. (Exs. 1, p. 3-52; 200, p. 4.11-5.)

The nearest airports to the PPEC site and either of the two possible lines are Brown Field approximately two miles away and Tijuana's Rodriguez International, approximately three miles away. Both are too far away for any of the lines' identified structures to pose a significant obstruction risk to area aircraft. These structures (which are the line supports with a maximum height of 90 feet) would be of a height far below the 200-foot FAA threshold for concern over collision with area aircraft. There are no heliports in the area. Thus, we find that neither of the two proposed transmission line routes will pose an aviation hazard to helicopters and fixed-wing aircraft. (Ex. 200, p. 4.11-5.)

b. Interference with Radio-Frequency Communication

Transmission line-related radio-frequency interference is one of the indirect effects of overhead line operation and is produced by the physical interactions of line electric fields. Since electric fields cannot penetrate the soil and most materials, the discussed electric field effects would not occur in any underground segment. These electric field-related interferences are due to the radio noise produced by the action of the electric fields on the surface of the energized conductor. The process involved is known as "corona discharge," but is referred to as "spark gap electric discharge" when it occurs within gaps between the conductor and insulators or metal fittings. When generated, such noise manifests itself as perceivable interference with radio or television signal reception or interference with other forms of radio communication. Since the level of interference depends on factors such as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration, and weather conditions, maximum interference levels are not specified as design criteria for modern overhead transmission lines. The level of any such interference usually depends on the magnitude of the electric fields involved and the distance from the line. The potential for such impacts and related complaints is therefore minimized by reducing the line electric fields and locating the line away from inhabited areas. (Ex. 200, p. 4.11-5.)

Both of the transmission line routes will be built and maintained according to SDG&E practices that minimize surface irregularities and discontinuities. Moreover, the potential for such corona-related interference is usually of concern for lines of 345-kV and above, and not the 230-kV line proposed. The proposed low-corona designs are used for all SDG&E lines of similar voltage rating to reduce surface-field strengths and the related potential for corona effects.

Moreover, the lines will be located away from area residences making it unlikely that there will be complaints from radio-frequency interference. Therefore we will not require any related conditions of certification. (Ex. 200, p. 4.11-6.)

c. Audible Noise

The noise-reducing designs for low-intensity electric fields are not specifically mandated by federal or state regulations in terms of specific noise limits. As with radio noise, such noise is limited instead through design, construction, or maintenance practices established from industry research and experience as effective without significant impacts on line safety, efficiency, maintainability, and reliability. (Ex. 200, p. 4.11-6.)

Audible noise usually results from the action of the electric field at the surface of the line conductor and could be perceived as a characteristic crackling, frying, or hissing sound or hum, especially in wet weather. Since the noise level depends on the strength of the line electric field, the potential for perception around an overhead line can be assessed from estimates of the field strengths expected during operation. Such noise is usually generated during rainfall, but mainly from overhead lines of 345-kV or higher. It is, therefore, not generally expected at significant levels from lines of less than 345-kV as proposed for PPEC. Since the low-corona designs are also aimed at minimizing field strengths the evidence does not show that the transmission line operation will add significantly to current background noise levels in the project area. For an assessment of the noise from the proposed line and related facilities, please refer to the **Noise and Vibration** section of this Decision. (Ex. 200, p. 4.11-6.)

d. Fire Hazards

The fire hazards addressed through the related LORS are those that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and nearby trees and other combustible objects.

Standard fire prevention and suppression measures for similar SDG&E lines will be implemented for the chosen line. The Applicant's intention to ensure compliance with the clearance-related aspects of GO-95 is an important part of this mitigation approach. Condition of Certification **TLSN-3** will ensure compliance with important aspects of the fire prevention measures. (Ex. 200, p. 4.11-6.)

e. Hazardous Shocks

Hazardous shocks are those that could result from direct or indirect contact between an individual and the energized line, whether overhead or underground. Such shocks are capable of serious physiological harm or death and remain a driving force in the design and operation of transmission and other high-voltage lines. (Ex. 200, p. 4.11-6.)

No design-specific federal regulations have been established to prevent hazardous shocks from overhead or underground power lines. Safety is assured within the industry from compliance with the requirements specifying the minimum national safe operating clearances applicable in areas where the line might be accessible to the public. The Applicant's intention to implement the GO-95- and GO-128-related measures against direct contact with the energized line will minimize the risk of hazardous shocks for the chosen line as located overhead or underground. Condition of Certification **TLSN-1** will ensure implementation of the necessary mitigation measures. (Ex. 200, p. 4.11-6.)

f. Nuisance Shocks

Nuisance shocks, which are caused by current flow, primarily result from direct contact with metal objects electrically charged by fields from the energized line. These shocks are generally incapable of causing significant physiological harm. (Ex. 200, p. 4.11-7.)

As with hazardous shocks, there are no design-specific federal or state regulations to limit transmission line-related nuisance shocks. But, as the evidence shows, these shocks are effectively minimized for modern overhead high-voltage lines through standard grounding procedures. The procedures are set forth in the National Electrical Safety Code (NESC) and in guidelines jointly promulgated by the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). (Ex. 200, p. 4.11-7.)

The project owner's compliance with these procedures as required by Condition of Certification **TLSN-5** will minimize the potential for nuisance shocks. **TLSN-5** specifically requires the project owner to ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards. (Ex. 200, p. 4.11-7.)

g. Electric and Magnetic Field Exposure

Possible adverse health effects from exposure to electric and magnetic fields (EMF) raise public health concerns about people living near high-voltage lines. However, there is no clear evidence establishing that EMF fields pose a significant health hazard to exposed humans. Indeed, even the short-term exposures of plant workers, regulatory inspectors, maintenance personnel, and individuals in the immediate vicinity of lines, are not significantly related to the above-stated health concern. (Ex. 200, p. 4.11-7.)

Even though there is considerable uncertainty about EMF health effects, current policies and practices are informed by the available information showing that:

- Any exposure-related health risk to the exposed individual will likely be small.
- The most biologically significant types of exposures have not been established.
- Most health concerns are about the magnetic field.
- The measures employed for such field reduction can affect line safety, reliability, efficiency, and maintainability, depending on the type and extent of such measures. (Ex. 200, p. 4.11-7.)

The CPUC regulates the installation and operation of high-voltage lines and has determined that only no-cost or low-cost measures are justified in any effort to reduce power line fields to address EMF-related health concerns, and that these measures should be should be made only in connection with new or modified lines. (Ex. 200, p. 4.11-8.) In this regard, the CPUC requires each utility within its jurisdiction to establish EMF-reducing measures and incorporate them into the design of new or modified powerlines for each service area. The only project-related EMF exposures of potential significance are the short-term exposures of plant workers, regulatory inspectors, maintenance personnel, visitors, or individuals in the vicinity of the lines. These types of exposures are short term and well understood as not significantly related to the health concern. Designing the PPEC project lines according to existing SDG&E field strength-reducing guidelines would constitute compliance with the CPUC requirements for line field management. (Ex. 200, p. 4.11-9.)

The strengths of the line fields along the two transmission line routes would depend on the effectiveness of the field-reducing measures incorporated into their designs for the overhead segment. These fields should be of the same intensity as SDG&E lines of the same construction, voltage and current-carrying

capacity. The requirements in Condition of Certification **TLSN-2** for field strength measurements are intended to validate the Applicant's assumed minimization efficiency for the overhead line. For the underground segment, undergrounding by itself would yield the magnetic fields of the lowest intensity possible (without affecting safety, reliability, and efficiency) since undergrounding allows for the closest conductor spacing and field strength cancellation possible. (Ex. 200, p. 4.11-10.)

2. Cumulative Impacts

When field intensities are measured or calculated for a specific location, they reflect the interactive, and therefore, cumulative effects of fields from all contributing conductors. This interaction could be additive or subtractive depending on prevailing conditions. Since either of the proposed candidate project transmission lines will be designed and erected according to applicable field-reducing SDG&E guidelines as currently required by the CPUC for effective field management, any contribution to cumulative area exposures will be at levels expected for SDG&E lines of similar voltage and current-carrying capacity. It is this similarity in intensity that constitutes compliance with current CPUC requirements on EMF management. The actual field strengths and contribution levels for the chosen line will be assessed from the results of the field strength measurements specified in Condition of Certification **TLSN-2**.

With implementation of the conditions of certification, any potential cumulative impacts would be less than significant.

FINDINGS OF FACT

Based on the evidence, we find that:

1. PPEC power transmission will be made with a 230-kV line to be located within one of two possible transmission routes identified in the record as Route A and Route B.

2. Route A would begin from PPEC's on-site switchyard and run along the Calzada de la Fuente to its connection point within the Otay Mesa switchyard. The first 1,700 feet would be located overhead while the last 400 feet would be located underground making for a total of 2,100 feet.

3. Route B would begin from the PPEC switchyard and run along the eastern edge of the site, proceeding 550 feet and then turning east for 1,400 feet and finally turning north for approximately 700 feet into the Otay Mesa switchyard.

4. The absence of residences in the immediate vicinity means that there would not be the types of residential field exposure at the root of the health concern of recent years.

5. Either of the two candidate lines would be owned, operated, and maintained by the Applicant according to SDG&E guidelines that ensure line safety, efficiency, reliability and maintainability.

6. Neither the project location nor the proposed related line route alternatives nor line supports poses a significant aviation hazard.

7. The PPEC project will comply with all applicable LORS and, therefore, any transmission line-related safety and nuisance impacts will not be significant.

8. Building and maintaining the project's lines in accordance with standard SDG&E practices minimizes the potential for corona noise and its related interference with radio-frequency communication.

9. The transmission line operation will not add significantly to current background noise levels in the project area.

10. The potential for hazardous shocks will be minimized with compliance with the height and clearance requirements of CPUC General Order 95.

11. There are no potential fire hazards associated with the project's transmission lines, however, compliance with Title 14, California Code of Regulations, section 1250, will minimize possible fire hazards.

12. The potential for nuisance shocks will be minimized through grounding and other field-reducing measures performed in accordance with TID guidelines.

13. Long-term electromagnetic field exposure is insignificant in this case because of the general absence of residences along the proposed route.

14. On-site worker or public exposure will be short-term and at levels expected for lines of similar design and current-carrying capacity. This type of exposure has not been established as posing a significant human health hazard.

15. The conditions of certification reasonably ensure that the project's transmission lines will not have significant direct, indirect, or cumulative adverse environmental impacts on public health and safety, nor cause impacts in terms of aviation safety, radio/TV communication interference, audible noise, fire hazards, nuisance or hazardous shocks, or electromagnetic field exposure.

CONCLUSION OF LAW

We therefore conclude that, with implementation of the conditions of certification below, the project will conform to 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 chosen 230-kV transmission line according to the requirements of California Public Utility Commission's 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, GO-128 (in the case of any underground segment), and SDG&E's EMF-reduction guidelines.

Verification: At least 30 days before starting the upgrade 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 the requirements stated in the condition.

TLSN-2 The project owner shall use a qualified individual to measure the strengths of the electric and magnetic fields from the chosen line at the points of maximum intensity along its route. The measurements shall be made after energization according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures. These measurements shall be completed no later than six months after the start of operations.

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

TLSN-3 The project owner shall ensure that the rights-of-way of the proposed transmission lines are kept free of combustible material, as required under the provisions of Section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.

Verification: During the first five years of plant operation, the project owner shall provide a summary of inspection results and any fire prevention activities carried out along the right-of-way of each line and provide such summaries in the Annual Compliance Report.

TLSN-4 The project owner shall ensure that all permanent metallic objects within the right-of-way of each of the chosen project line 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.

VI. PUBLIC HEALTH AND SAFETY

Operation of the Pio Pico Energy Center (PPEC) will create combustion products and utilize certain hazardous materials that pose health risks to the general public and to the workers at the facility. The following discusses the regulatory programs, standards, protocols, and analyses pertaining to these issues.

A. GREENHOUSE GAS (GHG) EMISSIONS

1. Introduction and Summary

GHG emissions are not criteria pollutants; they are discussed in the context of cumulative impacts. In December 2009, the U.S. Environmental Protection Agency (EPA) declared that greenhouse gases (GHGs) threaten the public health and welfare of the American people (the so-called "endangerment finding"), and this became effective on January 14, 2010. Regulating GHGs at the federal level is required by Prevention of Significant Deterioration Program (PSD) for sources that exceed 100,000 tons per year of carbon dioxide-equivalent emissions.

Federal rules that became effective December 29, 2009 (40 CFR 98) require federal reporting of GHGs. As federal rulemaking evolves, Staff at this time focuses on analyzing the ability of the project to comply with existing federal- and state-level policies and programs for GHGs. The State has demonstrated a clear willingness to address global climate change though research, adaptation[1], and GHG inventory reductions. In that context, Staff evaluates the GHG emissions from the proposed project, presents information on GHG emissions related to electricity generation, and describes the applicable GHG standards and requirements. (Ex. 200, p. 4.1-75.)

The GHG's consist of 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 4.1-75.)

[1] While working to understand and reverse global climate change, it is prudent to also adapt to its effects such as sea level rise and changing rainfall patterns.

There is general scientific consensus that climate change is occurring and that man-made emissions of GHG, if not sufficiently curtailed, are likely to contribute further to continued increases in global temperatures. 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." (Ex. 200, p. 4.1-76.)

In this part of the Decision we determine that:

- The PPEC construction-produced GHG 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
- The PPEC'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 find that the PPEC's GHG emissions will comply with all applicable laws, ordinances, regulations, and standards (LORS) identified below in **Greenhouse Gas Table 1** and will not result in any significant environmental impacts. We also find that the project is 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. Resources Code, § 25001.) Today, as a result of legislation, the most recent aspect of "environmental quality protection" is the reduction of GHG emissions. Several laws and statements of policy are applicable as shown in **Greenhouse Gas Table 1** below.

Greenhouse Gas Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal	
40 Code of Federal Regulations (CFR) Parts 51, 52, 70 and 71	This rule "tailors" GHG emissions to PSD and Title V permitting applicability criteria.
40 Code of Federal Regulations (CFR) Parts 51 and 52	A new stationary source that emits more than 100,000 TPY of greenhouse gases (GHGs) is also considered to be a major stationary source subject to Prevention of Significant Determination (PSD) requirements.
40 Code of Federal Regulations (CFR) Part 98	This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 metric tons of CO_2 equivalent emissions per year.
State	
California Global Warming Solutions Act of 2006, AB 32 (Stats. 2006; Chapter 488; Health and Safety Code sections 38500 et seq.)	This act requires the California Air Resource Board (ARB) to enact standards that will reduce GHG emission to 1990 levels by 2020. Electricity production facilities will be regulated by the ARB. A cap-and-trade program is being developed to achieve approximately 20 percent of the GHG reductions expected by 2020.
Title 20, California Code of Regulations, Section 2900 et seq.; CPUC Decision D0701039 in proceeding R0604009	The regulations prohibit utilities from entering into long-term contracts with any base load facility that does not meet a greenhouse gas emission standard of 0.5 metric tonnes carbon dioxide per megawatt-hour (0.5 $MTCO_2$/MWh) or 1,100 pounds carbon dioxide per megawatt-hour (1,100 lbs CO_2/MWh).
Local	
Rule 20.3.1	This rule, currently under development by the San Diego Air Pollution Control District, would implement at the local level Prevention of Significant Deterioration requirements. It was adopted April 4, 2012 but is not yet in effect because it has not yet been approved by ARB or the US EPA. Once these additional steps are completed, PSD review will be conducted at the local level and results will be in the Determination of Compliance.

In addition, California is involved in the Western Climate Initiative, a multi-state and international effort to establish a cap-and-trade market to reduce greenhouse gas emissions in the Western United States and the Western Electricity Coordinating Council (WECC). The timelines for the implementation of this program are similar to those of AB 32, with full roll-out beginning in 2012. And as with AB 32, the electricity sector has been a major focus of attention.

PPEC would be required to participate in California's greenhouse gas cap-and-trade program once the program begins to operate. This cap-and-trade program is part of a broad effort by the State of California to reduce GHG emissions as required by AB32, which is being implemented by the Air Resources Board (ARB). As currently proposed, market participants such as PPEC will be required to report their GHG emissions and to obtain GHG emissions allowances (and offsets) for those reported emissions by purchasing allowances from the capped

market and offsets from outside the AB32 program. As new participants enter the market, and the market cap is ratcheted down over time, GHG emission allowance and offset prices will increase, encouraging innovation by market participants to reduce their GHG emissions. Thus, PPEC as a GHG cap and trade participant would be consistent with California's landmark AB32 Program, which is intended to reduce California's GHG emissions down to 1990 levels by 2020.

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. (California Energy Commission 2008, *2008 Integrated Energy Policy Report Update*, (IEPR) (CEC-100-2008-008-CMF).) CARB's AB 32 Scoping Plan reflects these policy preferences. (California Air Resources Board, *Climate Change Scoping Plan*, December 2008.)

Implementation of the state and Energy Commission policies discussed above should result in increasing availability and flexibility of renewable generation. Gas-fired power plants such as PPEC currently play a vital role in advancing the state's climate and energy goals by displacing less-efficient generation resources and facilitating the integration of renewables into the system. However, as the Energy Commission observed in its recent decision on the *Avenal* Energy Plant project (08-AFC-1)[2], the ability of gas-fired generation to contribute to the State's climate and energy goals is limited. The availability of renewable generation will increase as new projects are licensed and built and the technology develops. Efficiency and conservation measures have already had a substantial impact on California's energy consumption, and new measures continue to be implemented. We therefore expect that the proportion of gas generation in the state's generation mix will gradually diminish. Accordingly, we must evaluate the consistency of each proposed gas-fired power plant with these policies in order to ensure that we license only those plants which will help to reduce GHG.

In the *Avenal* Decision, the Energy Commission established a three-part test to aid in its analysis of a proposed gas-fired plant's ability to advance the goals and policies described above. Gas-fired plants must:

[2] California Energy Commission, 2009 Final Commission Decision for the Avenal Energy Plant (CEC-800-2009-006-CMF, December 2009).

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. reduce system-wide GHG emissions and support the goals and policies of AB32.

We now turn to a discussion of whether, and how well, the PPEC project would comply with the above-stated policies.

3. Construction Emissions

Power plant construction involves vehicles and other equipment that emit GHG. The PPEC's construction emissions are projected at 1026 metric tons of CO_2-equivalent GHG during the 16-month construction period as shown below in **Green House Gas Table 2** below.

Greenhouse Gas Table 2
PPEC, Estimated Potential Construction
Greenhouse Gas Emissions (16 months)

Construction Source	Fuel	Construction-Phase GHG Emissions (Metric Tons)			
		CO_2	CH_4	N_2O	CO_2eq
Off-road Fuel Use	Diesel	636	2.61E-02	5.22E-03	
Worker Travel	Gasoline	307	1.30E-02	2.60E-03	
Truck Deliveries	Diesel	81	3.34E-03	6.68E-04	
Construction Total		**1,023**	**4.24E-02**	**5.49E-03**	**1,026**

(Ex. 200, p. 4.1-80.)
Notes: a. One metric tonne (MT) equals 1.1 short tons or 2,204.6 pounds or 1,000 kilograms.

The evidence shows that the small GHG emission increases from construction activities would not be significant for several reasons. First, the period of construction will be short-term and the emissions intermittent during that period, not ongoing during the life of the project. Additionally, implementation of control measures to address criteria pollutant emissions, such as limiting idling times and requiring, as appropriate, equipment that meets the latest criteria pollutant emissions standards, would further minimize greenhouse gas emissions to the extent feasible. The use of newer equipment will increase efficiency and reduce GHG emissions and be compatible with low-carbon fuel (e.g., bio-diesel and ethanol) mandates that will likely be part of future ARB regulations to reduce GHG from construction vehicles and equipment.

We find that such measures directly and indirectly limit the emission of GHGs during the construction of the PPEC project and are in accordance with current best practices. We also note that the GHG emissions anticipated from

construction are minimal compared with anticipated operational emissions. GHG emissions will be intermittent and mitigated during that time due to the implementation of the best practices incorporated into **Air Quality** Condition of Certification **AQ-SC5**. We therefore find that the GHG emissions from short-term construction activities will not result in a significant adverse impact.

4. Operations Emissions

The primary sources of GHG emissions during the PPEC's operation will be from the three General Electric (GE) LMS100 natural gas-fired combustion turbines. In operation, the project is expected to produce 621,500 metric tonnes of CO_2 equivalent annually if operated at its maximum permitted level. The CO_2 emissions result from a project capacity factor of 46 percent, well below the trigger for the SB1368 Emission Performance Standard of 60 percent capacity factor. Regardless, the new PPEC facility would emit at 0.477 $MTCO_2$/MWh, which could meet the SB1368 Greenhouse Gas Emission Performance Standard of 0.500 $MTCO_2$/MWh, if it applied.

Greenhouse Gas Table 3
PPEC, Estimated Potential Greenhouse Gas (GHG) Emissions

Emissions Source (All CTGs operating at 46% capacity factor)	**Operational GHG Emissions ($MTCO_2E$/yr)** [a]
CTGs CO_2	621,000
CTGs CH_4	222
CTGs N_2O	364
CTGs SF_6	<1
Total Project GHG Emissions ($MTCO_2E$/yr)	**621,500**
Estimated Annual Energy Output (MWh/yr) [b]	1,301,000
Estimated Annualized GHG Performance ($MTCO_2$/MWh)	**0.477**

(Ex. 200, p. 4.1-81.)

Notes: a. One metric tonne (MT) equals 1.1 short tons or 2,204.6 pounds or 1,000 kilograms.
b. Annualized basis uses the project owner's assumed maximum permitted operating basis.

The process of electricity generation, production, and consumption is unique compared to other industrial projects. 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 project such as a proposed factory, shopping mall, or residential subdivision, it does not need to analyze how the operation of the proposed project will affect the larger system or group of factories, malls, or houses in a large multistate region. Rather, such

projects are generally analyzed and evaluated on a stand-alone basis. The analysis and evaluation for power plants is, by necessity, 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.)[3]

The California Independent System Operator (California ISO) is responsible for operating the system so that it provides power reliably and at the lowest cost. Thus, the California ISO 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). *(Id.)* Because operating cost is correlated with heat rate (the amount of fuel that it takes to generate a unit of 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. (Committee CEQA Guidance, *2007 IEPR.*)

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 rather than on a stand-alone basis.

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

a. PPEC's Effects on the Electricity System

   i. Providing Capacity and Ancillary Services

As a generation facility in the California ISO-defined San Diego local capacity area (LCA), the PPEC will provide local reliability services.

[3] 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**.

In addition to system-wide needs for capacity to meet reserve margin requirements and possibly integrate intermittent renewable resources, the California ISO has defined numerous transmission-constrained LCAs and sub-areas in which threshold amounts of dependable capacity are needed to reliably serve load. The needed amounts are determined annually and presented by the California ISO in their *Local Capacity Technical Analysis*. The PPEC would contribute 300 MW of local capacity to the San Diego LCA,[4] obviating the need for 300 MW of older, less efficient local capacity (e.g., units at Encina). This older capacity is no longer needed for local reliability and, if unprofitable and not needed for system-wide reliability, can now retire.

Local reliability requires generation by local resources. Under higher load conditions, a share of local capacity must be synchronous to the grid or available within a few minutes. For example, the *2012 Local Capacity Technical Analysis* indicates a local capacity requirement for San Diego of 2,849 MW, based on a peak demand forecast of 4,844 MW.[5] At loads of 3,500 MW in the San Diego LCA, some 1,500 MW of generation capacity thus needs to be synchronous to the grid or available on a few minute's notice. This requires that some share of the 1,500 MW be generating electricity, as there are not 1,500 MW of capacity in the San Diego LCA capable of providing energy on such notice. In addition, reliable service in the San Diego LCA requires that a minimum share of the area's load be met with local generation.[6]

The number of hours per year that the PPEC would be required to operate in support of local reliability needs is not known. When called upon to do so, however, it would displace a less-efficient resource, reducing GHG emissions resulting from relying on the latter. The units at Encina, for example, have full load heat rates in excess of 10,000 Btu/kWh, minimum load heat rates above 12,000 Btu/kWh, and require several hours to start up, requiring that they be left on at minimum load overnight when needed for local reliability. The PPEC would be a much lower-cost and lower-GHG provider of local reliability services as it could remain off-line until needed and then provide energy more efficiently (i.e., at a lower heat rate).

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[4] SDG&E's application asserts that the PPEC is needed to meet long-run local capacity requirements in the San Diego LRA; parties protesting the application contend that the local capacity provided by the PPEC is not needed.

[5] This figure includes 74 MW of losses.

[6] ISO Operating Procedure 7810; the details of this operating procedure are market-sensitive and thus confidential.

ii. Displacement of More-Costly, Less-Efficient, and Higher-Emitting Power Plants

It is reasonable to assume that the PPEC will be dispatched (called upon to generate electricity) whenever it is a cheaper source of energy than an alternative; i.e., that it will displace a more expensive resource, if not the most expensive resource that would otherwise be called upon to operate.[7]

The costs of dispatching a power plant are largely the costs of fuel, plus variable operations and maintenance (O&M) costs, with the former representing the lion's share of such costs (90 percent or more).[8] It follows that the PPEC will be dispatched when it burns less fuel per MWh than the resource(s) it displaces, i.e., when it produces fewer GHG emissions. There are exceptions in theory, but not in practice:

- If a plant's variable O&M costs are so low as to offset the costs associated with its greater fuel combustion, a less efficient (higher GHG emission) plant may be dispatched first. There is no indication that the PPEC's variable O&M costs are unusually low and that it would be dispatched before a more efficient facility.
- If a natural gas-fired plant's per-mmBtu fuel costs are very low, it may be less efficient (higher GHG emission) but still be dispatched first. Natural gas costs in California, however, and in San Diego in particular, are higher than elsewhere in the WECC.

The dispatch of the PPEC will not result in the displacement of energy from renewable resources or large hydro. Most renewable resources have must-take contracts with utilities; the latter must purchase all the energy produced by these renewable generators. Even in those instances where this is not the case, (e.g., where renewable generation is participating in a spot market for energy) the variable costs associated with renewable generation are far lower than those associated with the PPEC (e.g., fuel costs for wind, solar, other renewable generation technologies, and large hydro are zero or minimal); these resources can bid into spot markets for energy far below the PPEC and other natural gas-fired generators. Nor would the PPEC displace energy from (zero-GHG

[7] This assumption is embedded in simulation models that mimic the dispatch of the power plants that make up the WECC, as well as the (largely spreadsheet-based) models utilities and other owners of portfolios of generation assets use to make commitment and dispatch decisions. Accordingly, any competent computer modeling of the impact of the development/dispatch of a new gas-fired power plant will yield the conclusions reached here.

[8] Other, "fixed" costs are irrelevant to the dispatch decision, as they are incurred whether or not the power plant is generating electricity.

emission) nuclear generation facilities, as these resources have far lower variable operating costs as well.[9] Holding the portfolio of generation resources constant, energy from new natural gas-fired plants displaces energy from existing natural gas-fired plants.

In the longer-term, the development and operation of the PPEC will facilitate the retirement of less efficient generation resources. By reducing revenue streams accruing to other resources (for the provision of both energy and capacity-related services), the PPEC renders them less profitable both directly through energy and ancillary services markets and indirectly through contracts to provide capacity to ensure resource adequacy. This follows from the fixed demand for energy and ancillary services; the developers of the PPEC cannot stimulate demand for energy and other products provided by the facility, but merely serve to provide a share of the amount that is needed to meet demand and reliably operate the system. In doing so, the PPEC both encourages and allows for the retirement of less efficient generation.

The long-run impact of fleet turnover can be seen from historical changes in the GHG emissions per unit of gas-fired generation in California. In 2001, more than 60 percent of gas-fired generation in California was from pre-1980 steam turbines, consuming just over 10,000 Btu per kWh. By 2010, this share had fallen to five percent; six percent of gas-fired generation was from new combined cycles with a heat rate of 7,170 Btu per kWh. The output and GHG emissions of new gas-fired plants are not incremental to the system; they displace those from older plants. (Ex. 200, p. 4.1-89.)

While natural gas-fired plants differ in their thermal efficiency – the amount of fuel combusted, and thus GHG emissions per unit of electricity generated – very efficient gas plants are not necessarily dispatched before less efficient ones. While this would seem to contradict the assertion that output from a new plant will always displace a higher emitting one, a less efficient (e.g., at full output) plant may actually combust less fuel during a duty cycle than a plant with a lower heat rate, and thus produce fewer GHG emissions. Consider a 30 MW peaking plant with a heat rate of 10,000 Btu/kWh when operated at full output that can be

[9] Energy from the PPEC and other new natural gas-fired generation would not displace energy from coal-fired generation facilities. The price of a Btu of energy from coal is sufficiently lower than that from natural gas to more than offset the lower efficiency with which a Btu of energy from coal is converted to electricity. In other words, fuel costs per MWh are lower for coal plants than for natural gas plants. Nearly all coal-based capacity used to provide electricity to California is produced out-of-state and all will be phased out over time by the Environmental Performance Standard developed as a result of SB1368, (Perata, Statutes of 206, Chapter 3).

moved from 0 to 50 MW and back again in a matter of minutes. Use of this plant to meet contingency needs (e.g., demand on a hot afternoon) may result in less incremental fuel combustion than a 100 MW plant with a lower heat rate at full output if the latter requires several hours and combusts large amounts of fuel to start up, must be kept on overnight in order to be available the next day and/or cannot operate at 30 MW (without a marked degradation in efficiency, and thus increases in GHG emissions).

While the PPEC is less efficient than, for example, a new combined cycle, and thus produces more GHG emissions per MWh at full load, it is far more flexible and will be as or more efficient a provider of reliability services. Able to start up more rapidly and shut down several times a day, it will operate fewer hours to provide the same services. Able to rapidly move over a range of 30 to 300 MW, it will be able to operate at lower levels of output when desirable.

iii. Fostering Renewables Integration

The PPEC meets the criteria for an efficient dispatchable resource that facilitates the integration of intermittent renewable generation. The LMS 100 proposed for PPEC is capable of coming on line and reaching full load (100 MW) in less than 10 minutes. This allows the PPEC to operate over a 300 MW range within minutes, effectively providing substantial load-following services in support of combined changes in load and output from intermittent resources as demand, wind speeds, and solar irradiance changes. Its rapid start up time and ability to cycle on and off allows it to provide load-following services without needing to be kept on line overnight producing both energy and GHG emissions hours before its energy and capacity is actually needed.

iv. Retirement of High-GHG Emission Plants and Generation Using Once-Through Cooling

New resources like the PPEC will be required to provide generation capacity in the likely event that a majority of facilities utilizing once-through cooling (OTC) are retired. The SWRCB policy on OTC will require the retrofit, retirement, or significant curtailment of 12,319 MW of gas-fired capacity by the end of 2020.[10] The following table lists the facilities in the California ISO control area that utilize OTC and the dates by which they must comply with the SWRCB policy.

[10] The policy allows for delays in compliance if doing so threatens system reliability. For example, if compliance were to require a temporary shutdown or retirement of a unit/facility and replacement capacity determined to be needed for reliability were not (yet) online, the SWRCB would allow a postponement of the compliance deadline established under the policy.

While some OTC facilities owned and operated by utilities and recently-built combined cycles may well install dry or wet cooling towers or add expensive underwater hardware to comply with OTC requirements, it is unlikely that the aging merchant plant owners will find it economic to do so. Most of these units operate at low capacity factors, suggesting a limited ability to compete in the current electricity market. Although the timing would be uncertain, new resources would out-compete aging plants and would displace the energy provided by OTC facilities and likely accelerate their retirements.

The state's Emissions Performance Standard (EPS), established in 2007, precludes continued investment by the California utilities in coal-fired generation. As a result, more than 18,000 GWh of energy from such resources will have to be replaced by 2020.

Greenhouse Gas Table 4
Once-Through Cooled Units with Compliance Deadlines in or Before 2020

Units	Compliance Date (year-end)	MW
El Segundo 3-4	2015	670
Morro Bay 3-4	2015	650
Contra Costa 6-7	2017	674
Encina 1-5	2017	950
Moss Landing 1-2, 6-7	2017	2,530
Pittsburg 5-6	2017	629
Alamitos 1-6	2020	2,010
Huntington Beach 1-4	2020	904
Mandalay 1-2	2020	430
Ormond Beach 1-2	2020	1,516
Redondo Beach 5-8	2020	1,356
Total		**12,319**

(Ex. 200, p. 4.1-90.)

Greenhouse Gas Table 5
Expiring Long-Term Contracts/Entitlements
with Coal-Fired Generation through 2020

Utility	Facility	Expiration	Annual GWh
LADWP	Intermountain	through 2013	3,163
DWR	Reid Gardner	2013	1,211
SDG&E	Boardman	2013	555
SCE	Four Corners[a]	2016	4,920
Turlock ID	Boardman	2018	370
PG&E , SCE	miscellaneous QFs	through 2019	4,086
LADWP	Navajo	2019	3,832
Total			**18,137**

(Ex. 200, p. 4.1-91.)

b. 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.* Here the evidence establishes that the PPEC will not increase the system heat rate. 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 AB32.

We therefore find that GHG emissions from operation activities will not be significant.

5. Cumulative Impacts

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

GHG assessment is by its very nature a cumulative impact assessment. PPEC would emit greenhouse gases and, therefore, we have analyzed its potential cumulative impact in the context of its effect on the electricity system, resulting GHG emissions from the system, and existing GHG regulatory requirements and GHG energy policies. The evidence supports our finding that PPEC would not cause or contribute to a significant adverse cumulative impact on GHG.

FINDINGS OF FACT

1. The GHG emissions from the PPEC project construction are likely to be 1026 $MTCO_2$ equivalent ("$MTCO_2E$") during the 16-month construction period.

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

3. Construction-related GHG emissions will be 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 PPEC's operation will be 621,500 $MTCO_2E$, which constitutes an emissions performance factor of 0.477 $MTCO_2E/MWh$.

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 $MTCO_2/MWh$.

9. 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.

10. 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.

11. Even as more renewable generation is added to the California electricity system, gas-fired power plants such as the PPEC 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.

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

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

14. The PPEC's operation will reduce overall GHG emissions from the electricity system.

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

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

17. The PPEC's operation will foster the addition of renewable generation into the electricity system, which will further reduce system GHG emissions.

18. 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 PPEC's construction-related GHG emissions will not cause a significant adverse 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 PPEC's operational GHG emissions will not cause a significant environmental impact.

4. The PPEC project is a simple-cycle power plant, not designed, or intended, or permitted for base load generation and is therefore not subject to the SB1368 EPS.

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

6. The PPEC's construction and operation will be consistent with California's loading order for power supplies.

7. The PPEC's operation will foster the achievement of the GHG goals of AB32 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 PPEC will not increase the overall system heat rate for natural gas plants.

10. The PPEC will not interfere with generation from existing renewables or with the integration of new renewable generation.

11. The PPEC will reduce system-wide GHG emissions.

12. Any new natural-gas-fired power plant that we certify must:
    a) not increase the overall system heat rate for natural gas plants;
    b) not interfere with generation from existing renewables or with the integration of new renewable generation; and
    c) have the ability to reduce system-wide GHG emissions.

The PPEC meets these requirements.

B. AIR QUALITY

Construction and operation of the Pio Pico Energy Center (PPEC) will emit combustion products and use certain hazardous materials that could expose the general public and onsite workers to potential health effects. This section on air quality examines whether PPEC will likely comply with applicable state and federal air quality laws, ordinances, regulations, and standards (LORS), whether it will likely result in significant air quality impacts, and whether the proposed mitigation measures will likely reduce potential impacts to insignificant levels.

Our evaluation encompasses the significance criteria and method of analysis used by Staff. In Staff's view, all project emissions of nonattainment criteria pollutants and their precursors (NO_X, VOC, PM10, PM2.5, SO_X, and NH_3) are considered significant and must be mitigated. For short-term construction activities that essentially cease before operation of the power plant, the Staff assessment is qualitative and mitigation consists of controlling construction equipment tailpipe emissions and fugitive dust emissions to the maximum extent feasible. For operating emissions, the mitigation includes both the Best Available Control Technology (BACT) and emission reduction credits (ERC) or other valid emission reductions to offset emissions of both nonattainment criteria pollutants and their precursors.

The ambient air quality standards used by Staff as the basis for characterizing project impacts are health-based standards established by the California Air Resources Board and U.S. EPA. They are set at levels that contain a margin of safety to adequately protect the health of all people, including those most sensitive to adverse air quality impacts such as the elderly, persons with existing illnesses, children, and infants.

In carrying out this analysis, Staff evaluated the following major points:

- Whether the PPEC is likely to conform with applicable federal, state, and SDAPCD air quality laws, ordinances, regulations and standards (Title 20, California Code of Regulations, section 1744 (b));
- Whether the PPEC is likely to cause significant air quality impacts, including new violations of ambient air quality standards, or make substantial contributions to existing violations of those standards (Title 20, California Code of Regulations, section 1743); and
- Whether the mitigation measures proposed for the project are adequate to lessen the potential impacts to a level of insignificance (Title 20, California Code of Regulations, section 1742 (b)).

The applicable LORS are identified in **Air Quality Table 1** below. As summarized in the Table, the evidence examines the project's compliance with each LORS.

AIR QUALITY Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal	**U.S. Environmental Protection Agency**
Federal Clean Air Act Amendments of 1990, Title 40 Code of Federal Regulations (CFR) Part 50	National Ambient Air Quality Standards (NAAQS).
Clean Air Act (CAA) § 160-169A and implementing regulations, Title 42 United State Code (USC) §7470-7491 40 CFR 51 & 52 (Prevention of Significant Deterioration Program)	Requires prevention of significant deterioration (PSD) review and facility permitting for construction of new or modified major stationary sources of pollutants that occur at ambient concentrations that attain the NAAQS. A PSD permit would be required for the NO_X, PM10 and PM2.5 emissions from the proposed PPEC project because it would be a new major stationary source of GHG (exceeding 100,000 tons per year). The PSD program is within the jurisdiction of the U.S. EPA. SDAPCD is in the process of obtaining local authority to implement PSD requirements under Rule 20.3.1 (in process).
CAA §171-193, 42 USC §7501 et seq. (New Source Review)	Requires new source review (NSR) facility permitting for construction or modification of specified stationary sources. NSR applies to sources of designated nonattainment pollutants. This requirement is addressed through SDAPCD Rule 20.3.
40 CFR 60, Subpart KKKK	Standards of Performance for Stationary Combustion Turbines, New Source Performance Standard (NSPS). Requires the proposed simple-cycle system to achieve 2.5 parts per million (ppm) NO_X and 1.9 lbs/hr SO_2.
CAA §401 (Title IV), 42 USC §7651(Acid Rain Program)	Requires reductions in NO_X and SO_2 emissions, implemented through the Title V program. This program is within the jurisdiction of the SDAPCD with U.S. EPA oversight [SDAPCD Rule 1412].
CAA §501 (Title V), 42 USC §7661(Federal Operating Permits Program)	Establishes comprehensive federal operating permit program for major stationary sources that identify all applicable federal performance, operating, monitoring, recordkeeping, and reporting requirements. Application required within one year following start of operation. This program is within the jurisdiction of the SDAPCD with U.S. EPA oversight [SDAPCD Rule 10 and Rule 20.5].
State	**California Air Resources Board and Energy Commission**
California Health & Safety Code (H&SC) §41700 (Nuisance Regulation)	Prohibits discharge of such quantities of air contaminants that cause injury, detriment, nuisance, or annoyance.
H&SC §40910-40930	Permitting of source needs to be consistent with approved clean air plan. The SDAPCD New Source Review program is consistent with regional air quality management plans.
California Public Resources Code §25523(a); 20 CCR §1752, 2300-2309 (CEC & ARB Memorandum of Understanding)	Requires that Energy Commission decision on AFC include requirements to assure protection of environmental quality.
California Code of Regulations for Off-Road Diesel-Fueled Fleets (13 CCR §2449, et seq.)	General Requirements for In-Use Off-Road Diesel-Fueled Fleets – Requires owners and operators of in-use (existing) off-road diesel equipment and vehicles to begin reporting fleet characteristics to ARB in 2009 and meet fleet emissions targets for diesel particulate matter and NO_X in 2010.

Applicable Law	Description
Airborne Toxic Control Measure for Idling (ATCM, 13 CCR §2485)	ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling – Generally prohibits idling longer than five minutes for diesel-fueled commercial motor vehicles.
Local	**San Diego Air Pollution Control District**
Regulation II – Permits	This regulation sets forth the regulatory framework of the application for and issuance of construction and operation permits for new, altered and existing equipment. Included in these requirements are the federally delegated requirements for New Source Review, Title V Permits, the Acid Rain Program, and PSD (under development). Regulation II Rule 20.1 and 20.3 establishes the pre-construction review requirements for new, modified or relocated facilities, in conformance with the federal New Source Review regulation to ensure that these facilities do not interfere with progress in attainment of the national ambient air quality standards and that future economic growth in San Diego County is not unnecessarily restricted. This regulation establishes Best Available Control Technology (BACT) and emission offset requirements. Rule 20.3.1 (under development) implements federal PSD requirements.
Regulation IV – Prohibitions	This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, and fuel contaminants. This regulation also specifies additional performance standards for stationary gas turbines and other internal combustion engines.
Regulation X – National Standards of Performance (NSPS) for New Stationary Sources	Regulation X incorporates provisions of 40 CFR Part 60, Chapter I, and is applicable to all new, modified, or reconstructed sources of air pollution. Sections of this federal regulation apply to stationary gas turbines (40 CFR Part 60 Subpart KKKK) as described above in the Federal LORS description. Subpart KKKK established limits of NO_X and SO_2 emissions from the facility as well as monitoring and test method requirements. SDAPCD is delegated enforcement authority for these NSPS through their authority to issue and enforce the Title V permit for this proposed Title V source.
Regulation XII – Toxic Air Contaminants – New Source Review	Regulation XII, Rule 1200, establishes the pre - construction review requirements for new, modified or relocated sources of toxic air contaminants, including requirements for Toxics Best Available Control Technology (T-BACT) if the incremental project health risk exceeds rule triggers.
Regulation XIV – Title V Operating Permits	Regulation XIV, Rule 1401 defines the permit application and issuance as well as compliance requirements associated with the Title V federal permit program. Any new source which qualifies as a Title V facility must obtain a Title V permit within twelve months of starting operation. Regulation XIV, Rule 1412 defines the requirements for the Acid Rain Program, including the requirement for a subject facility to obtain emission allowances for SO_X emissions as well as monitoring SO_X, NO_X, and carbon dioxide (CO_2) emissions from the facility.

(Ex. 200, pp. 4.1-2 – 4.1-4.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Features

The proposed PPEC would include the following new stationary sources of emissions:

- Three LMS100 natural-gas fired combustion turbine generators (CTG), each with a nominal capacity of 103 MW in a simple-cycle configuration; and
- Partial dry cooling tower system consisting of: three 18-cell dry air cooled heat exchangers; and, a 12-cell wet surface air cooler (WSAC) with a water circulation rate of 23,520 GPM and a maximum total dissolved solids (TDS) concentration of 5,600 ppmw.

2. Air Quality District Jurisdiction

The project is within the jurisdiction of the San Diego Air Pollution Control District (SDAPCD or District). SDAPCD released its Final Determination of Compliance (FDOC) on May 4, 2012, stating that the project is expected to comply with applicable Air District rules, which incorporate state and federal requirements. (Ex. 200, p. 4.1-34.)

The district rules and regulations specify the emissions control and offset requirements for new sources such as the PPEC. Best Available Control Technology would be implemented, and emission reduction credits (ERCs) for NO_X emissions are required by district rules and regulations based on the permitted emission levels for this project. Compliance with the district's new source requirements would ensure that the project would be consistent with the strategies and future emissions anticipated under the district's air quality attainment and maintenance plans.

The SDAPCD's permit conditions for the project are specified in the FDOC and incorporated into this Decision as as Conditions of Certification **AQ-1** through **AQ-79**. (Cal. Code Regs., tit. 20, §§ 1744.5, 1752.3.) These conditions include emissions limitations, operating limitations, offset requirements, and testing, monitoring, record keeping, and reporting requirements that ensure compliance with federal and state air quality LORS.

3. Ambient Air Quality Standards

The federal Clean Air Act [1] and the California Clean Air Act[2] both require ambient air quality standards (AAQS) for the maximum allowable concentrations of "criteria air pollutants." Criteria air pollutants are defined as air contaminants for which the state and federal governments have established an ambient air quality standard to protect public health.

The California AAQS (CAAQS) established by the California Air Resources Board (ARB) are typically more protective and therefore more stringent than the National AAQS (NAAQS) established by the United States Environmental Protection Agency (U.S. EPA). (Ex. 200, p. 4.1-6.)

Air Quality Table 2 below identifies the current federal and state standards.

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[1] Title 42, United States Code, section 7401 et seq.

[2] California Health and Safety Code, section 40910 et seq.

AIR QUALITY Table 2
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone (O_3)	8 Hour	0.075 ppm (147 μg/m^3)[a]	0.070 ppm (137 μg/m^3)
	1 Hour	—	0.09 ppm (180 μg/m^3)
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
	1 Hour	35 ppm (40 mg/m^3)	20 ppm (23 mg/m^3)
Nitrogen Dioxide (NO_2)	Annual	53 ppb (100 μg/m^3)	0.030 ppm (57 μg/m^3)
	1 Hour	100 ppb (188 μg/m^3)[b]	0.18 ppm (339 μg/m^3)
Sulfur Dioxide (SO_2)	24 Hour	—	0.04 ppm (105 μg/m^3)
	3 Hour	0.5 ppm (1300 μg/m^3)	—
	1 Hour	75 ppb (196 μg/m^3)[c]	0.25 ppm (655 μg/m^3)
Respirable Particulate Matter (PM10)	Annual	—	20 μg/m^3
	24 Hour	150 μg/m^3	50 μg/m^3
Fine Particulate Matter (PM2.5)	Annual	15 μg/m^3	12 μg/m^3
	24 Hour	35 μg/m^3 [b]	—
Sulfates (SO_4)	24 Hour	—	25 μg/m^3
Lead	30 Day Average	—	1.5 μg/m^3
	Rolling 3-Month Average	1.5 μg/m^3	—
Hydrogen Sulfide (H_2S)	1 Hour	—	0.03 ppm (42 μg/m^3)
Vinyl Chloride (chloroethene)	24 Hour	—	0.01 ppm (26 μg/m^3)
Visibility Reducing Particulates	8 Hour	—	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%.

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

Note: [a] Fourth- highest maximum 8 – hour concentration, averaged over three years.
[b] 98th percentile of daily maximum value, averaged over three years.
[c] 99th percentile of daily maximum value, averaged over three years.

4. Existing Ambient Air Quality

The U.S. Environmental Protection Agency (U.S. EPA), California Air Resource Board (ARB), and the local air district classify an area as attainment, unclassified, or nonattainment, depending on whether or not the monitored ambient air quality data show compliance, insufficient data is available, or non-compliance with the ambient air quality standards, respectively. The PPEC project site is located within the San Diego

Air Basin (SDAB) in the SDAPCD. The federal and state attainment status of criteria pollutants in the SDAB are summarized in **Air Quality Table 3**.

The operating monitoring station closest to the proposed site is Otay Mesa – Paseo International station, approximately 1.9 miles south of the project. However, since the station is close to the border, the pollutant concentrations recorded there are heavily influenced by the emissions from Mexican vehicles which do not meet strict United States and California exhaust standards. Therefore, data from the Chula Vista station, nine miles northwest of the project site, were used to represent background concentrations for the project area. Ambient concentrations of O_3, NO_2, SO_2, CO, PM2.5 and PM10 are all collected from the Chula Vista station.

AIR QUALITY Table 3
Attainment Status of San Diego Air Basin

Pollutants	**Attainment Status**	
	Federal Classification	**State Classification**
Ozone (1-hr)	No Federal Standard	**Nonattainment**
Ozone (8-hr)	**Nonattainment**	**Nonattainment**
CO	Attainment	Attainment
NO_2	Attainment [a]	Attainment
SO_2	Attainment	Attainment
PM10	Unclassified	**Nonattainment**
PM2.5	Attainment	**Nonattainment**
Sulfates	No Federal Standard	Attainment
Lead	Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility	No Federal Standard	Unclassified

(Ex. 200, p. 4.1-8.)

Note:
[a] Recommended status, ARB Technical Support Document titled "Recommended Area Designation for the 2010 Federal Nitrogen Dioxide Standards", January 2011.

The evidence describes in detail the composition and significance of each of the attainment and nonattainment criteria pollutants. (Ex. 200, pp. 4.1-6 – 4.1-11.) The U.S. EPA adopted a new one-hour standard of 0.100 ppm (188 $\mu g/m^3$) in early 2010. Data from 2004 to 2010 show that the area near the project site attains both the state and federal one-hour NO_2 standards. (Ex. 200, p. 4.1-11.)

The background concentrations for PM10 and PM2.5 are at or above the most restrictive existing ambient air quality standards, while the background concentrations for the other pollutants are mostly well below the most restrictive existing ambient air quality standards. (*Id.*)

5. Ambient Air Quality Baseline

As shown below in **Air Quality Table 4**, Staff established a baseline for evaluating the modeling results and analyses submitted by Staff and the Applicant.

AIR QUALITY Table 4
Staff-Recommeded Background Concentrations (µg/m^3)

Pollutant	Averaging Time	Background	Limiting Standard	Percent of Standard
PM10	24 hour	**57**	50	**114**
	Annual	**26.7**	20	**134**
PM2.5	24 hour	**36.1**	35	**103**
	Annual	**12.5**	12	**104**
CO	1 hour	3565	23,000	16
	8 hour	2489	10,000	25
NO_2	1 hour	154	188	82
	Annual	29	57	51
SO_2	1 hour	31	196	16
	3 hour	18.2	1300	1
	24 hour	10.5	105	10

(Ex. 200, p. 4.1-12.)

We note that an exceedance is not necessarily a violation of the standard, and that only persistent exceedances lead to designation of an area as nonattainment.

6. Modeling Methodology

Our analysis is guided by the dispersion modeling analyses and data provided by the Applicant and Staff. Dispersion models allow for complex, repeated calculations that consider emission in the context of various ambient meteorological conditions, local terrain, and nearby structures that affect airflow. The record identifies the SDAPCD's Chula Vista monitoring station as a source of meteorological input data. (Ex. 200, p. 4.1-17.)

The evidence establishes that the Applicant performed the air dispersion modeling analysis based on guidance presented in the *Guideline on Air Quality Models* (EPA, 2005) and the American Meteorological Society/Environmental Protection Agency Regulatory Model known as AERMOD (version 11103). The U.S. EPA designates AERMOD as a "preferred" model for refined modeling in all

types of terrain. For determining NO_2 impacts of short-term emissions (one-hour averaging period), NO_2 concentrations are determined by using the Plume Volume Molar Ratio Method (PVMRM) or the Ozone Limiting Method (OLM). Because project NO_X emissions would be approximately 90 percent NO that could oxidize into NO_2 with sufficient time, sunlight, and availability of organic compounds or ozone, use of the PVMRM or OLM is appropriate. The Applicant conducted NO_2 modeling using PVMRM option to account for the role of ambient ozone levels on the atmospheric conversion rate of NO emissions to NO_2. Concurrent hourly ozone data from SDAPCD Chula Vista monitoring station is used in modeling the NO_2 impacts. (Ex. 200, p. 4.1-18.)

7. Construction Impacts and Mitigation

The construction phase is temporary and is currently planned to occur over a period of 16 months. Construction activities would be scheduled five days per week, with a single-shift, eight-hour workday. On-site construction activities include site preparation, foundation work, installation of major equipment and structures. Combustion-related emissions will come from sources such as construction equipment and onsite vehicles. Fugitive dust emissions will be caused by site grading and excavation activities, installation of new on-site transmission lines, water and gas pipelines, construction of power plant facilities, roads, and substations, and vehicle travel on paved and unpaved roads. (Ex. 301, pp. 4.1-12 – 4.1-13.)

Estimates for the highest daily emissions and total annual emissions over the 16-month construction period are shown in **Air Quality Table 5**.

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AIR QUALITY Table 5
PPEC, Estimated Maximum Construction Emissions

Construction Activity	NO_X	VOC	PM10	PM2.5	CO	SO_X
On-site Construction Equipment (lbs/day)	44.8	4.0	1.5	1.5	19.9	0.1
On-site Fugitive Dust (lbs/day)	--	--	19.7	2.9	--	--
Off-site Worker Travel (combustion) (lbs/day)	6.1	5.8	0.1	0.1	61.2	0.1
Off-site Truck Deliveries (combustion) (lbs/day)	5.1	0.4	0.0	0.0	2.5	0.0
Off-site Dust from travel on dirt roads (lbs/day)	--	--	0.0	0.0	--	--
Maximum Daily Construction Emissions (lbs/day)	**56.0**	**10.3**	**21.3**	**4.5**	**83.6**	**0.1**
On-site Construction Equipment (tpy)	4.7	0.4	0.2	0.2	2.3	0.0
On-site Fugitive Dust (tpy)	--	--	1.6	0.3	--	--
Off-site Worker Travel (combustion) (tpy)	0.2	0.2	0.0	0.0	2.4	0.0
Off-site Truck Deliveries (combustion) (tpy)	0.5	0.0	0.0	0.0	0.3	0.0
Off-site Dust from travel on dirt roads (tpy)	--	--	0.0	0.0	--	--
Peak Annual Construction Emissions (tpy)	**5.5**	**0.7**	**1.9**	**0.5**	**4.9**	**0.0**

(Ex. 200, pp. 4.1-13 – 4.1-14.)

Note: Different activities have maximum emissions at different times during the construction period; therefore, total maximum daily, monthly, and annual emissions might be different from the summation of emissions from individual activities.

Air Quality Table 6 summarizes the results of the modeling analysis for construction activities. The total impact is the sum of the existing background condition plus the maximum impact predicted by the modeling analysis for project activity. The values in **bold** in the Total Impact and Background columns represent the values that either equal or exceed the relevant ambient air quality standard.

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AIR QUALITY Table 6
PPEC, Construction-Phase Maximum Impacts (µg/m^3)

Pollutant	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24 hour	21	**57**	**78**	50	**156**
	Annual	2.7	**26.7**	**29.4**	20	**147**
PM2.5	24 hour	4.6	**36.1**	**40.7**	35	**116**
	Annual	0.2	**12.5**	**12.7**	12	**106**
CO	1 hour	63	3,565	3,628	23,000	16
	8 hour	34	2,489	2,523	10,000	25
NO_2	1 hour	87	154	241	339	71
	Annual	6	29	35	57	61
SO_2	1 hour	0	31	31	655	5
	24 hour	0	18.2	18.2	105	17
	Annual	0	10.5	10.5	80	13

(Ex. 200, p. 4.1-19.)

We find that particulate matter emissions from construction would cause a significant impact because they would contribute to existing violations of PM10 and PM2.5 ambient air quality standards, and additionally that those emissions can and should be mitigated to a level of insignificance. Significant secondary impacts would also occur for PM10, PM2.5, and ozone because construction-phase emissions of particulate matter precursors (including SO_X) and ozone precursors (NO_X and VOC) would also contribute to existing violations of these standards. The direct impacts of NO_2, in conjunction with worst-case background conditions, would not create a new violation of the current annual or one-hour NO_2 state ambient air quality standard. Compliance with the new Federal one-hour NO_2 is not evaluated because the construction is expected to last only 16 months while this new standard requires a three-year average of the 98th percentile of the *daily maximum* one-hour concentration (i.e., the 8th highest of daily highest one-hour concentrations averaged over three years). The direct impacts of CO and SO_2 would not be significant because construction of the project would neither cause nor contribute to a violation of these standards. Mitigation for construction emissions of PM10, PM2.5, SO_X, NO_X, and VOC would be appropriate for reducing impacts to PM10, PM2.5, NO_2, and ozone.

The Applicant proposes the following mitigation measures to reduce the exhaust emissions from the diesel heavy equipment and fugitive dust emissions during the construction of the project:

- Unpaved roads and disturbed areas in the project construction site will be watered as frequently as necessary to prevent fugitive dust plumes. The frequency of watering can be reduced or eliminated during periods of precipitation.

- The vehicle speed limit will be 15 miles per hour within the construction site.
- The construction site entrances shall be posted with visible speed limit signs.
- Construction equipment vehicle tires will be inspected and washed as necessary to be cleaned free of dirt prior to entering paved roadways.
- Gravel ramps of at least 20 feet in length will be provided at the tire washing/cleaning station.
- Unpaved exits from the construction site will be graveled or treated to prevent trackout to public roadways.
- Construction vehicles will enter the construction site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the compliance project manager (CPM).
- Construction areas adjacent to any paved roadway will be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent run-off to roadways.
- Paved roads within the construction site will be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.
- 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 public roadways.
- Soil storage piles and disturbed areas that remain inactive for longer than 10 days will be covered or treated with appropriate dust suppressant compounds.
- Vehicles used to transport solid bulk material on public roadways and having the potential to cause visible emissions will be provided with a cover, or the materials will be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.
- Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) will 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.

AIR QUALITY Table 7
PPEC, Routine Operation Maximum Impacts (µg/m^3)

Pollutant	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24 hour	**2**	**57**	**59**	**50**	**118**
	Annual	**0.2**	**26.7**	**27**	**20**	**135**
PM2.5	24 hour	--	--	25.9[a]	35	74
	Annual	0.2	**12.5**	**12.8**	**12**	**107**
CO	1 hour	268	3,565	3,833	23,000	17
	8 hour	64	2,489	2,553	10,000	26
NO_2	1 hour (state)	133	154	287	339	85
	1 hour (federal)	--	--	138[b]	188	73
	Annual	0.3	29	29.3	57	51
SO_2	1 hour	8	31	37	196	19
	24 hour	1	18.2	19.2	105	18
	Annual	<0.1	10.5	10.5	80	13

(Ex. 200, p. 4.1-22.)

Note:
[a] The federal 24-hour PM2.5 standard is expressed as three-year average of the 98th percentile highest daily 24-hour average PM2.5 concentration, including background.
[b] The federal one-hour NO_2 standard is expressed as three-year average of the 98th percentile highest daily one-hour average NO_2 concentration, including background. NO_2 concentrations are determined by using the Plume Volume Molar Ratio Method (PVMRM) with a NO_2/NO_X ratio of 0.13.

We find that particulate matter emissions from routine operation could cause a significant impact because they will contribute to existing violations of PM10 and PM2.5 ambient air quality standards (except the federal 24-hour average PM2.5 standard). The federal 24-hour average PM2.5 standard is expressed as the three-year average of the 98th percentile of PM2.5 24-hour average. **Air Quality Table 7** shows that the project will comply with this statistically based federal standard. Significant secondary impacts would also occur for PM10, PM2.5, and ozone because operational emissions of particulate matter precursors (including SO_X) and ozone precursors (NO_X and VOC) would also contribute to existing violations of these standards. The direct impacts of NO_2, in conjunction with worst-case background conditions, would not create a new violation of the current annual or state NO_2 ambient air quality standard. The project is also in compliance with the new federal one-hour NO_2 standard. The direct impacts of CO and SO_2 would not be significant because routine operation of the project would neither cause nor contribute to a violation of these standards. Mitigation for emissions of PM10, PM2.5, SO_X, NO_X, and VOC would be appropriate for reducing impacts to PM10, PM2.5, NO_2, and ozone. (Ex. 200, p. 4.1-23)

Secondary Pollutant Impacts

The project's gaseous emissions of NO_X, SO_X, VOC, and ammonia are precursor pollutants that can contribute to the formation of secondary pollutants, ozone,

PM10, and PM2.5. Gas-to-particulate conversion in ambient air involves complex chemical and physical processes that depend on many factors, including local humidity, pollutant travel time, and the presence of other compounds. Currently, there are no agency-recommended models or procedures for estimating secondary pollutant ozone or particulate nitrate or sulfate formation from a single project or source. However, because of the known relationships of NO_X and VOC to ozone and of NO_X, SO_X, and ammonia emissions to secondary PM10 and PM2.5 formation, it can be said that unmitigated emissions of these pollutants would contribute to higher ozone and PM10/PM2.5 levels in the region. Significant impacts of ozone and PM10/PM2.5 precursors would be mitigated with SDAPCD offsets through implementation of Condition of Certification **AQ-SC7**.

Ammonia (NH_3) is a particulate precursor but not a criteria pollutant because there is no air quality standard for ammonia. Reactive with sulfur and nitrogen compounds, ammonia can be found from natural sources, agricultural sources, and as a byproduct of tailpipe controls on motor vehicles and stack controls on power plants. Mitigating SO_X and NO_X emissions would both avoid significant secondary PM10/PM2.5 impacts and reduce secondary pollutant impacts to a less than significant level.

Energy Commission staff recommends limiting ammonia slip emissions to the maximum extent feasible. We agree with Staff's recommendation for an ammonia slip limit of 5 ppmvd at 15 percent oxygen.

Fumigation Impacts

There is the potential that higher short-term concentrations of pollutants may occur during fumigation conditions. Fumigation conditions can occur during morning hours shortly after sunrise when the ground begins to heat up and warms the air above it, causing vertical convection. Fumigation conditions are generally short-term in nature and impacts are only compared to short-term standards. The Applicant analyzed the air quality impacts for normal emissions under fumigation conditions using the SCREEN3 Model (Ex 1, Table 5.2-27). The short-term project impacts during fumigation would not exceed the impacts for routine operation shown in **Air Quality Table 7** above. Therefore, no additional mitigation is required for fumigation impacts.

Commissioning-Phase Impacts

Commissioning impacts would occur over a short-term period within the 112 hours expected to be needed to complete the commissioning. The commissioning emissions estimates are based on partial load operations before the emission control systems become operational. Impacts due to PM10, PM2.5, and SO_2 during commissioning would occur under similar exhaust conditions as those for startup while in routine operation because these emissions are proportional to fuel use. The evidence shows that the commissioning-phase emissions will not cause new exceedances of any state or federal air quality standard, with the exception of the state one-hour NO_2 standard. The PM10 and PM2.5 emissions from commissioning will contribute to existing violations of ambient air quality standards due to the high background concentrations. The federal one-hour NO_2 standard is expressed as a three-year average of the 98th percentile of the daily maximum one-hour concentration. Since this is a statistically evaluated standard, it is not applicable to the short commissioning phase. We find no significant impact due to the very limited commissioning period compared to the three-year averaging time used for the standard. (Ex. 200, pp. 4.1-23 – 4.1-24.)

The PPEC includes a combination of BACT and emission reduction credits to mitigate air quality impacts. PPEC proposes two catalyst systems: the SCR and water injection system to reduce NO_X; and the oxidation catalyst system to reduce CO and VOC. Operating exclusively on pipeline quality natural gas limits SO_X and particulate matter emissions. Additionally, high-efficiency drift eliminator would be used to minimize paritculate emissions from the partial dry cooling tower system. Appropriately sized stacks are also used to reduce ground-level concentrations of exhaust constituents.

In addition to emission control strategies included in the project design, SDAPCD Rule 20.3 requires PPEC to provide emission reduction credits to offset the NO_X emissions. **Air Quality Table 8** summarizes the SDAPCD Rule 20.3 NO_X offset requirements for the PPEC, with offsets assumed to originate from shutdowns at other sources with an offset ratio of 1.2-to-1 (SDAPCD 2011a). Energy Commission staff recommended California Evironmental Quality Act (CEQA) mitigation is also shown in the table.

AIR QUALITY Table 8
PPEC, Offset and Mitigation Determination and Requirements (TPY)

Pollutant	Project Emissions	District Offset Thresholds	District Offset Requirements	Energy Commission Mitigation
NO_X	70.4	50	84.5[b]	70.4
CO[a]	96.4	N/A	--	--
VOC	19.4	50	--	19.4
SO_2	4.1	N/A	--	4.1
PM10/PM2.5	37.2	N/A	--	37.2

(Ex. 200, p. 4.1-25.)
Note:
[a]. Emission offsets are not required for CO since the San Diego air basin is currently in attainment for CO.
[b]. NO_X offsets must be provided at a ratio of at least 1.2:1 according to SDAPCD Rule 20.3.

The proposed PPEC project would be required to surrender offsets according to the operating profile proposed by the Applicant. District conditions would limit the facility operation in terms of its annual emissions and its short-term normal operation, rather than through its heat input rate or other parameters. **Air Quality Table 9** summarizes the source and amount of ERCs proposed by the Applicant.

AIR QUALITY Table 9
PPEC, Offset Holdings or and Available (TPY)

Source	NO_X	VOC	SO_2	PM10/PM2.5
South Bay Units 3&4	29.2	16.2	1.8	27.4
South Bay Units 1&2	24.6	11.2	1.7	22.1
IG&E GP, LLC		37.4		
Rohr, Inc.	1.1	5.5		
Total	54.9	70.3	3.5	49.5

(Ex. 200, p. 4.1-26.)

Air Quality Table 10 summarizes district offset requirements and identifies the compliance plan proposed by PPEC. SDAPCD Rule 20.3 requires ERCs for emissions above 50 TPY of NO_X or VOC. PPEC triggers district offset requirements only for NO_X. Rule 20.3 further defines that the NO_X offsets must be provided at a ratio of 1.2:1. PPEC proposes to satisfy the district offset requirements of NO_X by 1) purchase of ERCs, and 2) interpollutant offsets (VOC for NO_X, at a 2:1 ratio defined by Rule 20.3). Both NO_X and VOC emissions are recognized precursors to the formation of ambient ozone. Therefore VOC ERCs are also allowed to offset the NO_X emissions. **Air Quality Table 10** indicates that PPEC is in compliance with the district's NO_X offset requirements.

AIR QUALITY Table 10
PPEC, District Offset Compliance Plan (TPY)

Source	NO_X
Offset Required	84.5
ERCs Owned/Optioned	0.0
ERCs Available - NO_X	
South Bay Units 3&4	29.2
South Bay Units 1&2	24.6
Rohr, Inc.	1.1
Total NO_X	54.9
ERCs Available - VOC at 2:1 interpollutant ratio	
South Bay Units 3&4	8.1
South Bay Units 1&2	5.6
IG&E GP. LLC	18.7
Rohr, Inc.	2.75
Total VOC	35.15
Total ERCs for NO_X	90.05
NO_X Fully Offset?	Yes

(Ex. 200, p. 4.1-27.)

Air Quality Table 11 summarizes Energy Commission CEQA mitigation requirements and identifies the offsets proposed by PPEC. The Energy Commission requires CEQA mitigation of all nonattainment pollutants and their precursors at a ratio of at least 1:1. Therefore PPEC is required to mitigate the full project emissions of NO_X, VOC, SO_2 and PM10/PM2.5. Mitigation of CO is not required because the San Diego air basin is currently in attainment for CO and project CO emissions were not found to cause or contribute to impacts.

Consistent with the district compliance plan, the Applicant proposed to use VOC ERCs to offset NO_X emission with an interpollutant ratio of 2:1. The Applicant also proposed to use PM10/PM2.5 ERC certificate to mitigate SO_2 increases associated with the project with an interpollutant offset ratio of 1:1. SO_X is accepted as one of the major precursors of PM10 and PM2.5 through reaction with ammonia to form ammonium sulfates. Therefore the reduction in PM10/PM2.5 is considered to be equivalent to the reduction in SO_X emissions.

AIR QUALITY Table 11
PPEC, Energy Commission Offset Compliance Plan (TPY)

Source	NO_X	VOC	SO_2	PM10/PM2.5
Mitigation Required	70.4	19.4	4.1	37.2
ERCs Owned/Optioned	0.0	0.0	0.0	0.0
ERCs Available	54.9	70.3	3.5	49.5
Interpollutant Adjustments	15.5	-31	0.6	-0.6
Total ERCs available	70.4	39.3	4.1	48.9
Emissions fully mitigated?	Yes	Yes	Yes	Yes

(Ex. 200, p. 4.1-27.)

PPEC is therefore in compliance with Energy Commission CEQA mitigation requirements and would provide sufficient ERCs or interpollutant ERCs at an offset ratio of at least one-to-one, which satisfies the CEQA mitigation requirements recommended by Energy Commission staff.

Staff proposes Condition of Certification **AQ-SC6** to ensure that the license is amended as necessary to incorporate future changes to the air quality permits and to ensure ongoing compliance during commissioning and routine operation through the quarterly reports required pursuant to Condition of Certification **AQ-SC8**. Staff also proposes Condition of Certification **AQ-SC7** to ensure that significant impacts of ozone and PM10/PM2.5 precursors would be mitigated with the quantity of SDAPCD offsets recommended by Staff and to ensure agency consultation if substitutions are made to the credits. We find that implementation of these conditions of certification would ensure the project's compliance with applicable LORS.

8. Cumulative Impacts

Cumulative impacts may result from the project's incremental effect, together with other closely related past, present and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project. (Pub. Resources Code, § 21083; Cal. Code Regs., tit. 14, §§ 15064(h), 15130, 15355.)

The air quality analysis focuses on criteria air pollutants, which have impacts that are typically cumulative by nature. Although a project by itself would rarely cause a violation of a federal or state criteria pollutant standard, a new source of pollution may contribute to violations of criteria pollutant standards in the context of existing background pollutant sources or foreseeable future projects. Air districts attempt to reduce background criteria pollutant levels by adopting attainment plans, which are multi-faceted programmatic approaches to attainment. Attainment plans typically include new source review requirements that provide offsets and use BACT, combined with more stringent emissions controls on existing sources. (Ex. 200, p. 4.1-29.)

The evidence includes analysis of the project's potential cumulative air quality impacts, including a description of the air quality background. The SDAPCD has developed several plans to implement the federal Clean Air Act and state law as it addresses the cumulative air impacts of criteria pollutants in the San Diego air basin. These plans evaluate the regional context of air pollution in the air basin,

and provide the air district strategies for addressing these cumulative impacts and eventually achieving "attainment" with various federal and state standards. (Ex. 200, p. 4.1-29.)

The applicable air quality plans do not outline any new control measures applicable to the proposed project's operating emission sources. Therefore, compliance with existing district rules and regulations would ensure compliance with those air quality plans. SDAPCD recently evaluated additional fugitive dust control measures and recently adopted a fugitive dust control rule (Rule 55, effective December 24, 2009). Implementation of Staff's recommended Conditions or Certification **AQ-SC3** and **AQ-SC4,** which include fugitive dust control measures that should meet or exceed the fugitive dust control requirements of new SDAPCD Rule 55, will ensure compliance.

The evidence includes a discussion of the project's "localized cumulative impacts" from direct emissions locally when combined with other local major emission sources. The proposed project and other reasonably foreseeable projects could cause impacts that would be locally combined if present and future projects would introduce stationary sources that are not included in the "background" conditions. Under CEQA, reasonably foreseeable future projects are usually those that are either currently under construction or in the process of being approved by a local air district or municipality.

Projects with stationary sources located up to six miles from the proposed project site usually need to be considered by the cumulative analysis. The SDAPCD provided district-wide emission inventory with NO_X and PM10/PM2.5 emissions greater than 5 TPY, and new projects within six miles of PPEC. CO and SO_2 are not considered in the cumulative analysis because the impacts of these two pollutants from PPEC alone are well below the most stringent ambient air quality standards even under the worst case conditions. In addition, no source with CO and SO_2 emissions large enough to create an impact that would threaten the standards exists in the project area. In addition to the PPEC, only four projects would involve emissions increases of more than 5 TPY of NO_X or PM10/PM2.5:

- NO_X and PM2.5 emissions from Larkspur Energy Facility (a small peaking power plant located 2.5 km/1.5 miles west of the PPEC site).
- NO_X and PM2.5 emissions from Pacific Recovery Corp (a landfill gas waste-to-energy facility located 9.2 km/5.5 miles west of the PPEC site).
- NO_X and PM2.5 emissions from Otay Mesa Power Plant (a base-load combined cycle power plant located adjacent to the PPEC site).

- NO_X and PM2.5 emissions from CalPeak Border Facility (a small peaking power plant located 2.7km/1.6 miles west of the PPEC site).

Air Quality Table 12 shows that PPEC, along with four other existing sources, would not cause new violations for NO_2. However, particulate matter emissions from PPEC would be cumulatively considerable because they would contribute to existing violations of the PM10 and PM2.5 ambient air quality standards.

AIR QUALITY Table 12
PPEC, Ambient Air Quality Impacts from Cumulative Sources (µg/m^3)

Pollutant	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
PM10	24 hour	**7.5**	**57**	**64.5**	**50**	**129**
	Annual	**1.9**	**26.7**	**28.6**	**20**	**143**
PM2.5	24 hour	--	--	29.9	35	85
	Annual	1.9	**12.5**	**14.4**	**12**	**120**
NO_2	1 hour (state)	81.8	154	235.8	339	70
	1 hour (federal)	--	--	179	188	95
	Annual	5.9	29	34.9	57	61

(Ex. 200, p. 4.1-33.)

The PPEC would mitigate emissions through the use of BACT and district required and Staff recommended banked or new, owner-funded, emission reductions. Therefore, the cumulative operating impacts after mitigation are considered to be less than significant.

The evidence shows that Staff has considered the minority population surrounding the site (see **Socioeconomics** Figure 1). Since the project's cumulative air quality impacts have been mitigated to less than significant, there is no environmental justice issue for air quality.

Impacts to Mexico

The evidence shows that the Applicant truncated the Pio Pico's modeling domain at the US – Mexico international border, approximately 1.5 miles south of the project site. Since the project is close to the border, Staff did an independent modeling analysis and extended the project modeling domain to approximately 3.5 miles from the border into Mexico. Staff modeled both the impacts of the facility alone and cumulative impacts of sources located in California and confirmed that the maximum impacts all occur in California.

Staff also reviewed Ambient Air Quality Standards (AAQS) for California, US federal, and Mexico. Staff found that the Mexico ambient air quality standards are almost all less stringent than project-limiting standards (the stricter of California

and US federal). As described above, the project does not cause any violation of California or federal AAQS except PM10 and 24-hour PM2.5 standards, which are above the standards even without the project's impact due to the high background concentrations. For PM10, the project impacts are above the limiting standards (California standards) but are still well below the Mexico standards. For PM2.5, there are no ambient air quality standards in Mexico. However, Mexico does have a Total Suspended Particulates (TSP) standard, which has been superseded in the United States and California by more restrictive PM10 and PM2.5 standards. Therefore, we conclude that the project would not cause a violation of any ambient air quality standard within Mexico. We also routinely call for offset mitigation for all non-attainment pollutants so that they are fully mitigated, in the present case both in California and in Mexico. (Ex. 200, pp 4.1-33 – 4.1-34.)

9. Compliance with LORs

The project's emissions and air quality impacts must comply with various local, state, and federal LORS. We find that the Applicant, Staff, and the District have evaluated the project's air quality impacts and that the project will comply with applicable LORS with implementation of the conditions of certification.

10. Public and Agency Comments

No public or agency comments were received on air quality.

FINDINGS OF FACT

Based on the record, we find as follows:

- The PPEC project would be located in the San Diego Air Basin and the San Diego Air Pollution Control District.
- The PPEC project area is designated as nonattainment for the state and federal ozone standards, nonattainment for the state PM2.5 and PM10 standards, attainment and unclassified respectively for federal PM2.5 and PM10 standard, and attainment for the state and federal CO, NO_2 and SO_2 standards.
- The project would neither cause new violations of any CO, NO_2, or SO_2 ambient air quality standard nor contribute to existing violations for these pollutants. Therefore, the project's direct CO, NO_2, and SO_2 impacts are less than significant.

- The project's NO_X and VOC emissions would contribute to existing violations of state and federal ozone ambient air quality standards. The ozone precursor offsets required by SDAPCD and required in Condition of Certification **AQ-SC7** would mitigate the ozone impact to a less than significant level.
- The project's PM10 and PM2.5 emissions and the PM10/PM2.5 precursor emissions would contribute to the existing violations of state and federal PM10 and PM2.5 ambient air quality standards. The PM10/PM2.5 ERCs will be surrendered to mitigate the PM10/PM2.5 impacts to a less than significant level. The offsets would be in sufficient quantities to satisfy Energy Commission staff's long-standing recommendation that all nonattainment pollutant and precursor emissions be offset at least one-to-one.
- The San Diego Air Pollution Control District has issued a Final Determination of Compliance (FDOC) finding that PPEC would comply with all applicable district rules and regulations for project operation. The district's FDOC conditions are included herein as Conditions of Certification **AQ-1** through **AQ-79**.
- This analysis contains an adequate evaluation of the project's contributions to cumulative air quality impacts.
- Implementation of the conditions of certification listed below would ensure that the PPEC will not result in any significant direct, indirect, or cumulative adverse impacts to air quality.

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

2. There is no evidence that project-related air emissions will result in significant nuisance odors or any significant air quality impacts on soils, vegetation or sensitive species.

CONCLUSIONS OF LAW

1. Implementation of the mitigation measures described in the record and contained in the following conditions of certification are sufficient to ensure that PPEC will conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth in the pertinent portions of **Appendix A** of this Decision.

2. Implementation of the mitigation measures described in the record and contained in the conditions of certification ensures that the project will not result in significant direct, indirect, or cumulative air quality impacts in conformance with CEQA requirements.

CONDITIONS OF CERTIFICATION

Definitions for Conditions of Certification

Commissioning Period—For each combustion turbine, the commissioning period is the period of time commencing with the initial startup, also known as the first fire, of that turbine and ending after 112 hours of turbine operation, or the date the permittee notifies the district the commissioning period has ended. For purposes of this condition, the number of hours of turbine operation is defined as the total unit operating minutes during the commissioning period divided by 60. (Rule 20.3(d)(1).)

Compliance Time Periods—For each emission limit expressed as pounds, pounds per hour, or parts per million based on a one-hour or less averaging period or compliance period, compliance shall be based on using data collected at least once every minute when compliance is based on CEMS data except as specified in the district approved CEMS Protocol. (Rules 69.3, 69.3.1, and 20.3(d)(1).)

Continuous Emissions Monitoring Protocol—A Continuous Emission Monitoring System (CEMS) Protocol is a document approved in writing by the District that describes the methodology and quality assurance and quality control procedures for monitoring, calculating, and recording stack emissions from the combustion turbine that is monitored by the CEMS. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Non-operational period—A non-operational period is any five-consecutive-minute period when fuel does not flow to the combustion turbine. (Rule 20.3(d)(1).)

Shutdown—For purposes of determining compliance with the emission limits of this permit, a shutdown period is the 11 minute period preceding the moment at which fuel flow ceases. (Rule 20.3(d)(1).)

Startup—A startup period is the period of time that begins when fuel flows to the combustion turbine following a non-operational period. For purposes of determining compliance with the emission limits of this permit, the duration of a startup period shall not exceed 30 consecutive minutes. (Rule 20.3(d)(1).)

Tuning—The tuning process is defined as adjustments to the combustion or emission control system that involves operating the combustion turbine or emission control system in a manner such that the emissions control equipment may not be fully effective or operational. Only one gas turbine shall be tuned at any given time. Tuning events shall not exceed 720 unit operating minutes in a calendar day nor exceed 40

hours in a calendar year for each turbine. The district compliance division shall be notified at least 24 hours in advance of any tuning event. For purposes of this condition, the number of hours of tuning in a calendar year is defined as the total unit operating minutes of tuning during the calendar year divided by 60. (Rule 20.3(d)(1).)

Unit Operating Day—For each turbine**,** a unit operating day means any calendar day in which the turbine combusts fuel.

Unit Operating Hour—For each turbine, a unit operating hour means any clock hour in which the turbine combusts fuel for any part of the hour or for the entire hour.

Unit Operating Minute—For each turbine, a unit operating minute means any clock minute in which the turbine combusts any fuel.

CONDITIONS OF CERTIFICATION

We recommend implementation of the following conditions of certification (identified as the **AQ-SC$_X$** series of conditions) to provide CEQA mitigation for this project.

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 duration of project site 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 shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM and AQCMM delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the compliance project manager (CPM).

Verification: At least 60 days prior to the start of ground disturbance, the project owner shall submit to the CPM for approval the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM delegates. The AQCMM and all delegates must be approved by the CPM before the start of ground disturbance.

AQ-SC2 Air Quality Construction Mitigation Plan (AQCMP): The project owner shall provide, for approval, an AQCMP that details the steps to be taken and the reporting requirements necessary to ensure compliance with Conditions of Certification **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 Air Quality Construction Mitigation Plan (AQCMP) mitigation measures for purposes of minimizing fugitive dust emission creation from construction activities and preventing all fugitive dust plumes from leaving the project's boundary. The following fugitive dust mitigation measures shall be included in the AQCMP required by **AQ-SC2**, and any deviation from the AQCMP mitigation measures shall require prior CPM notification and approval.

a. The main access roads through the facility to the power block areas will be either paved or stabilized using soil binders, or equivalent methods, to provide a stabilized surface that is similar for the purposes of dust control to paving, that may or may not include a crushed rock (gravel or similar material with fines removed) top layer, prior to initiating construction in the main power block area, and delivery areas for operations materials (chemical, replacement parts, etc.) will be paved prior to taking initial deliveries.

b. All unpaved construction roads and unpaved operation site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent that can be determined to be both as efficient or more efficient for fugitive dust control as ARB approved soil stabilizers, and shall not increase any other environmental impacts including loss of vegetation to areas beyond where the soil stabilizers are being applied for dust control. All other disturbed areas in the project construction site shall be watered as frequently as necessary during grading; and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods, in order to comply with the dust mitigation objectives of Condition of Certification **AQ-SC4**. The frequency of watering can be reduced or eliminated during periods of precipitation.

c. No vehicle shall exceed 10 miles per hour on unpaved areas within the construction site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.

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

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

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

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

h. 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.

i. Construction areas adjacent to any paved roadway below the grade of the surrounding construction area or otherwise directly impacted by sediment from site drainage shall be provided with sandbags or other equivalently effective measures to prevent run-off to roadways, or other similar run-off control measures as specified in the Storm Water Pollution Prevention Plan (SWPPP), only when such SWPPP measures are necessary so that the condition does not conflict with the requirements of the SWPPP.

j. All paved roads within the construction site shall be swept daily or as needed (less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.

k. At least the first 500 feet of any paved public roadway exiting the construction site or exiting other unpaved roads en route from the construction site or construction staging areas shall be swept as needed (less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or run-off resulting from the construction site activities is visible on the public paved roadways.

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

m. All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least two feet of freeboard.

n. 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.

Verification: The AQCMM shall provide the CPM a Monthly Compliance Report to include the following to demonstrate control of fugitive dust emissions:

A. a summary of all actions taken to maintain compliance with this condition;

B. Copies of any complaints filed with the air district or facility representatives in relation to project construction; and

C. Any other documentation deemed necessary by the CPM or 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 off the project site and within 400 feet upwind of any regularly occupied structures not owned by the project owner indicates that existing mitigation measures are not resulting in effective mitigation. The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified. 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 shutdown activity. 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 AQCMM shall provide the CPM a Monthly Compliance Report to include:

A. a summary of all actions taken to maintain compliance with this condition;

B. copies of any complaints filed with the district or facility representatives in relation to project construction; and

C. 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-SC5 Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the Monthly Compliance Report, a table that demonstrates compliance with the AQCMP mitigation measures for purposes of controlling diesel construction-related combustion emissions. Any deviation from the AQCMP mitigation measures requires prior CPM notification and approval.

All off-road diesel construction equipment used in the construction of this facility shall be powered by the cleanest engines available that also comply with the ARB's Regulation for In-Use Off-Road Diesel Fleets and shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by **AQ-SC2**. The AQCMP measures shall include the following, with the lowest-emitting engine chosen in each case, as available:

a. All off-road vehicles with compression ignition engines shall comply with the ARB's Regulation for In-Use Off-Road Diesel Fleets (Cal. Code Regs, tit. 13, art. 4.8, Ch. 9, §2449 et. seq.)

b. To meet the highest level of emissions reduction available for the engine family of the equipment, each piece of diesel-powered equipment shall be powered by a Tier 4 engine (without add-on controls) or Tier 4i engine (without ad-on controls), or a Tier 3 engine with a post-combustion retrofit device verified by the ARB or the US EPA. For PM, the retrofit device shall be a particulate filter if verified, or a flow-through filter, or at least an oxidation catalyst. For NO_X, the device shall meet the latest Mark level verified to be available.

c. For diesel powered equipment where the requirements of Part "b" cannot be met, the equipment shall be equipped with a Tier 3 engine without retrofit control devices or with a Tier 2 or lower Tier engine using retrofit controls verified by ARB or US EPA as the best available control device to reduce exhaust emissions of PM and nitrogen oxides (NO_X) unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices can be considered "not practical" for the following, as well as other, reasons:

1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question and the highest level of available control using retrofit or Tier 1 engines is being used for the engine in question; or
2. The use of the retrofit device would unduly restrict the vision of the operator such that the vehicle would be unsafe to operate because the device would impair the operator's vision to the front, sides, or rear of the vehicle, or
3. The construction equipment is intended to be on site for 10 work days or less.

d. The CPM may grant relief from a requirement in Part "b" or "c" if the AQCMM can demonstrate a good faith effort to comply with the requirement and that compliance is not practical.

e. The use of a retrofit control device may be terminated immediately provided that the CPM is informed within 10 working days of the termination and a replacement for the equipment item in question meeting the level of control required occurs within 10 work days of termination of the use (if the equipment would be needed to continue working at this site for more than 15 work days after the use of the retrofit control device is terminated) if one of the following conditions exists:

1. The use of the retrofit control device is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in exhaust back pressure.
2. The retrofit control device is causing or is reasonably expected to cause engine damage.
3. The retrofit control device is causing or is reasonably expected to cause a substantial risk to workers or the public.
4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination.

f. All equipment with engines meeting the requirements above shall be properly maintained and the engines tuned to the engine manufacturer's specifications. Each engine shall be in its original configuration and the equipment or engine must be replaced if it exceeds the manufacturer's approved oil consumption rate.

g. Construction equipment will employ electric motors when feasible.

h. If the requirements detailed above cannot be met, the AQCMM shall certify that a good faith effort was made to meet these requirements and this determination must be approved by the CPM.

i. All off-road 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.

Verification: The AQCMM shall include in the MCR the following to demonstrate control of diesel construction-related emissions:

A. A summary of all actions taken to control diesel construction related emissions;

B. A list of all heavy equipment used on site during that month, showing the tier level of each engine and the basis for alternative compliance with this condition for each engine not meeting Part "b" requirements. The list shall include the owner of the equipment and a letter from each owner indicating that the equipment has been properly maintained; and

C. Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC6 The project owner shall provide the CPM copies of all district issued Authority-to-Construct (ATC) and Permit-to-Operate (PTO) documents for the facility. The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the district or U.S. EPA, and any revised permit issued by the district or U.S. EPA, for the project.

Verification: The project owner shall submit any ATC, PTO, and proposed air permit modifications 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 provide emission reductions in the form of offsets or emission reduction credits (ERCs) in the quantities of at least 70.4 tons/year NO_X, 19.4 tons/year VOC, 37.2 tons/year PM10, and 4.1 tons/year SO_X emissions. The project owner shall demonstrate that the reductions are provided in the form required by the district.

The project owner shall surrender the ERCs from among those that are listed in the district's Final Determination of Compliance Conditions or a modified list, as allowed by this condition. If additional ERCs are submitted, the project owner shall submit an updated table including the additional ERCs to the CPM. The project owner shall request CPM approval for any substitutions, modifications, or additions to the listed credits.

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 applicable laws, ordinances, regulations, and standards, and that the requested change(s) will not cause the project to result in a significant environmental impact. The district must also confirm that each requested change is consistent with applicable federal and state laws and regulations.

Verification: The project owner shall submit to the CPM records showing that the project's offset requirements have been met prior to initiating construction. If the CPM approves a substitution or modification to the list of ERCs, 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 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 shall specifically note or highlight incidences of noncompliance.

Verification: The project owner shall submit the Quarterly Operation Reports to the CPM and APCO no later than 30 days following the end of each calendar quarter.

District Final Determination Of Compliance Conditions

The following SDAPCD Conditions (**AQ-1** to **AQ-79**) apply to each unit of equipment, and the proposed PPEC facility as a whole.

GENERAL CONDITIONS

AQ-1 This equipment shall be properly maintained and kept in good operating condition at all times, and, to the extent practicable, the project owner shall maintain and operate the equipment and any associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. (Rule 21 and 40 CFR §60.11.)

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

AQ-2 The project owner shall operate the project in accordance with all data and specifications submitted with the application under which this license is issued and District Application No. APCD2010-APP-001251. (Rule 14.)

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

AQ-3 The project owner shall provide access, facilities, utilities, and any necessary safety equipment, with the exception of personal protective equipment requiring individual fitting and specialized training, for source testing and inspection upon request of the Air Pollution Control District. (Rule 19.)

Verification: The project owner shall provide facilities, utilities, and safety equipment for source testing and inspections upon request of the District, ARB, and the Energy Commission.

AQ-4 The project owner shall obtain any necessary District permits for all ancillary combustion equipment including emergency engines, prior to on-site delivery of the equipment. (Rule 10.)

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.

AQ-5 Prior to the initial startup date for any of the three combustion turbines, the project owner shall surrender to the District Class A Emission Reduction Credits (ERCs) in an amount equivalent to 84.5 tons per year of oxides of nitrogen (NO_X) to offset the net maximum allowable increase of 70.4 tons per year of NO_X emissions for the three combustion turbines described in District Application No. APCD2010-APP-001251. (Rule 20.3(d)(8).)

Verification: The project owner shall submit to the CPM, within 15 days of ERC surrender to the District, information demonstrating compliance with this condition.

AQ-6 A rolling 12-calendar-month period is one of a series of successive consecutive 12-calendar-month periods. The initial 12-month-calendar period of such a series shall begin on the first day of the month in which the applicable beginning date for that series occurs as specified in this permit. (Rule 20.3 (d)(3), Rule 20.3(d)(8) and Rule 21.)

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

AQ-7 Pursuant to 40 CFR §72.30(b)(2)(ii) of the Federal Acid Rain Program, the project owner shall submit an application for a Title IV Operating Permit at least 24 months prior to the initial startup of the combustion turbines. (40 CFR Part 72.)

Verification: The project owner shall submit to the CPM copies of the acid rain permit application within five working days of its submittal by the project owner to the District.

AQ-8 The project owner shall comply with all applicable provisions of 40 CFR Part 73, including requirements to acquire, hold and retire sulfur dioxide (SO_2) allowances. (40 CFR Part 73.)

Verification: The project owner shall submit to the CPM and the District the CTG annual operating data and SO_2 allowance information demonstrating compliance with all applicable provisions of 40 CFR 73 as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-9 All records required by this permit shall be maintained on site for a minimum of five years and made available to the District upon request. (Rule 21.)

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

AQ-10 NOT USED

AQ-11 NOT USED

AQ-12 NOT USED

AQ-13 NOT USED

AQ-14 NOT USED

AQ-15 NOT USED

AQ-16 NOT USED

COMBUSTION TURBINE CONDITIONS

General Conditions

AQ-17 The exhaust stacks for each combustion turbine shall be at least 100 feet in height above site base elevation. (Rules 20.3(d)(2) and 1200.)

Verification: The project owner shall submit to the District and the CPM for review the exhaust stack specification at least 60 days before the installation of the stack.

AQ-18 The combustion turbines shall be fired on Public Utility Commission (PUC) quality natural gas. The permittee shall maintain, on site, quarterly records of the natural gas sulfur content (grains of sulfur compounds per 100 dscf of natural gas) and hourly records of the higher and lower heating values (btu/scf) of the natural gas; and provide records to District personnel upon request. (Rule 20.3(d)(1).)

Verification: The project owner shall submit the quarterly fuel sulfur content values in the Quarterly Operation Reports (**AQ-SC8**) and make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-19 Unless otherwise specified in this permit or the District approved CEMS Protocol, all continuous monitoring data shall be collected at least once every minute. (Rules 69.3, 69.3.1, and 20.3(d)(1).)

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

Emission Limits

AQ-20 For purposes of determining compliance with emission limits based on source testing, the average of three subtests shall be used. For purposes of determining compliance with emission limits based on a Continuous Emission Monitoring System (CEMS), data collected in accordance with the CEMS Protocol shall be used and the averages for averaging periods specified herein shall be calculated as specified in the CEMS Protocol. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: Source test results demonstrating compliance with this condition shall be provided to the CPM and are due within the timeframes specified in Conditions **AQ-48** and **AQ-49**. CEMS data summaries shall be submitted to the CPM as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-21 For purposes of determining compliance with emission limits based on CEMS data, all CEMS calculations, averages, and aggregates shall be performed in accordance with the CEMS Protocol approved in writing by the District. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: CEMS data summaries shall be submitted to the CPM as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-22 NOT USED

AQ-23 When a combustion turbine is combusting fuel (operating), the emission concentration of oxides of nitrogen (NO_X), calculated as nitrogen dioxide (NO_2), shall not exceed 2.5 parts per million by volume on a dry basis (ppmvd) corrected to 15 percent oxygen averaged over a 1-clock-hour period, except during commissioning, startup and shutdown periods for that turbine. (Rule 20.3(d)(1).)

Verification: The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-24 When a combustion turbine is operating, the emission concentration of carbon monoxide (CO) shall not exceed 4.0 ppmvd corrected to 15 percent oxygen, averaged over a 1-clock-hour period, except during

commissioning, startup, and shutdown periods for that turbine. (Rule 20.3(d)(1).)

Verification: The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-25 When a combustion turbine is operating, the volatile organic compound (VOC) concentration, calculated as methane, measured in the exhaust stack, shall not exceed 2.0 ppmvd corrected to 15 percent oxygen, except during commissioning, startup, and shutdown periods for that turbine. For purposes of determining compliance based on the CEMS, the District approved VOC/CO surrogate relationship, the CO CEMS data, averaged over a 1-clock-hour period be used. The VOC/CO surrogate relationship shall be verified and/or modified, if necessary, based on source testing. (Rule 20.3(d)(1).)

Verification: The project owner shall provide the CEMS data, using the appropriate VOC/CO surrogate relationship, to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-26 When a combustion turbine is operating, the ammonia concentration (ammonia slip), shall not exceed 5.0 ppmvd corrected to 15 percent oxygen, except during commissioning, startup, and shutdown periods for that turbine. (Rule 1200.)

Verification: The project owner shall provide the estimated ammonia concentrations and ammonia emissions based on the annual source test data, the CEMS data and SCR ammonia flow data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-27 When a combustion turbine is operating with post-combustion air pollution control equipment that controls oxides of nitrogen (NO_X) emissions, the emission concentration NO_X, calculated as nitrogen dioxide (NO_2), shall not exceed 13.9 ppmvd calculated over each clock-hour period and corrected to 15 percent oxygen, except during startup and shutdown periods, as defined in Rule 69.3.1. This limit does not apply during any period in which the facility is subject to a variance from the emission limits contained in Rule 69.3.1. (Rule 69.3.1.)

Verification: The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-28 When a combustion turbine is operating without any post-combustion air pollution control equipment that controls oxides of nitrogen (NO_X) emissions, the emission concentration of NO_X calculated as nitrogen dioxide (NO_2) from each turbine shall not exceed 23.2 parts per million

by volume on a dry basis (ppmvd) calculated over each clock-hour period and corrected to 15 percent oxygen, except during startup and shutdown periods, as defined in Rule 69.3.1. This limit does not apply during any period in which the facility is subject to a variance from the emission limits contained in Rule 69.3.1. (Rule 69.3.1.)

Verification: The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-29 When a combustion turbine is operating, the emission concentration of oxides of nitrogen (NO_X), calculated as nitrogen dioxide (NO_2) shall not exceed 42 ppmvd calculated over each clock-hour period and corrected to 15 percent oxygen, on a dry basis, except during startup and shutdown periods, as defined in Rule 69.3. This limit does not apply during any period in which the facility is subject to a variance from the emission limits contained in Rule 69.3. (Rule 69.3.)

Verification: The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-30 For each rolling 4-unit-operating-hour period, average emission concentration of oxides of nitrogen (NO_X) for each turbine calculated as nitrogen dioxide (NO_2) in parts per million by volume dry (ppmvd) corrected to 15 percent oxygen or, alternatively, as elected by the permittee, the average NO_X emission rate in pounds per megawatt-hour (lb/MWh) shall not exceed an average emission limit calculated in accordance with 40 CFR Section 60.4380(b)(3). The emission concentration and emission rate averages shall be calculated in accordance with 40 CFR Section 60.4380(b)(1). The average emission concentration limit and emission rate limit shall be based on an average of hourly emission limits over the 4-unit-operating-hour period. The hourly emission concentration limit and emission rate limit shall be 15 ppmvd corrected to 15 percent oxygen and 0.43 lb/MWh, respectively at all times during the clock hour. The averages shall exclude all clock hours occurring before the Initial Emission Source Test but shall include emissions during all other times that the equipment is operating including, but not limited to, emissions during startup and shutdown periods. For each six-calendar-month period, emissions in excess of these limits and monitor downtime shall be identified in accordance with 40 CFR Sections 60.4350 and 60.4380(b)(2), except that Section 60.4350(c) shall not apply for identifying periods in excess of a NO_X concentration limit. (40 CFR Part 60 Subpart KKKK.)

Verification: The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-31 The emissions of particulate matter less than or equal to 10 microns in diameter (PM10) shall not exceed 5.5 pounds per hour for each combustion turbine. (Rule 20.3(d)(2).)

Verification: Source tests demonstrating compliance with this condition shall be provided to the CPM and are due within the timeframes specified in Conditions **AQ-48** and **AQ-49**.

AQ-32 The discharge of particulate matter from the exhaust stack of each combustion turbine shall not exceed 0.10 grains per dry standard cubic foot (0.23 grams/dscm). The District may require periodic testing to verify compliance with this standard. (Rule 53.)

Verification: Source tests demonstrating compliance with this condition shall be provided to the CPM and are due within the timeframes specified in Conditions **AQ-48** and **AQ-49**.

AQ-33 Visible emissions from the lube oil vents and the exhaust stack of each combustion turbine shall not exceed 20 percent opacity for more than three minutes in any period of 60 consecutive minutes. (Rule 50.)

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

AQ-34 Mass emissions from each combustion turbine of oxides of nitrogen (NO_X), calculated as NO_2; carbon monoxide (CO); and volatile organic compounds (VOC), calculated as methane, shall not exceed the following limits, except during commissioning, startup, and shutdown periods for that turbine. A 1-clock-hour averaging period for these limits shall apply to CEMS data.

Pollutant	Emission Limit, lb/hour
a. NO_X	8.2
b. CO	8.0
c. VOC	2.3

(Rule 20.3(d)(2).)

Verification: The project owner shall submit to the CPM operating data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-35 Excluding any minutes that are coincident with a shutdown period, cumulative mass emissions of oxides of nitrogen (NO_X), calculated as NO_2; carbon monoxide (CO); and volatile organic compounds (VOC), calculated as methane, during a combustion turbine's startup period

shall not exceed the following limits during any startup period, except during that turbine's commissioning period.

Pollutant	Emission Limit, lb/event
a. NO_X	22.5
b. CO	17.9
c. VOC	4.7

(Rule 20.3(d)(1).)

Verification: The project owner shall submit to the CPM operating data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-36 Cumulative mass emissions of oxides of nitrogen (NO_X), calculated as NO_2; carbon monoxide (CO); and volatile organic compounds (VOC), calculated as methane, during a combustion turbine's shutdown period shall not exceed the following limits during any shutdown period, except during that turbine's commissioning period.

Pollutant	Emission Limit, lb/event
a. NO_X	6.0
b. CO	47.0
c. VOC	3.0

(Rule 20.3(d)(1).)

Verification: The project owner shall submit to the CPM operating data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-37 The oxides of nitrogen (NO_X) emissions from each combustion turbine shall not exceed 50 pounds per hour and total aggregate NO_X emissions from all combustion turbines combined shall not exceed 150 pounds per hour, calculated as nitrogen dioxide and measured over each 1-clock-hour period. These emission limits shall apply during all times one or more turbines are operating, including, but not limited to, emissions during commissioning, startup, and shutdown periods. (Rule 20.3(d)(2).)

Verification: The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-38 The carbon monoxide (CO) emissions from each combustion turbine shall not exceed 75 pounds per hour and total aggregate CO emissions from all combustion turbines combined shall not exceed 225 pounds per hour measured over each 1-clock-hour period. This emission limit shall apply during all times that one or more turbines

are operating, including, but not limited to emissions during commissioning, startup, and shutdown periods. (Rule 20.3(d)(2)(i).)

Verification: The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-39 Beginning with the earlier of the initial startup dates for any combustion turbine, aggregate emissions of oxides of nitrogen (NO_X), calculated as nitrogen dioxide (NO_2); carbon monoxide (CO); volatile organic compounds (VOCs), calculated as methane; particulate matter less than or equal to 10 microns in diameter (PM10); and oxides of sulfur (SO_X), calculated as sulfur dioxide (SO_2), from the combustion turbines described in District Application No. APCD2010-APP-001251, except emissions from emission units excluded from the calculation of aggregate potential to emit as specified in Rule 20.1 (d)(1), shall not exceed the following limits for each rolling 12-calendar-month period:

Pollutant	Emission Limit, tons per year
a. NO_X	70.4
b. CO	96.4
c. VOC	19.4
d. PM10	35.8
e. SO_X	4.1

The aggregate emissions of each pollutant shall include emissions during all times that the equipment is operating including, but not limited to, emissions during commissioning, startup, and shutdown periods. (Rules 20.3(d)(3), 20.3(d)(8) and 21.)

Verification: The project owner shall submit to the CPM and the District the facility annual operating and emissions data demonstrating compliance with this condition as part of the fourth quarter's Quarterly Operation Report (**AQ-SC8**).

AQ-40 The cooling tower shall be equipped with a mist eliminator designed to achieve a drift rate of 0.001 percent or less. Not later than 90 calendar days prior to the start of construction, the project owner shall submit to the District the final selection, design parameters and details of the mist eliminator. In addition, the maximum total dissolved solids (TDS) concentration of the water used in the cooling tower shall not exceed 5,600 ppm. The TDS concentration shall be verified through quarterly testing of the water by a certified lab using an EPA approved method. (Rule 20.3(d)(1).)

Verification: The project owner shall submit to the CPM for review and District for approval final selection, design parameters and details of the cooling tower mist eliminator at least 90 days prior to the start of construction. The project owner shall provide cooling water testing data in compliance with this

condition as part of the Quarterly Operation Reports (**AQ-SC8**). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-41 For each calendar month, the project owner shall maintain records, as applicable, on a calendar monthly basis, of mass emissions during each calendar month of NO_X, calculated as NO_2; CO; VOCs, calculated as methane; PM10; and SO_X, calculated as SO_2, in tons, from each emission unit described in District Application No. APCD2010-APP-001251, except for emissions from emission units excluded from the calculation of aggregate potential to emit as specified in Rule 20.1 (d) (1). These records shall be made available for inspection within 15 calendar days after the end of each calendar month. The recorded emissions shall be calculated in accordance with an emission calculation protocol approved by the District. A proposed emission calculation protocol to calculate the emissions from each emission unit shall be submitted to the District for approval not later than 90 calendar days before the earlier of the initial startup dates for either of the three combustion turbines. Where applicable, this protocol may rely in whole or in part on the CEMS Protocol or other monitoring protocols required by this permit. (Rules 20.3(d)(3), 20.3(d)(8) and 21.)

Verification: The project owner shall provide emissions summary data in compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-42 For each calendar month and each rolling 12-calendar-month period, the project owner shall maintain records, as applicable, on a calendar monthly basis, of aggregate mass emissions of NO_X, calculated as NO_2; CO; VOCs, calculated as methane; PM10; and SO_X, calculated as SO_2, in tons from all the emission units described in District Application No. APCD2010-APP-001251 combined, except for emissions from emission units excluded from the calculation of aggregate potential to emit as specified in Rule 20.1 (d) (1). These records shall be made available for inspection within 15 calendar days after the end of each calendar month. (Rules 20.3(d)(3), 20.3(d)(8) and 21.)

Verification: The project owner shall provide emissions summary data in compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

Ammonia – SCR (and CO catalyst)

AQ-43 Not later than 90 calendar days prior to the start of construction, the project owner shall submit to the District the final selection, design parameters and details of the selective catalytic reduction (SCR) and oxidation catalyst emission control systems for the combustion turbines including, but not limited to, the minimum ammonia injection temperature for the SCR; the catalyst volume, space velocity and area velocity at full load; and control efficiencies of the SCR and the oxidation catalyst CO at temperatures between 100 ºF and 1000 ºF at space velocities corresponding to 100 percent load. Such information may be submitted to the District as trade secret and confidential pursuant to District Rules 175 and 176. (Rules 20.3(d)(1) and 14.)

Verification: The project owner shall submit to the CPM for review and District for approval final selection, design parameters and details of the SCR and oxidation catalyst emission control systems at least 90 days prior to the start of construction.

AQ-44 When a combustion turbine is operating, ammonia shall be injected at all times that the associated selective catalytic reduction (SCR) system outlet temperature is 575 degrees Fahrenheit or greater. (Rules 20.3(d)(1).)

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

AQ-45 Continuous monitors shall be installed on each SCR system prior to their initial operation to monitor or calculate, and record the ammonia solution injection rate in pounds per hour and the SCR outlet temperature in degrees Fahrenheit for each unit operating minute. The monitors shall be installed, calibrated and maintained in accordance with a District approved protocol, which may be part of the CEMS Protocol. This protocol, which shall include the calculation methodology, shall be submitted to the District for written approval at least 90 calendar days prior to initial startup of the gas turbines with the SCR system. The monitors shall be in full operation at all times when the turbine is in operation. (Rules 20.3(d)(1).)

Verification: The project owner shall submit to the CPM for review and the District for approval a turbine operation and ammonia injection rate monitoring protocol in compliance with this condition at least 90 days prior to the initial startup.

AQ-46 Except during periods when the ammonia injection system is being tuned or one or more ammonia injection systems is in manual control for compliance with applicable permit conditions, the automatic ammonia injection system serving the SCR system shall be in operation in accordance with manufacturer's specifications at all times

when ammonia is being injected into the SCR system. Manufacturer specifications shall be maintained on site and made available to District personnel upon request. (Rules 20.3(d)(1).)

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

AQ-47 The concentration of ammonia solution used in the ammonia injection system shall be less than 20 percent ammonia by weight. Records of ammonia solution concentration shall be maintained on site and made available to District personnel upon request. (Rule 14.)

Verification: The project owner shall maintain on site and provide on request of the CPM or District the ammonia delivery records that demonstrate compliance with this condition.

Testing

AQ-48 All source test or other tests required by this permit shall be performed by the District or by an independent contractor and witnessed by the District. Unless otherwise specified in this permit or authorized in writing by the District, if testing will be performed by an independent contractor, a proposed test protocol shall be submitted to the District for written approval at least 60 calendar days prior to source testing. Additionally, the District shall be notified a minimum of 30 calendar days prior to the test so that observers may be present unless otherwise authorized in writing by the District. (Rules 20.3(d)(1) and 1200 and 40 CFR Part 60 Subpart KKKK and 40 CFR §60.8.)

Verification: The project owner shall submit to the CPM for review and the District for approval the initial source test protocol at least 60 days prior to the initial source test. The project owner shall notify the CPM and District no later than 30 days prior to the proposed source test date and time.

AQ-49 Unless otherwise specified in this permit or authorized in writing by the District, within 45 calendar days after completion of a source test or RATA performed by an independent contractor, a final test report shall be submitted to the District for review and approval. (Rules 20.3(d)(1) and 1200 and 40 CFR Part 60 Subpart KKKK, 40 CFR §60.8, and 40 CFR Part 75.)

Verification: The project owner will submit all RATA or source test reports to the CPM for review and the District for approval within 45 days of the completion of those tests.

AQ-50 The exhaust stacks for each combustion turbine shall be equipped with source test ports and platforms to allow for the measurement and collection of stack gas samples consistent with all approved test protocols. The ports and platforms shall be constructed in accordance

with District Method 3A, Figure 2, and approved by the District. Ninety calendar days prior to construction of the turbine stacks the project owner shall provide to the District for written approval detailed plan drawings of the turbine stacks that show the sampling ports and demonstrate compliance with the requirements of this condition. (Rule 20.)

Verification: The project owner shall submit to the CPM for review and District for approval a stack test port and platform plan at least 90 days before the construction of the turbine stacks.

AQ-51 Not later than 60 calendar days after completion of the commissioning period for each combustion turbine, an Initial Emissions Source Test shall be conducted on that turbine to demonstrate compliance with the NO_X, CO, VOC, PM10, and ammonia emission standards of this permit. The source test protocol shall comply with all of the following requirements:

a. Measurements of NO_X and CO concentrations and emissions and oxygen (O_2) concentration shall be conducted in accordance with U.S. Environmental Protection Agency (EPA) methods 7E, 10, and 3A, respectively, and District source test Method 100, or alternative methods approved by the District and EPA.

b. Measurement of VOC emissions shall be conducted in accordance with EPA Methods 25A and/or 18, or alternative methods approved by the District and EPA.

c. Measurements of ammonia emissions shall be conducted in accordance with Bay Area Air Quality Management District Method ST-1B or an alternative method approved by the District and EPA.

d. Measurements of PM10 emissions shall be conducted in accordance with EPA Method 5 and 202 or alternative methods approved by the District and EPA. For purposes of this permit, all the particulate matter measured shall be considered to be PM10.

e. Source testing shall be performed at the normal load level, as specified in 40 CFR Part 75 Appendix A Section 6.5.2.1 (d), provided it is not less than 80 percent of the combustion turbine's rated load unless it is demonstrated to the satisfaction of the District that the combustion turbine cannot operate under these conditions. If the demonstration is accepted, then emissions source testing shall be performed at the highest achievable continuous power level. The District may specify additional testing at different load levels or operational conditions to ensure compliance with the emission limits of this permit and District Rules and Regulations.

f. Measurements of particulate matter emissions shall be conducted in accordance with SDAPCD Method 5 or an alternative method approved by the District and EPA.

g. Measurements of opacity shall be conducted in accordance with EPA Method 9 or an alternative method approved by the District and EPA.

h. Unless otherwise authorized in writing by the District, testing for NO_X, CO, VOC, PM10, and ammonia concentrations and emissions, as applicable, shall be conducted concurrently with the NO_X and CO continuous emission measurement system (CEMS) Relative Accuracy Test Audit (RATA).

(Rules 20.3(d)(1) and 1200.)

Verification: The project owner shall submit to the CPM for review and the District for approval the initial source test protocol and source test report within the timeframes specified in Conditions **AQ-48** and **AQ-49**.

AQ-52 A renewal source test and a NO_X and CO Relative Accuracy Test Audit (RATA) shall be periodically conducted on each combustion turbine to demonstrate compliance with the NO_X, CO, VOC and ammonia emission standards of this permit and applicable relative accuracy requirements for the CEMS systems using District approved methods. The renewal source test and the NO_X and CO RATAs shall be conducted in accordance with the applicable RATA frequency requirements of 40 CFR75, Appendix B, Sections 2.3.1 and 2.3.3. The renewal source test shall be conducted in accordance with a protocol complying with all the applicable requirements of the source test protocol for the Initial Emissions Source Test. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The project owner shall submit to the CPM for review and the District for approval the periodic RATA and source test protocols, and RATA source test reports within the timeframes specified in Conditions **AQ-48** and **AQ-49**.

AQ-53 Relative Accuracy Test Audits (RATAs) and all other required certification tests shall be performed and completed on the NO_X CEMS in accordance with applicable provisions of 40 CFR Part 75 Appendix A and B and 40 CFR §60.4405 and on the CO CEMS in accordance with applicable provisions of 40 CFR Part 60 Appendix B and F. (Rule 21, Rule 20.3 (d)(1), 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The results and field data collected during source tests required by this condition shall be submitted to the CPM for review and the District for approval as required by Condition **AQ-49**.

AQ-54 Not later than 60 calendar days after completion of the commissioning period for each combustion turbine, an initial emission source test for toxic air contaminants shall be conducted on that turbine to determine the emissions of toxic air contaminants from the combustion turbines. At a minimum the following compounds shall be tested for, and emissions, if any, quantified:

a. Acetaldehyde

b. Acrolein

c. Benzene

d. Formaldehyde

e. Toluene

f. Xylenes

This list of compounds may be adjusted by the District based on source test results to ensure compliance with District Rule 1200 is demonstrated. The District may require one or more or additional compounds to be quantified through source testing as needed to ensure compliance with Rule 1200. Within 60 calendar days after completion of a source test performed by an independent contractor, a final test report shall be submitted to the District for review and approval. (Rule 1200.)

Verification: The results and field data collected during source tests required by this condition shall be submitted to the CPM for review and the District for approval within 60 days of testing.

AQ-55 The District may require one or more of the following compounds, or additional compounds, to be quantified through source testing periodically to ensure compliance with rule 1200:

a. Acetaldehyde

b. Acrolein

c. Benzene

d. Formaldehyde

e. Toluene

f. Xylenes

If the District requires the permittee to perform this source testing, the District shall request the testing in writing a reasonable period of time prior to the testing date. (Rule 1200.)

Verification: The results and field data collected during source tests required by the District under this condition shall be submitted to the CPM for review and the District for approval within 60 days of testing.

AQ-56 The higher heating value of the combustion turbine fuel shall be measured by ASTM D1826–94, Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, or ASTM D1945–96, Standard Method for Analysis of Natural Gas by Gas Chromatography, in conjunction with ASTM D3588-98, Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels, or an alternative test method approved by the District and EPA. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

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

AQ-57 The sulfur content of the combustion turbine fuel shall be sampled not less than once each calendar quarter in accordance with a protocol approved by the District, which shall be submitted to the District for approval not later than 90 calendar days before the earlier of the initial startup dates for either of the three combustion turbines and measured with ASTM D1072–90 (Reapproved 1994), Standard Test Method for Total Sulfur in Fuel Gases; ASTM D3246–05, Standard Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry; ASTM D4468–85 (Reapproved 2000), Standard Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry; ASTM D6228–98 (Reapproved 2003), Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection; or ASTM D6667–04, Standard Test Method for Determination of Total Volatile Sulfur in Gaseous Hydrocarbons and Liquefied Petroleum Gases by Ultraviolet Fluorescence or an alternative test method approved by the District and EPA. Sulfur content information provided by the local serving utility may be used to satisfy this condition with the advanced written approval of the District (Rule 20.3(d)(1), Rule 21, and 40 CFR Part 75.)

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

CONTINUOUS MONITORING

AQ-58 The project owner shall comply with the applicable continuous emission monitoring requirements of 40 CFR Part 75. (40 CFR Part 75.)

Verification: The project owner shall maintain a copy of the CEMS protocol required by **AQ-60** on site and provide it, other CEMS data, and the CEMS for inspection on request by representatives of the District, ARB, and the Energy Commission.

AQ-59 A continuous emission monitoring system (CEMS) shall be installed on each combustion turbine and properly maintained and calibrated to measure, calculate, and record the following, in accordance with the District approved CEMS Protocol:

a. Hourly average(s) concentration of oxides of nitrogen (NO_X) uncorrected and corrected to 15 percent oxygen, in parts per million (ppmvd), necessary to demonstrate compliance with the NO_X limits of this permit;

b. Hourly average concentration of carbon monoxide (CO) uncorrected and corrected to 15 percent oxygen, in parts per million (ppmvd), necessary to demonstrate compliance with the CO limits of this permit;

c. Percent oxygen (O_2) in the exhaust gas for each unit operating minute;

d. Hourly mass emissions of oxides of nitrogen (NO_X), in pounds;

e. Cumulative mass emissions of oxides of nitrogen (NO_X) in each startup and shutdown period, in pounds;

f. Daily mass emissions of oxides of nitrogen (NO_X), in pounds;

g. Calendar monthly mass emissions of oxides of nitrogen (NO_X), in pounds;

h. Rolling 4-unit-operating-hour average concentration of oxides of nitrogen (NO_X) corrected to 15 percent oxygen, in parts per million (ppmvd);

i. Rolling 4-unit-operating-hour average oxides of nitrogen (NO_X) emission rate, in pounds per megawatt-hour (MWh);

j. Calendar quarter, calendar year, and rolling 12-calendar-month period mass emissions of oxides of nitrogen (NO_X), in tons;

k. Cumulative mass emissions of carbon monoxide (CO) in each startup and shutdown period, in pounds;

l. Hourly mass emissions of carbon monoxide (CO), in pounds;

m. Daily mass emission of carbon monoxide (CO), in pounds;

n. Calendar monthly mass emission of carbon monoxide (CO), in pounds;

o. Rolling 12-calendar-month period mass emission of carbon monoxide (CO), in tons;

p. Average concentration of oxides of nitrogen (NO_X) and carbon monoxide (CO) uncorrected and corrected to 15 percent oxygen, in parts per million (ppmvd), during each unit operating minute;

q. Average emission rate in pounds per hour of oxides of nitrogen (NO_X) and carbon monoxide (CO) during each unit operating minute.

(Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The project owner shall submit to the CPM for review and the District for approval a CEMS protocol, as required by **AQ-60**, which includes description of the methods of compliance with the requirements of this condition. The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

AQ-60 No later than 90 calendar days prior to initial startup of each combustion turbine, the project owner shall submit a CEMS protocol to the District, for written approval that shows how the CEMS will be able to meet all District monitoring requirements. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The project owner shall submit to the CPM for review and the District for approval a CEMS operating protocol at least 90 days prior to the initial startup of each combustion turbine.

AQ-61 No later than the earlier of 90 unit operating days or 180 calendar days after each combustion turbine commences commercial operation, a Relative Accuracy Test Audit (RATA) and other required certification tests shall be performed and completed on the turbine's NO_X CEMS in accordance with 40 CFR Part 75 Appendix A and on the CO CEMS in accordance with 40 CFR Part 60 Appendix B. The RATAs shall demonstrate that the NO_X and CO CEMS comply with the applicable relative accuracy requirements. At least 60 calendar days prior to the test date, the project owner shall submit a test protocol to the District for written approval. Additionally, the District and U.S. EPA shall be notified a minimum of 45 calendar days prior to the test so that observers may be present. Within 45 calendar days of completion of this test, a written test report shall be submitted to the District for approval. For purposes of this condition, commences commercial operation is defined as the first instance when power is sold to the electrical grid. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The project owner shall submit to the CPM for review and the District for approval the RATA certification test protocol at least 60 days prior to the RATA test and shall notify the CPM, the U.S. EPA and the District of the RATA test date at least 45 days prior to conducting the RATA and other certification tests. The project owner will submit all RATA or source test reports to the CPM for review and the District for approval within 45 days of the completion of those tests.

AQ-62 A monitoring plan in conformance with 40 CFR 75.53 shall be submitted to U.S EPA Region 9 and the District at least 45 calendar days prior to the Relative Accuracy Test Audit (RATA), as required in 40 CFR 75.62. (40 CFR Part 75.)

Verification: The project owner shall submit to the CPM for review and the U.S. EPA and District for approval a monitoring plan in compliance with this condition at least 45 days prior to the RATA test.

AQ-63 The oxides of nitrogen (NO_X) and oxygen (O_2) components of the CEMS shall be certified and maintained in accordance with applicable Federal Regulations including the requirements of sections 75.10 and 75.12 of title 40, Code of Federal Regulations Part 75 (40 CFR 75), the performance specifications of Appendix A of 40 CFR 75, the quality assurance procedures of Appendix B of 40 CFR 75 and the CEMS Protocol approved by the District. The carbon monoxide (CO) components of the CEMS shall be certified and maintained in accordance with 40 CFR Part 60, Appendices B and F, unless otherwise specified in this permit, and the CEMS Protocol approved by the District. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The project owner shall submit to the CPM for review and the District for approval a CEMS protocol, as required by **AQ-60**, which includes description of the methods of compliance with the requirements of this condition. The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

AQ-64 The CEMS shall be in operation in accordance with the District approved CEMs Protocol at all times when the turbine is in operation. A copy of the District approved CEMS Protocol shall be maintained on site and made available to District personnel upon request. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

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

AQ-65 When the CEMS is not recording data and the combustion turbine is operating, hourly NO_X emissions for purposes of calendar year and rolling 12-calendar-month period emission calculations shall be determined in accordance with 40 CFR 75 Subpart C. Additionally, hourly CO emissions for rolling 12-calendar-month period emission calculations shall be determined using CO emission factors to be determined from source test emission factors, recorded CEMS data, and fuel consumption data, in terms of pounds per hour of CO for the gas turbine. Emission calculations used to determine hourly emission rates shall be reviewed and approved by the District, in writing, before

the hourly emission rates are incorporated into the CEMS emission data. (Rules 20.3(d)(3) and 21 and 40 CFR Part 75.)

Verification: The project owner shall provide the District for approval and the CPM for review all emission calculations required by this condition, in a manner and time required by the District, and shall provide notation of when such calculations are used in place of operating CEMS data in the Quarterly Operation Reports (**AQ-SC8**).

AQ-66 Any violation of any emission standard as indicated by the CEMS shall be reported to the District's compliance division within 96 hours after such occurrence. (H&S §42706.)

Verification: The project owner shall notify the District regarding any emission standard violation as required in this condition and shall document all such occurrences in each Quarterly Operation Report (**AQ-SC8**).

AQ-67 The CEMS shall be maintained and operated, and reports submitted, in accordance with the requirements of Rule 19.2 Sections (d), (e), (f) (1), (f) (2), (f) (3), (f) (4) and (f) (5), and a CEMS Protocol approved by the District. (Rule 19.2.)

Verification: The project owner shall submit to the District the CEMS reports as required in this condition and shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

AQ-68 Except for changes that are specified in the initially approved CEMS Protocol or a subsequent revision to that protocol that is approved in advance, in writing, by the District, the District shall be notified in writing at least 30 calendar days prior to any planned changes made in the CEMS or Data Acquisition and Handling System (DAHS), including, but not limited to, the programmable logic controller, software which affects the value of data displayed on the CEMS/DAHS monitors with respect to the parameters measured by their respective sensing devices or any planned changes to the software that controls the ammonia flow to the SCR. Unplanned or emergency changes shall be reported within 96 hours. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The project owner shall submit to the CPM for review and the District for approval any revision to the CEMS/DAHS or ammonia flow control software, as required by this condition, to be approved in advance at least 30 days before any planned changes are made. The project owner shall notify the District regarding any unplanned emergency changes to these software systems within 96 hours and shall document all such occurrences in each Quarterly Operation Report (**AQ-SC8**).

AQ-69 At least 90 calendar days prior to the Initial Emissions Source Test, the project owner shall submit a monitoring protocol to the District for written approval which shall specify a method of determining the VOC/CO surrogate relationship that shall be used to demonstrate compliance with all VOC emission limits. This protocol can be provided as part of the Initial Source Emissions Test Protocol. (Rule 20.3(d)(1).)

Verification: The project owner shall submit to the CPM for review and the District for approval the monitoring protocol as part of the initial source test protocol in compliance with requirements of this condition at least 90 days prior to the initial source test.

AQ-70 Fuel flowmeters shall be installed and maintained to measure the fuel flow rate, corrected for temperature and pressure, to each combustion turbine. Correction factors and constants shall be maintained on site and made available to the District upon request. The fuel flowmeters shall meet the applicable quality assurance requirements of 40 CFR Part 75, Appendix D, and Section 2.1.6. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The project owner shall submit to the CPM the natural gas fuel usage data from the fuel flow meters as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-71 Each combustion turbine shall be equipped with continuous monitors to measure, calculate, and record unit operating days and hours and the following operational characteristics:

a. Date and time;

b. Natural gas flow rate to the combustion turbine during each unit operating minute, in standard cubic feet per hour;

c. Total heat input to the combustion turbine based on the fuels higher heating value during each unit operating minute, in million British thermal units per hour (MMBtu/hr);

d. Higher heating value of the fuel on an hourly basis, in million British thermal units per standard cubic foot (MMBtu/scf);

e. Combustion turbine electrical energy output during each unit operating minute in gross megawatts hours (MWh);

The values of these operational characteristics shall be recorded each unit operating minute. The monitors shall be installed, calibrated, and maintained in accordance with the Turbine Operation Monitoring Protocol, which may be part of the CEMS Protocol, approved by the District, which shall include any relevant calculation methodologies. The monitors shall be in full operation at all times when the combustion turbine is in operation. Calibration records for the continuous monitors

shall be maintained on site and made available to the District upon request. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The project owner shall submit to the CPM for review and the District for approval a turbine operation monitoring protocol in compliance with this condition and within the timeframes specified in **AQ-72**. The project owner shall make the site available for inspection of records and equipment required in this condition by representatives of the District, ARB, and the Energy Commission.

AQ-72 At least 90 calendar days prior to initial startup of the each combustion turbine, the project owner shall submit a turbine operation monitoring protocol to the District for written approval. This may be part of the CEMS Protocol. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

Verification: The project owner shall submit to the CPM for review and the District for approval a turbine monitoring protocol in compliance with this condition at least 90 days prior to the initial startup of each combustion turbine.

AQ-73 Operating logs or Data Acquisition and Handling System (DAHS) records shall be maintained to record the beginning and end times and durations of all startups, shutdowns, and tuning periods to the nearest minute, quantity of fuel used in each clock hour, calendar month, and 12-calendar-month period in standard cubic feet; hours of operation each day; and hours of operation during each calendar year. For purposes of this condition, the term "hours of turbine operation" is defined as the total operating minutes the turbine is combusting fuel during the calendar year divided by 60. (Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75.)

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

COMMISSIONING

AQ-74 Before the end of the commissioning period for each combustion turbine, the project owner shall install post-combustion air pollution control equipment on that turbine to minimize NO_X and CO emissions. Once installed, the post-combustion air pollution control equipment shall be maintained in good condition and shall be in full operation at all times when the turbine is combusting fuel and the air pollution control equipment is at or above its minimum operating temperature. (Rule 20.3(d)(1).)

Verification: The project owner shall provide the CPM and District records demonstrating compliance with this condition as part of the monthly commissioning status report (**AQ-75**).

AQ-75 Thirty calendar days after the end of the commissioning period for each combustion turbine, the project owner shall submit a written progress report to the District. This report shall include, at a minimum, the date the commissioning period ended, the startup and shutdown periods, the emissions of NO_X and CO during startup and shutdown periods, and the emissions of NO_X and CO during steady state operation. This report shall also detail any turbine or emission control equipment malfunction, upset, repairs, maintenance, modifications, or replacements affecting emissions of air contaminants that occurred during the commissioning period. All of the following continuous monitoring information shall be reported for each minute and, except for cumulative mass emissions, averaged over each hour of operation:

a. Concentration of oxides of nitrogen (NO_X) uncorrected and corrected to 15 percent oxygen, in parts per million (ppmvd);

b. Concentration of carbon monoxide (CO) uncorrected and corrected to 15 percent oxygen, in parts per million (ppmvd);

c. Percent oxygen (O_2) in the exhaust gas;

d. Mass emissions of oxides of nitrogen (NO_X), in pounds;

e. Cumulative mass emissions of oxides of nitrogen (NO_X) in each startup and shutdown period, in pounds;

f. Cumulative mass emissions of carbon monoxide (CO) in each startup and shutdown period, in pounds

g. Mass emissions of carbon monoxide (CO), in pounds;

h. Total heat input to the combustion turbine based on the fuel's higher heating value, in million British thermal units per hour (MMBtu/hr);

i. Higher heating value of the fuel on an hourly basis, in million British thermal units per standard cubic foot (MMBtu/scf);

j. Gross electrical power output of the turbine, in megawatts hours (MWh) for each hour;

k. SCR outlet temperature, in degrees Fahrenheit; and

The hourly average information shall be submitted in writing and in an electronic format approved by the District. The minute-by-minute information shall be submitted in an electronic format approved by the District. (Rules 69.3, 69.3.1, 20.3(d)(1)and 20.3(d)(2).)

Verification: A log of the dates, times, and cumulative unit operating hours when fuel is being combusted during the commissioning period shall be maintained by the project owner. The project owner shall submit, commencing one month from the time of gas turbine first fire, a monthly commissioning status report throughout the duration of the commissioning phase that demonstrates compliance with the requirements listed in this condition. The monthly commissioning status report shall be submitted to the CPM by the 10th of each month for the previous month, for all months with turbine commissioning activities following the turbine first fire date. The project owner shall also provide the reporting required by this condition to the District and CPM within 30 days of completing commissioning of each turbine. The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-76 For each combustion turbine, the project owner shall submit the following notifications to the District and U. S. EPA, Region IX:

a. A notification in accordance with 40 CFR Section 60.7(a)(1) delivered or postmarked no later than 30 calendar days after construction has commenced;

b. A notification in accordance with 40 CFR Section 60.7(a)(3) delivered or postmarked within 15 calendar days after initial startup; and

c. An Initial Notification in accordance with 40 CFR Section 63.6145(c) and 40 CFR Section 63.9(b)(2) submitted no later than 120 calendar days after the initial startup of the turbine.

In addition, the project owner shall notify the District when: (1) construction is complete by submitting a Construction Completion Notice before operating any unit that is the subject of this permit, (2) each combustion turbine first combusts fuel by submitting a First Fuel Fire Notice within five calendar days of the initial operation of the unit, and (3) each combustion turbine first generates electrical power that is sold by providing written notice within five days of this event. (Rules 24 and 21 and 40 CFR Part 75, 40 CFR Part 60 Subpart KKKK, 40 CFR Part §60.7, 40 CFR Part 63 Subpart YYYY, and 40 CFR Part §63.9.)

Verification: The project owner shall provide notification to the District and U.S. EPA Region IX as required by this condition and shall provide copies of these notifications as part of the final monthly commissioning status reports (**AQ-75**) due the month after the notifications are sent.

REPORTING

AQ-77 The permittee shall file semiannual reports in accordance with 40 CFR §60.4375. (40 CFR Part 60 Subpart KKKK.)

Verification: Semiannual compliance reports shall be submitted to the District and the CPM as part of the second quarter's and fourth quarter's Quarterly Operation Reports (**AQ-SC8**).

AQ-78 Each semiannual report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Each such semiannual compliance report shall be postmarked or delivered no later than January 30 or July 30, whichever date is the first date following the end of the semiannual reporting period. (40 CFR Part 60 Subpart KKKK and Rule 21.)

Verification: Semiannual compliance reports shall be submitted to the District and the CPM as part of the second quarter's and fourth quarter's Quarterly Operation Reports (**AQ-SC8**).

AQ-79 All semiannual compliance reports shall be submitted to the District Compliance Division (40 CFR §60.7.)

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

C. PUBLIC HEALTH

The public health analysis supplements the **Air Quality** section and considers the potential public health effects that could result from exposure to emissions of toxic air contaminants (or "TACs") during project construction and operation. This topic focuses on whether such emissions represent significant public health impacts or violate standards for public health protection.[1]

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project construction and operation will produce routine emissions of toxic air contaminants for which no ambient air quality standards have been established. These substances are categorized as noncriteria pollutants. In the absence of standards, state and federal regulatory agencies have developed health risk assessment procedures to evaluate potential health effects from exposure to these TACs. (Ex. 200, p. 4.7-5.)

The risk assessment consists of the following steps:

- Identify the types and amounts of hazardous substances that the project could emit into the environment;
- Estimate worst-case concentrations of project emissions in the environment using dispersion modeling;
- Estimate amounts of pollutants to which people could be exposed through inhalation, ingestion, and dermal contact; and
- Characterize potential health risks by comparing worst-case exposure to the project with the scientific safety standards based on known health effects. (*Id.*)

Typically, the initial health risk analysis is performed at a "screening level," which is designed to estimate potential health risks under the most conservative, worst-

[1] This Decision describes other potential public health concerns under specific topics. Potential impacts from emissions of criteria pollutants are analyzed in the **Air Quality** section. The accidental release of hazardous materials is addressed in **Hazardous Materials Management**. Electromagnetic fields are covered in **Transmission Line Safety and Nuisance**. Potential impacts to soils and surface water sources are considered in the **Soil and Water Resources** section. Potential exposure to contaminated soils and hazardous wastes are described in **Waste Management**. The **Socioeconomics, Traffic and Transportation,** and **Worker Safety and Fire Prevention** sections include analyses of the project's potential effects upon local infrastructure such as police, medical, and fire services.

case conditions and model those conditions to analyze results.[2] Such conditions 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 process addresses three categories of health impacts: acute (short-term) health effects, chronic (long-term) noncancer effects, and cancer risk (also long-term). Acute health effects result from short-term (one-hour) exposure to relatively high concentrations of pollutants. Acute effects are temporary in nature and include symptoms such as irritation of the eyes, skin, and respiratory tract.

Chronic health effects are those that arise as a result of long-term exposure to lower concentrations of pollutants. The exposure period is considered to be approximately from 12 percent to 100 percent of a lifetime, or from 8 to 70 years. Chronic health effects include diseases such as reduced lung function and heart disease.

The analysis for noncancer health effects compares the maximum project contaminant levels to safe levels called *Reference Exposure Levels*, or RELs. These are amounts of toxic substances to which even sensitive people could be

[2] The evidence is based on data from several expert agencies, including the California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA), which identifies contaminants that are known to cause cancer or other noncancer toxicological endpoints and calculates the toxicity and cancer potency factors of these contaminants. In addition, the California Air Resources Board and the local air districts conduct ambient air monitoring of toxic air contaminants and the state Department of Public Health conducts epidemiological investigations into the impacts of pollutants on communities.

exposed and suffer no adverse health effects. These exposure levels are designed to protect the previously noted sensitive individuals in the population, such as infants, the aged, and people suffering from illness or disease which makes them more sensitive to the effects of toxic substance exposure. The Reference Exposure Levels are based on the most sensitive adverse health effect reported in the medical and toxicological literature and include margins of safety. The margin of safety is used to address uncertainties associated with inconclusive scientific and technical information available at the time of REL determination and is meant to provide a reasonable degree of protection against hazards that research has not yet identified. The margin of safety is designed to prevent pollution levels that have been demonstrated to be harmful, as well as to prevent lower pollutant levels that may pose an unacceptable risk of harm, even if the risk is not precisely identified as to nature or degree. Health protection is assumed if the estimated worst-case exposure is below the relevant reference exposure level. In such a case, an adequate margin of safety would be assumed to exist between the predicted exposure and the estimated threshold dose for toxicity. (Ex. 200, p. 4.7-6.)

For carcinogenic substances, the health assessment considers the risk of developing cancer and assumes that continuous exposure to the cancer-causing substance would occur over a 70-year lifetime. The risk that is calculated is not meant to project the actual expected incidence of cancer, but is rather regarded as a theoretical upper-bound estimate based on worst-case assumptions.

Cancer risk is expressed in terms of chances per million of cancer and is a function of the maximum expected pollutant concentration, the probability that a particular pollutant would cause cancer (called *potency factors* and established by OEHHA), and the length of the exposure period. Cancer risks for individual carcinogens are added together to yield the total cancer risk from each potential source. The conservative nature of the screening-level assumptions means that actual cancer risks from project emissions would be considerably lower than estimated. If the screening-level analysis were to predict a risk below significant levels, further analysis would not be necessary. However, if the risk estimates were to be above the significance level, then further analysis, using more realistic site-specific assumptions, would be performed to obtain a more accurate assessment of potential health risks. (Ex. 200, p. 4.7-7.)

1. Setting and Public Health Concerns

The proposed project site is within the jurisdiction of the San Diego County Air Pollution Control District (SDCAPCD). It is a 10-acre parcel of disturbed and developed land within an industrial area, located in the southeast quadrant of the intersection of Alta Road and Calzada de la Fuente. The area in the immediate vicinity is designated for heavy and mixed industrial uses, for business parks, and for habitat conservation. The area is generally rural with few rural residences, the nearest of which are 0.8 miles to the south west of the project boundary. The Richard J. Donovan Correctional Facility is located approximately 4,000 feet northwest and a County of San Diego Correctional Facility that includes the George F. Bailey Detention Facility, the East Mesa Detention Facility, the Federal Immigration Detention Facility, and the County of San Diego Juvenile Detention Facility is located approximately 4,800 feet north.

Sensitive receptors are individuals usually more susceptible than the general population to the effects of environmental pollutants. Extra consideration is given to the possible effects on such individuals in establishing exposure limits for environmental pollutants. The evidence shows that there are sensitive receptors within a three-mile radius of the site on the California side of the border with Mexico, and it is likely that there are sensitive receptors within the portion of the three-mile radius that extends into Mexico. (Exs. 200, pp. 4.5-5, 4.7-3; 201.)

The nearest California Air Resources Board (ARB) Toxic Air Contaminant (TAC) monitoring station to the project site is in the city of Chula Vista, approximately 11 miles to the northwest. Although this station is in an urban setting, the Applicant and Staff consider the measured TAC concentrations as conservatively representative of the levels in the project area and serve to establish the upper-bound levels of toxic air contaminants as found in the project area. In 2007, the background cancer risk calculated by the ARB for this Chula Vista station was 102 in one million. The pollutants 1, 3-butadiene and benzene, emitted primarily from mobile sources, together with carbon tetrachloride were identified as the three highest contributors to this background risk and together accounted for approximately 70 percent of the total. The risk from 1, 3-butadiene was established as about 21 in one million, while the risk from benzene was estimated at about 25 in one million. Formaldehyde was shown to account for about 13 percent of the total and is emitted directly from vehicles and other combustion sources, such as the proposed PPEC.

When evaluating a new project, Staff attempts to assess the results of studies of the existing public health issues in the project vicinity. Such an assessment allows Staff to identify the health status of the area as compared to similar areas in California. The disease rates of most concern are for respiratory diseases (including asthma) and cancer. Any specific data on childhood disease is particularly noted in each given case. Assessing existing health concerns in the project area provides Staff with a basis on which to evaluate the significance of any additional health impacts from the proposed PPEC and to assess the adequacy of any proposed mitigation. The available studies suggest that there are specific effects from exposure to particulate matter from area traffic and other sources, especially in children with asthma, pointing to the necessity for continued county-wide reduction efforts. No cancer-specific health studies were identified for the population within a six-mile radius of the project site.

2. Construction Impacts and Mitigation

Construction of the project is expected to take place over a period of 16 months. The evidence contains an analysis of potential health effects during construction that could result from exposure to toxic substances in disturbed contaminated soils and from inhalation of particulates in fugitive dust and diesel exhaust from heavy equipment. (Ex. 200, p. 4.7-10.)

Potential risks to public health during construction may be associated with exposure to toxic substances in contaminated soil disturbed during site preparation, as well as diesel exhaust from heavy equipment operation. Criteria pollutant impacts from the operation of heavy equipment and particulate matter from earth moving are examined in the **Air Quality** section of this Decision. (Ex. 200, p. 4.7-9.)

Site disturbances occur during facility construction from excavation, grading, and earth moving. Such activities have the potential to adversely affect public health through various mechanisms, such as the creation of airborne dust, material being carried off site through soil erosion, and uncovering buried hazardous substances. The Phase I Environmental Site Assessment conducted for this site in 2010 identified no “Recognized Environmental Conditions” per the American Society for Testing and Materials Standards (ASTM) definition. That is, there was no evidence or record of any use, spillage or disposal of hazardous substances on the site, nor any other environmental concern that would require remedial action. The evidence leads us to conclude that there is no risk of toxic exposures from construction activities. The conditions for handling and disposing of

construction- and operations-related wastes are specified in the **Waste Management** section. (*Id*.)

The operation of construction equipment will result in air emissions from diesel-fueled engines. Diesel emissions are generated from sources such as trucks, graders, cranes, welding machines, electric generators, air compressors, and water pumps. Although diesel exhaust contains criteria pollutants such as nitrogen oxides, carbon monoxide, and sulfur oxides, it also includes a complex mixture of thousands of gases and fine particles. These particles are primarily composed of aggregates of spherical carbon particles coated with organic and inorganic substances. Diesel exhaust contains over 40 substances that are listed by the U.S. Environmental Protection Agency (U.S. EPA) as hazardous air pollutants and by the California Air Resources Board (ARB) as toxic air contaminants. (*Id*.)

Exposure to diesel exhaust may cause both short- and long-term adverse health effects. Short-term effects can include increased coughing, labored breathing, chest tightness, wheezing, and eye and nasal irritation. Long-term effects can include increased coughing, chronic bronchitis, reductions in lung function, and inflammation of the lung. Epidemiological studies also strongly suggest a causal relationship between occupational diesel exhaust exposure and lung cancer. (*Id*.)

Based on a number of health effects studies, the Scientific Review Panel on Toxic Air Contaminants recommended a chronic reference exposure level (see discussion of reference exposure levels in Method of Analysis section above) for diesel exhaust particulate matter of 5 micrograms of diesel particulate matter per cubic meter of air ($\mu g/m^3$) and a cancer unit risk factor of $3x10^{-4}$ $(\mu g/m^3)^{-1}$. The Scientific Review Panel did not recommend a value for an acute Reference Exposure Level since available data in support of a value was deemed insufficient. On August 27, 1998, ARB listed particulate emissions from diesel-fueled engines as a toxic air contaminant and approved the panel's recommendations regarding health effect levels. (Ex. 200, pp. 4.7-9 – 4.7-10.)

Appendices P and G of the AFC (Ex. 1) present estimates of the maximum daily emissions for onsite construction activities, total off-site emissions for construction of the gas pipeline, and total emissions from construction traffic. Construction of the entire project including linear facilities is anticipated to take place over a period of 16 months. (Ex. 1, p 5.2-36.) As noted earlier, assessment of chronic (long-term) health effects assumes continuous exposure to toxic substances over a significantly longer time period, typically from 8 to 70 years.

Because of the relatively short duration of construction for this project, health risks from construction emissions are not expected.

Mitigation measures are included in the **Air Quality** section to reduce the emission of PM10 and PM2.5. These include the use of extensive fugitive dust control measures. In order to further mitigate potential impacts from particulate matter emissions during the operation of diesel-powered construction equipment of 50 horsepower and larger, we recommend the use of Tier 3 or better California Emission Standards for Off-Road Compression-Ignition Engines or the installation of an oxidation catalyst and soot filters on diesel equipment. The exhaust emissions control devices used for these engines include diesel particulate filters that are passive, self-regenerating filters that reduce particulate matter, carbon monoxide, and hydrocarbon emissions through catalytic oxidation and filtration. Such filters would reduce diesel emissions during construction and reduce any potential for significant health impacts. (Ex. 200, p. 4.7-10.)

3. Operation Impacts and Mitigation

The project's TAC emissions sources include its three natural gas fueled simple-cycle combustion turbine generators, a hybrid dry/wet cooling system, two natural gas-fired black start engines, and a diesel-fueled firewater pump engine. Applicant presented evidence that identified the TAC emissions from those sources, described the methodology used in quantifying the emission rates including atmospheric dispersion modeling, and specified the types of health effects that could occur. (Ex. 1, Table 5.16-3.)

Applicant's screening risk assessment was based on the data described in the record and appropriate modeling protocol established by the expert agencies. The risk assessment resulted in a maximum acute Hazard Index (HI) of 0.034 and a maximum chronic HI of 0.011. As **PUBLIC HEALTH Table 1** shows, the chronic and acute health indices at the points of maximum impacts are both less than 1.0 indicating that no long-term or short-term adverse health effects would be likely from operations. As shown in **PUBLIC HEALTH Table 1**, total worst-case individual cancer risk was calculated by the Applicant to be 0.094 in one million at the location of maximum impact within one mile from the facility. This risk estimate is much below Staff's significance level of 10 in one million establishing that any project-related cancer risks would be at levels that would be less than significant.

Using extremely conservative (health-protective) exposure and toxicity assumptions, Staff's analysis demonstrates that members of the public potentially exposed to toxic air contaminant emissions of this project—including sensitive receptors such as the elderly, infants and children, and people with pre-existing medical conditions—will not experience any acute or chronic significant health risk or any significant cancer risk as a result of that exposure. This would be true for the immediate project area and the area that further stretches into Mexico given that the concentrations of the toxic pollutants in question usually diminish rapidly with distance from their source.

PUBLIC HEALTH Table 1
Operation Hazard/Risk at Point of Maximum Impact: Applicant Assessment

Type of Hazard/Risk	Hazard Index/Risk	Significance Level	Significant?
Acute Noncancer	0.034	1.0	No
Chronic Noncancer	0.011	1.0	No
Individual Cancer	0.094 in a million	10.0 in a million	No

(Ex. 200, p. 4.7-12.)

In addition to project TAC emissions, bacterial growth in the proposed partial dry-cooling system could include the Legionella bacterium which could present a public health risk. Legionella is a bacterium that is ubiquitous in natural aquatic environments and is also widely distributed in man-made water systems. It is the principal cause of legionellosis, otherwise known as Legionnaires' disease, which is similar to pneumonia. Transmission to people results mainly from inhalation or aspiration of aerosolized contaminated water. Untreated or inadequately treated cooling systems, such as industrial cooling towers and building heating, ventilating, and air conditioning systems, have been correlated with outbreaks of legionellosis.

The State of California regulates recycled water for use in cooling towers in Title 22, section 60303, California Code of Regulations. This section requires that, in order to protect workers and the public who may come into contact with cooling tower mists, chlorine or another biocide must be used to treat the cooling system water to minimize the growth of Legionella and other micro-organisms. This regulation applies to PPEC since it intends to use tertiary-treated recycled water provided by the Otay Water District for cooling. (Ex. 1, pp. 5.5-10 - 5.5-14.)

Implementation of Condition of Certification **Public Health-1** will ensure that Legionella growth is kept to a minimum, thereby protecting both nearby workers

as well as members of the public. The condition would require the project owner to prepare and implement a biocide and anti-biofilm agent monitoring program to ensure that proper levels of biocide and other agents are maintained within the cooling tower water at all times, that periodic measurements of Legionella levels are conducted, and that periodic cleaning is conducted to remove bio-film buildup. In addition, the **Air Quality** section of this Decision requires use of highly efficient drift eliminators. We find that with the use of an aggressive antibacterial program coupled with routine monitoring and biofilm removal, the chances of Legionella growing and dispersing would be reduced to insignificance.

4. Cumulative Impacts

A project may result in a significant adverse impact where its effects are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (Cal. Code Regs., tit.14, § 15130.)

According to the evidence, the Applicant contacted the SDCAPCD for a list of all newly permitted sources, or other sources that are reasonable anticipated in the near future within a six-mile radius of PPEC. SDCAPCD indicated that all such projects will have emissions below their specified thresholds for significance. (Ex. 200, p. 4.7-14.)

The contribution of the PPEC to both cancer risk and chronic and acute noncancer effects is comparatively small. Its impacts would be insignificant to health in the immediate project area and the area that extends into Mexico. Even in a cumulative context that would include other regional sources, these low estimates for cancer and noncancer toxic risks from the PPEC project mean that potential cumulative health impacts would be less than significant.

5. Environmental Justice Concerns and LORS Compliance

The public health analysis shows that there will be no significant adverse cancer, short-term, or long-term health effects to any members of the public, including environmental justice populations, from project toxic emissions. Staff considered the minority population as identified in **Socioeconomics Figure 1** in its impact analysis and found no potential significant adverse impacts for any receptors, including environmental justice populations. Staff’s analysis complies with all directives and guidelines from the Cal/EPA Office of Environmental Health

Hazard Assessment and the California Air Resources Board. Staff's assessment is biased toward the protection of public health and takes into account the most sensitive individuals in the population. Using extremely conservative (health-protective) exposure and toxicity assumptions, Staff's analysis demonstrates that members of the public potentially exposed to toxic air contaminant emissions of this project—including sensitive receptors such as the elderly, infants and children, and people with pre-existing medical conditions—will not experience any acute or chronic significant health risk or any significant cancer risk as a result of that exposure. This would be true for the immediate project area and the area that further stretches into Mexico given that the concentrations of the toxic pollutants in question usually diminish rapidly with distance from their source. Given the absence of potentially significant health impacts, we find no environmental justice issues with the proposed project. (Ex. 200, pp. 4.7-14 – 4.7-15.)

FINDINGS OF FACT

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

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. 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.

3. 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 to protect the most sensitive individuals in the population.

4. The accepted method used by state and federal regulatory agencies in assessing the significance for both acute and chronic non-carcinogenic public health effects of noncriteria pollutants is known as the hazard index method. A similar method is used for assessing the significance of potential carcinogenic effects based on incremental exposure levels.

5. The evidence contains a screening level health risk assessment of the project's potential health effects due to emissions of toxic air contaminants (TACs).

6. The health risk assessment is based on worst case assumptions using the highest emission factors, assuming the worst weather conditions, and calculating effects at the point of maximum impact so that actual risks are expected to be much lower at any other location.

7. Exposure to diesel particulate emissions from construction equipment is short-term and will not result in long-term carcinogenic or non-carcinogenic health effects.

8. Exposure to construction-related diesel particulates will be mitigated to the extent feasible by implementing measures to reduce equipment emissions.

9. Exposure to particulates in fugitive dust due to excavation and construction activities will be mitigated to insignificant levels by implementing measures to reduce dust production and dispersal.

10. The health risk assessment for exposure to TAC emissions during project operations confirmed that acute and chronic calculated risks fall below the significance level of 1.0, and that the cancer risk is below the significance level of 10 in one million.

11. Cumulative impacts from noncriteria pollutants were analyzed in accordance with CEQA requirements and are not expected to be significant.

12. 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.

13. Using extremely conservative (health-protective) exposure and toxicity assumptions, Staff's analysis demonstrates that members of the public potentially exposed to toxic air contaminant emissions of this project—including sensitive receptors such as the elderly, infants, and people with pre-existing medical conditions—will not experience any acute or chronic significant health risk or any significant cancer risk as a result of that exposure. This would be true for the immediate project area and the area that further stretches into Mexico given that the concentrations of the toxic pollutants in question usually diminish rapidly with distance from their source.

14. Environmental justice populations will not be adversely affected by the construction and operation of the project.

CONCLUSIONS OF LAW

1. We therefore conclude that emissions of noncriteria pollutants from the construction and operation of the PPEC do not pose a significant direct, indirect, or cumulative adverse public health risk.

2. The project will comply with the applicable laws, ordinances, regulations, and standards (LORS) 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.

D. WORKER SAFETY AND FIRE PROTECTION

Industrial workers are exposed to potential safety and health hazards on a daily basis. Federal and state laws and standards related to industrial workers are designed to ensure that these hazards are minimized to insignificant levels. This topic analyzes whether the project's safety and health plans are in accord with applicable LORS and adequate to protect industrial workers from hazardous working conditions. This topic also discusses the availability and adequacy of fire protection and emergency response services, as well as the mitigation measures necessary to ensure adequate response.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Worker Safety during Construction and Operation

Industrial environments are potentially dangerous during construction, operation, and demolition activities. Workers at the Pio Pico Energy Center (PPEC) will be exposed to excessive heat, loud noises, moving equipment, trenches, and confined space entry and egress problems. Potential injuries and death could result from falling, tripping, burns, lacerations, falling equipment or structures, chemical spills, hazardous waste, fires, explosions, electrical sparks, and electrocution. (Ex. 200, pp. 4.14-3 - 4.14-4.)

Both federal and state Occupational Safety and Health Administration (OSHA and Cal-OSHA) LORS on worker safety require the project owner to adopt well-defined policies and procedures, training programs, hazard recognition, and controls to minimize injuries and to protect the health of onsite workers. (Ex. 200, p. 4.14-4.)

The evidence provides extensive details on the worker safety and health programs required by applicable law and the project-specific safety measures necessary to protect on-site workers. Specifically, the project owner must develop and implement a "Construction Safety and Health Program" and an "Operations and Maintenance Safety and Health Program," both of which must be approved by the Energy Commission's 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 Prevention Plan," and other general safety procedures are required for both the construction and operation phases of the project. (Ex. 200, pp. 4.14-4 – 4.14-5.) Implementation of Conditions of Certification **WORKER SAFETY-1**

and **WORKER SAFETY-2** would ensure that these measures will be developed and implemented in compliance with applicable LORS.

OSHA and Cal-OSHA standards encourage employers to monitor construction worker safety by employing a "competent person" who has experience enforcing workplace safety standards, has the ability to identify hazards relating to specific construction activities, and has authority to take appropriate action. To implement this safe workplace policy during project construction, Condition **WORKER SAFETY-3** requires the project owner to employ a power plant Construction Safety Supervisor to coordinate and implement the Construction Safety and Health Programs, and to investigate any safety-related incidents and emergency responses. (Ex. 200, p. 4.14-9.)

To further reduce workplace hazards during project construction, the project owner must also employ a professional Safety Monitor. The Safety Monitor will report to the Chief Building Official (CBO) and the Compliance Project Manager (CPM), track compliance with OSHA/Cal-OSHA regulations, and serve as an on-site OSHA expert. The Safety Monitor is also responsible for auditing safety compliance and ensuring that safety procedures are implemented during construction, commissioning, and the transition to operational status. (Ex. 200, p. 4.14-10.) Implementation of Condition **WORKER SAFETY-4** will ensure that the Safety Monitor performs the duties described in the evidentiary record.

In the event of a medical emergency at the project site, Condition **WORKER SAFETY-5** requires the project owner to maintain an automatic portable defibrillator on-site, to ensure that it is available during construction and operation, and to train appropriate personnel to use it. [1] (Ex. 200, p. 4.14-11.)

2. Fire Protection and Emergency Response

The project will rely upon both local fire protection services and on-site fire protection systems, which provide the first line of defense for such occurrences. During construction, portable fire extinguishers, small hose lines, and fixed fire suppression equipment would be placed throughout the site at appropriate intervals and periodically maintained. An on-site water supply sufficient to operate the fire suppression equipment would be provided, and safety

[1] Testimony indicates 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 onsite defibrillator. Many modern industrial and commercial enterprises maintain defibrillators for emergency use. We therefore endorse this equipment as an appropriate safety and health precaution. (Ex. 200, p. 4.14-11.)

procedures and training would be implemented in accordance with Cal OSHA regulations, National Fire Protection Association (NFPA) standards, and the guidelines of the Construction Fire Protection and Prevention Program. The Construction Fire Prevention Program required by Condition **WORKER SAFETY-1** must be consistent with applicable LORS and specify measures to minimize the likelihood of fires during construction, including the locations of portable fire extinguishers, safety procedures, hazardous materials clean-up procedures, and worker training. (Ex. 200, p. 4.14-10.)

The evidence shows that the project intends to meet the fire protection and suppression requirements of the California Fire Code, all applicable recommended NFPA standards (including Standard 850 addressing fire protection at electric generating plants), and all Cal/OSHA requirements. Fire suppression elements in the proposed plant will include both fixed and portable fire extinguishing systems. The fire water will be supplied by tying into the existing fire water supply system through two points that connect into the new fire loop. The fire loop would supply the sprinkler system, water deluge system, and the fire hydrants. The fire water system would be designed in accordance with NFPA 850 and would provide sufficient flow to meet NFPA codes for firewater demands. (Ex.200, p. 4.14-11.)

A fixed water sprinkler system would be installed in areas of risk and in administrative buildings in accordance with NFPA requirements. A carbon dioxide fire protection system would be provided for each of the combustion turbine generators (CTG). The CTG auxiliary equipment and transformers would each be contained in a separate concrete berm and protected with a water deluge system. Chemical and gas extinguishers would be installed in areas of risk where water would be ineffective as a fire suppressant. Other plant equipment such as electrical enclosures and the switchyard would be protected with a dry-type fire suppression system. (*Id.*)

The fire protection system would have fire detection sensors that will trigger alarms and alert the control room as well as the San Diego Rural Fire Protection District (RFPD). In addition to the fixed fire protection system, the appropriate class of service portable extinguishers and fire hydrants would be located throughout the facility at code-approved intervals. These systems are standard requirement by the NFPA and the California Fire Code, the evidence shows that they will ensure adequate fire protection. (*Id.*)

The Applicant would be required by proposed Conditions of Certification **WORKER SAFETY-1** and **-2** to provide the final Fire Protection and Prevention

Program to Staff prior to construction and operation of the project, to confirm the adequacy of the proposed fire protection measures.

3. Cumulative Impacts

Staff reviewed the potential for the construction and operation of the proposed PPEC project, combined with existing heavy industrial and commercial facilities in the immediate vicinity, to result in impacts on the fire and emergency service capabilities of the RFPD. The RFPD currently is responsible for response to many other industrial facilities with similar fire risks to those posed by the proposed facility. We agree with Staff's conclusion that the RFPD is adequately staffed and equipped, and would be able to adequately respond to an incident at the proposed facility. (Ex. 200, p. 4.14-12.)

Given the lack of unique fire hazards associated with a modern gas-fired power plant, and that incidents at power plants that require fire or EMS response are infrequent, we find that this project will not have a significant adverse cumulative impact on the RFPD's ability to respond to a fire or medical emergency where its effects would be cumulatively considerable.

FINDINGS OF FACT

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

1. Industrial workers at the project site and along the linear corridors will be exposed to potential safety and health 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 consistent with applicable federal and state LORS for both the construction and operation phases of the project.

3. The project will employ an on-site professional Construction Safety Supervisor and a Construction Safety Monitor to ensure compliance with the Construction Safety and Health Program.

4. The project will maintain a portable automatic external defibrillator on-site and train personnel to use it in the event of a medical emergency.

5. The project will include on-site fire protection and appropriate fire suppression systems consistent with applicable LORS as the first line of defense in the event of a fire.

6. The San Diego Rural Fire Protection District (RFPD) will provide fire protection and emergency response services to the project site.

7. The RFPD and its mutual aid responders will provide adequate hazmat response capability.

8. The project will provide two access entry gates to allow emergency vehicle access to the site if one of the gates is blocked.

9. Construction and operation of the PPEC will not result in any direct, indirect, or cumulative impacts on fire protection services in the project vicinity.

CONCLUSIONS OF LAW

1. We therefore conclude that with implementation of the conditions of certification listed below and the mitigation measures described in the evidentiary record, the PPEC will not result in significant health and safety impacts to on-site workers.

2. We further conclude that the mitigated PPEC, as described in the evidentiary record, will comply with all applicable laws, ordinances, regulations, and standards listed for Worker Safety and Fire Protection as set forth 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:

1. a Construction Personal Protective Equipment Program;
2. a Construction Exposure Monitoring Program;
3. a Construction Injury and Illness Prevention Program;
4. a Construction Emergency Action Plan; and
5. a Construction Fire Prevention Plan.

The Personal Protective Equipment Program, the Exposure Monitoring Program, and the Injury and Illness Prevention Program shall be submitted to the CPM for review and approval concerning compliance of the programs with all applicable Safety Orders. The Construction

Emergency Action Plan and the Fire Prevention Plan shall be submitted to the San Diego Rural Fire District (RFPD) 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 RFPD stating the Fire Department's comments on the Construction Fire Prevention Plan and 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:

1. an Operation Injury and Illness Prevention Plan;
2. an Emergency Action Plan;
3. a Hazardous Materials Management Program;
4. an Operation Fire Prevention Program (Cal. Code Regs., tit. 8, § 3221); and
5. a Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 3401-3411.)

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted 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 RFPD 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 RFPD stating the Fire Department's comments on the Operations Fire Prevention Plan and Emergency Action Plan.

WORKER SAFETY-3 The project owner shall employ a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant laws, ordinances, regulations, and standards; is capable of identifying workplace hazards relating to the construction activities; and has authority to take appropriate action to assure compliance and mitigate hazards. The CSS shall:

1. have overall authority for coordination and implementation of all

occupational safety and health practices, policies, and programs;

2. assure that the safety program for the project complies with Cal/OSHA and federal regulations related to power plant projects;
3. assure that all construction and commissioning workers and supervisors receive adequate safety training;
4. complete accident and safety-related incident investigations and emergency response reports for injuries and inform the CPM of safety-related incidents; and
5. assure that all the plans identified in Conditions of Certification **WORKER SAFETY-1** and **-2** are implemented.
6. submit in the Monthly Compliance Report a monthly safety inspection report to include:
   - record of all employees trained for that month (all records shall be kept on site for the duration of the project);
   - summary report of safety management actions and safety-related incidents that occurred during the month;
   - report of any continuing or unresolved situations and incidents that may pose danger to life or health; and
   - report of accidents and injuries that occurred during the month.

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 and qualifications for the CSS.

The contact information of any replacement (CSS) shall be submitted to the CPM within one business day.

WORKER SAFETY-4 The project owner shall pay all costs incurred by the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Those services shall be in addition to other work performed by the CBO. The Safety Monitor shall be selected by and report directly to the CBO and will be responsible for verifying that the Construction Safety Supervisor, as required in Condition of Certification **WORKER SAFETY-3**, implements all appropriate Cal/OSHA and Energy Commission safety requirements. The Safety Monitor shall conduct on-site (including linear facilities) safety inspections at intervals necessary to fulfill those responsibilities.

Verification: 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 properly maintained and located on site during construction and operations and shall implement a program to ensure that all workers are properly trained in its use and 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.

E. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the Pio Pico Energy Center (PPEC) will create significant impacts to public health and safety resulting from the use, handling, storage, or transport of hazardous materials. Several factors affect the potential for project-related hazardous materials to cause adverse impacts. These include local meteorological conditions, terrain characteristics, and the proximity of population centers and sensitive receptors. Power plant facilities are also subject to a number of laws, ordinances, regulations, and standards (LORS) related to hazardous materials. **Appendix A** to this Decision identifies the applicable LORS.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Setting

The proposed project site is a 10-acre parcel of disturbed and developed land within an industrial area, located in the southeast quadrant of the intersection of Alta Road and Calzada de la Fuente. The area in the immediate vicinity is designated for heavy and mixed industrial uses, for business parks, and for habitat conservation. The area is generally rural with few rural residences, the nearest of which are 0.8 miles to the south west of the project boundary. The Richard J. Donovan Correctional Facility is located approximately 4,000 feet northwest and a County of San Diego Correctional Facility that includes the George F. Bailey Detention Facility, the East Mesa Detention Facility, the Federal Immigration Detention Facility, and the County of San Diego Juvenile Detention Facility is located approximately 4,800 feet north.

Sensitive receptors are individuals usually more susceptible than the general population to the effects of environmental pollutants. Extra consideration is given to the possible effects in such individuals in establishing exposure limits for environmental pollutants. The evidence shows that there are sensitive receptors within a three-mile radius of the site on the California side of the border with Mexico, and it is likely that there are sensitive receptors within the portion of the three-mile radius that extends into Mexico. (Exs. 200, pp. 4.5-5, 4.7-3; 201.)

2. Hazardous Materials to be Used

The evidence establishes that the PPEC will use hazardous materials during construction and operation. Hazardous materials used during the construction

phase will include gasoline, diesel fuel, motor oil, hydraulic fluid, welding gases, lubricants, solvents, cleaners, paint, and paint thinners. Hazardous materials, such as mineral and lubricating oils, cleaning detergents, welding gases, and other chemicals will be present at the facility during operation. (Ex. 200, pp. 4.4-6 – 4.4-7.)

A list of all hazardous materials proposed for use at the PPEC facility is provided in section 5.0, Hazardous Materials Management, of the AFC, Exhibit 1.

The evidence includes an assessment of the risks posed by the use of hazardous materials. This assessment included the following elements in the order presented:

- Review of the types and amounts of chemicals proposed for on-site use, and a determination of the need and appropriateness of their use.
- Removal from further consideration of chemicals that will be used in small amounts, or whose physical state is such that there is virtually no chance that a spill will migrate off the site and impact the public.
- Review and evaluation of measures proposed to prevent spills. These included engineering controls such automatic shut-off valves and different size transfer-hose couplings, as well as administrative controls such as worker training and safety management programs.
- Review and evaluation of measures proposed by TID to respond to accidents. These measures also included engineering controls such as catchment basins and methods to keep vapors from spreading, as well as administrative controls such as training emergency response crews.
- Analysis of the theoretical impacts on the public of a worst-case spill of hazardous materials, even with the mitigation measures proposed.

(Ex. 200, p. 4.4-7.)

a. Small Quantity Hazardous Materials

The evidence shows that none of the small quantity hazardous materials used during construction and operation poses a significant potential for off-site impacts due to the minimal quantities involved, their infrequent use, and on-site containment by way of temporary berms used by contractors. (Ex. 200, p. 4.4-7.) Petroleum hydrocarbon-based motor fuels, mineral oil, lube oil, and diesel fuel are all very low volatility and represent limited off-site hazards even in larger quantities.

The project will be limited to using, storing, and transporting only those hazardous materials listed in the AFC per proposed Condition **HAZ-1**. That condition, if implemented would also set forth requirements related to the types and amounts of hazardous materials approved for use at the PPEC.

b. Large Quantity Hazardous Materials

i. Natural Gas

The project will involve the handling of large amounts of natural gas. Due to its tendency to disperse rapidly, natural gas is less likely to cause explosions than fuel gases such as propane or liquefied petroleum gas. Its use at the site nonetheless poses risk of fire and explosion because of its flammability if release occurs under certain specific conditions. (Ex. 200, p. 4.4-8.)

While natural gas would be used in significant quantities, it would not be stored on site. It would be delivered via a new gas pipeline to the PPEC project site. The risk of a fire and/or explosion on-site can be reduced to insignificant levels through adherence to applicable codes and the development and implementation of effective safety management practices. The 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 will significantly reduce the likelihood of an explosion in gas-fired equipment. Additionally, start-up procedures would require air purging of the gas turbines prior to start up, thereby precluding the presence of an explosive mixture. The safety management plan proposed by the Applicant would address the handling and use of natural gas and would significantly reduce the potential for equipment failure because of either improper maintenance or human error. (Ex. 200, p. 4.4-8.)

The proposed project will require a new natural gas pipeline running from an existing 36-inch diameter SDG&E transmission line. The new 12-inch diameter line will be either 8000 feet or 10,330 feet long depending on the pipeline route. Both routes are through areas of very low population density. The natural gas pipeline will be designed to comply with California Public Utilities Commission General Order 112 standards, and 49 CFR 192 standards for pipelines located in populated areas. CPUC General Order 112-E, section 125.1 requires that at least 30 days prior to the construction of a new pipeline, the owner must file a report with the commission that will include a route map for the pipeline. The natural gas pipeline must be constructed and operated in accordance with the

Federal Department of Transportation (DOT) regulations, Title 49, Code of Federal Regulations (CFR), Parts 190, 191, and 192. We conclude that existing LORS are sufficient to ensure minimal risks of pipeline failure. Additionally, the gas pipeline that would be constructed for this project would be located entirely on-site, which greatly reduces the risks of impacts to the public from a rupture or failure.

Recent incidents have demonstrated significant risks associated with purging of new pipelines with natural gas. On June 28, 2010 the United States Chemical Safety and Hazard Board (CSB) issued Urgent Recommendations to the United States Occupational Safety and Health Administration (OSHA), the National Fire Protection Association (NFPA), the American Society of Mechanical Engineers (ASME), and major gas turbine manufacturers to make changes to their respective regulations, codes, and guidance to require the use of inherently safer alternatives to natural gas blows for the purposes of pipe cleaning. Recommendations were also made to the 50 states to enact legislation applicable to power plants that prohibits flammable gas blows for the purposes of pipe cleaning. In accordance with those recommendations, Staff proposes Condition of Certification **HAZ-8** which prohibits the use of flammable gas blow for pipe cleaning at the facility either during construction or after the start of operations. (*Id*.)

All fuel gas pipe purging activities shall vent any gases to a safe location outdoors, away from workers and sources of ignition. Fuel gas pipe cleaning and purging shall adhere to the provisions of most current versions of the National Fuel Gas Code (NFPA 54 and 56-PS) including all Temporary Interim Amendments.

ii. Aqueous Ammonia.

Aqueous ammonia would be used to control the emission of oxides of nitrogen (NO_X) from the combustion of natural gas at the PPEC project. The accidental release of aqueous ammonia without proper mitigation can result in significant down-wind concentrations of ammonia gas. PPEC would store 19 percent aqueous ammonia solution in an above-ground storage tank with a maximum capacity of 20,000 gallons. 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. Condition of Certification **HAZ-3** would require that the truck unloading area be constructed with a sloped concrete pad that would drain into a containment area. (Ex. 200, p. 4.4-9.)

Aqueous ammonia is the only hazardous material that may pose a significant risk of off-site impact. The use of aqueous ammonia can result in the release of ammonia vapor in the event of a spill. This is a result of its moderate vapor pressure and the large amounts of aqueous ammonia that will be used and stored on site. However, the use of aqueous ammonia poses far less risk than the use of the far more hazardous anhydrous ammonia (ammonia that is not diluted with water and stored as a liquefied gas at high pressure). (*Id*.)

To assess the potential impacts associated with an accidental release of aqueous ammonia, Staff uses four benchmark exposure levels of ammonia gas occurring off site. These include:

- the lowest concentration posing a risk of lethality, 2,000 parts per million (ppm);
- the concentration immediately dangerous to life and health level of 300 ppm;
- the emergency response planning guideline level 2 of 150 ppm, which is also the RMP level 1 criterion used by U.S. Environmental Protection Agency (EPA) and California; and
- the level considered by the Energy Commission staff to be without serious adverse effects on the public for a one-time exposure of 75 ppm.

If the potential exposure associated with a potential release exceeds 75 ppm at any public receptor, Staff will also assess 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 potential exposure are sufficient to support a finding of potentially significant impact. A detailed discussion of the exposure criteria considered by Staff, as well as their applicability to different populations and exposure-specific conditions, is provided in **Hazardous Materials Appendix A**. (*Id*.)

The Applicant's revised off-site consequence analysis (OCA) describes the modeling parameters used for the worst-case and the alternative accidental releases of aqueous ammonia. Pursuant to the California Accidental Release Program (CalARP) regulations, the OCA was performed for the worst-case release scenario, which involved the failure and complete discharge of the storage tank, as well as an alternative release scenario involving a spill during truck unloading. Ammonia emissions from the two potential release scenarios were calculated following methods provided in the RMP off-site consequence analysis guidance, U.S. EPA, April 1999. The default meteorological data

necessary for emission and dispersion calculations were supplemented by historical climate records for San Diego. A temperature of 108°F, a wind speed of 1.5 meters per second, and atmospheric stability class F were used for emission and dispersion calculations for the worst-case scenario. Potential off-site ammonia concentrations were estimated using the ALOHA air dispersion model. (Ex. 200, p. 4.4-10.)

Based on the modeling results Staff concluded that, with the mitigation measures proposed, no plausible event would result in ammonia concentrations exceeding 75 ppm at the nearest public receptor. It should also be noted that Staff believes that the analysis that was used to predict worst case impacts grossly overestimates impacts that would actually result in a worst case release.

Since the Applicant's modeling is very conservative and grossly overestimates the airborne concentration of ammonia from an accidental release that could occur from the storage tank or during transfer operations, we conclude that the Applicant's modeling demonstrates insignificant potential for off-site impact. We therefore find that the Applicant's proposed engineering controls will ensure protection of public health.

Mitigation

The potential for accidents resulting in the release of hazardous materials is greatly reduced through implementation of a safety management program that would include the use of both engineering and administrative controls. Elements of both facility controls and the safety management plan are summarized below.

Engineering Controls

Engineering controls help to prevent accidents and releases (spills) from moving off-site and affecting communities by incorporating engineering safety design criteria in the design of the project. The engineered safety features proposed by the Applicant for use at the PPEC 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 containment area surrounding the aqueous ammonia storage tank, capable of holding the entire contents of the tank plus the volume of rainfall associated with a 24-hour 25-year storm;
- process protective systems including continuous tank level monitors with automatic alarms that are triggered at set high and low level points, automated leak detectors, temperature and pressure monitors, alarms, and emergency block valves.
- Additionally, Condition of Certification **HAZ-3** would require construction of a sloped concrete pad surrounding the aqueous ammonia truck unloading area that drains into a secondary containment structure. (Ex. 200, p. 4.4-11.)

Administrative Controls

Administrative controls also help prevent accidents and releases (spills) from moving off-site and affecting neighboring communities by establishing worker training programs, process safety management programs, and complying with all applicable health and safety laws, ordinances, and standards.

A worker health and safety program will be prepared by the Applicant and include (but not be limited to) the following elements (see the **Worker Safety and Fire Protection** section for specific regulatory requirements):

- worker training regarding chemical hazards, health and safety issues, and hazard communication;
- 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.

At the facility, the project owner will be required to designate an individual with the responsibility and authority to ensure a safe and healthful work place. The project health and safety official will oversee the health and safety program and have the authority to halt any action or modify any work practice to protect the

workers, facility, and the surrounding community in the event of a violation of the health and safety program. (Ex. 200, p. 4.4-11.)

The Applicant will also prepare a risk management plan for aqueous ammonia, as required by both CalARP regulations and proposed Condition of Certification **HAZ-2**. This condition also includes the requirement for a program for the prevention of accidental releases and responses to an accidental release of aqueous ammonia. A hazardous materials business plan will also be prepared by the Applicant that would incorporate state requirements for the handling of hazardous materials. Other administrative controls would be required in proposed Conditions of Certification **HAZ-1** (limitations on the use and storage of hazardous materials and their strength and volume) and **HAZ-3** (development of a safety management plan). Proposed Condition **HAZ-4** would require that the aqueous ammonia storage tank be designed to appropriate design codes. (*Id*.)

On-Site Spill Response

In order to address the issue of spill response, the facility 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, on-site spill containment, and prevention equipment and capabilities, as well as other elements as required by state law (Health and Safety Code, §§ 25500-25541) and local law regarding Hazardous Materials Business Plans (see section on **Worker Safety and Fire Protection** for a more detailed discussion of the requirements of these emergency response plans). Emergency procedures will be established which include evacuation, spill cleanup, hazard prevention, and emergency response. (Ex. 200, p. 4.4-12.)

The proposed facility will also rely on local emergency response in the event of an accidental release of hazardous materials or a fire emergency. The San Diego Rural Fire Protection District (RFPD) Station 22 at 446 Alta Road will provide first response. This station is currently the first responder to the existing Otay Mesa power plant adjacent to the proposed facility. The response time to the facility is adequate due to the close proximity of Station 22. (*Id*.)

3. Transportation of Hazardous Materials

While many types of hazardous materials will be transported to the site, aqueous ammonia poses the predominant risk associated with hazardous materials transport.

Ammonia can be released during a transportation accident and the extent of impact in the event of such a release would depend upon the location of the accident and the rate of dispersion of ammonia vapor from the surface of the aqueous ammonia pool. The likelihood of an accidental release during transport is dependent upon the skill of the tanker truck driver, the type of vehicle used for transport, and accident rates.

To address this concern, Staff evaluated the risk of an accidental transportation release in the project area. Staff's analysis focused on the project area after the delivery vehicle leaves the main highway. An extensive regulatory program that applies to the shipment of hazardous materials on California highways to ensure safe handling in general transportation (see Federal Hazardous Materials Transportation Law 49 USC §5101 et seq, DOT regulations 49 CFR subpart H, §172–700, and California Department of Motor Vehicles (DMV) regulations on hazardous cargo). These regulations also address the issue of driver competence. (Ex. 200, p. 4.4-12.)

To address the issue of tanker truck safety, aqueous ammonia will be delivered to the proposed facility in DOT-certified vehicles with design capacities of 6,500 gallons. These vehicles will be designed to DOT Code MC-307. These are high-integrity vehicles designed to haul caustic materials such as ammonia. Implementation of Condition of Certification **HAZ-5** would ensure that, regardless of which vendor supplies the aqueous ammonia, delivery will be made in a tanker truck that meets or exceeds the specifications described by these regulations. (Ex. 200, p. 4.4-13.)

The evidence reflects Staff's review of the technical literature regarding hazardous materials transportation (including tanker trucks) accident rates in the United States and California. Staff relied on six references and three federal government databases to assess the risk of a hazardous materials transportation accident.

Data from the U.S. DOT show that the actual risk of a fatality over the past five years from all modes of hazardous material transportation (rail, air, boat, and

truck) is approximately 0.1 in 1,000,000. Although it is an extremely conservative estimate in that it includes risk of accidental release from all modes of hazardous materials transportation and does not distinguish between a high-integrity steel tanker truck and other less secure modes, the results still show that the risk of a transportation accident is insignificant. (*Id.*)

We therefore find that the risk of exposure to significant concentrations of aqueous ammonia during transportation to the facility is insignificant. The transportation of similar volumes of hazardous materials on the nation's highways is neither unique nor infrequent. The evidence demonstrates that the risk of accident and exposure is less than significant.

Based on the environmental mobility, toxicity, the quantities at the site, and frequency of delivery, we therefore find that aqueous ammonia poses the predominant risk associated with both use and hazardous materials transportation. We conclude that the risk associated with the transportation of other hazardous materials to the proposed project does not significantly increase the risk of that posed by ammonia transportation alone.

4. Seismic Risk

It is possible that an earthquake could cause the failure of a hazardous materials storage tank. An earthquake could also cause failure of the secondary containment system (berms and dikes), as well as the failure of electrically controlled valves and pumps. The failure of all of these preventive control measures might then result in a vapor cloud of hazardous materials that could move off-site and affect residents and workers in the surrounding community. The Loma Prieta earthquake of 1989, the Northridge earthquake of 1994, and the earthquakes in Japan in 1995 and 2010 have all increased the level of public concern about earthquake safety.

Information obtained after the January 1994 Northridge earthquake showed that some damage was caused both to several large storage tanks and to smaller tanks associated with the water treatment system of a cogeneration facility. The tanks with the greatest damage, including seam leakage, were older tanks, while the newer tanks sustained displacements and failures of attached lines. Therefore, Staff conducted an analysis of the codes and standards which should be followed when designing and building storage tanks and containment areas to withstand a large earthquake. Staff also reviewed the impacts of the February 2001 Nisqually earthquake near Olympia, Washington, a state with similar

seismic design codes as California. No hazardous materials storage tanks failed as a result of that earthquake. Referring to the sections on Geologic Hazards and Resources and Facility Safety Design in the AFC, we note that the proposed project will be designed and constructed to the standards of the most recent California Building Code. Therefore, on that basis, we find that tank failures during seismic events are not probable and do not represent a significant risk to the public. (Ex. 200, p. 4.4.14.)

5. Site Security

The energy generation sector is one of 14 areas of critical infrastructure listed by the U.S. Department of Homeland Security. On April 9, 2007, the U.S Department of Homeland Security published in the Federal Register (6 CFR Part 27) an interim final rule requiring that facilities that use or store certain hazardous materials conduct vulnerability assessments and implement certain specified security measures. This rule was implemented with the publication of Appendix A, the list of chemicals, on November 2, 2007. The rule applies to aqueous ammonia solutions of 20 percent or greater and this proposed facility plans to utilize a 19 percent aqueous ammonia solution. We believe that all power plants under the jurisdiction of the Energy Commission should implement a minimum level of security consistent with the guidelines listed here.

Implementation of Conditions of Certification **HAZ-6** and **HAZ-7** would address both construction security and operation security plans. These plans would require implementation of site security measures consistent with the above-referenced documents. The goal of these conditions of certification is to provide for the minimum level of security for power plants necessary for the protection of California's electrical infrastructure from malicious mischief, vandalism, or domestic/foreign terrorist attacks.

Security measures include perimeter fencing and breach detectors, alarms, site access procedures for employees and vendors, site personnel background checks, and law enforcement contacts in the event of a security breach. Site access for vendors shall 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 will be 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 (as per 49

CFR 172.800) and to ensure that all hazardous materials drivers are in compliance through personnel background security checks (as per 49 CFR Part 1572, Subparts A and B). The Compliance Project Manager (CPM) may authorize modifications to these measures or may require additional measures in response to additional 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 Applicant.

6. Cumulative Impacts

A cumulative effect refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effects of the proposed project. (Pub. Resource Code, § 21083; Cal. Code Regs., tit. 14, §§ 15064(h), 15065(c), 15130, and 15355.)

The evidence includes a cumulative impacts analysis. The evidence shows that while cumulative impacts related to hazardous material management at applicable existing and foreseeable facilities (including the PPEC) are possible, the probability for cumulative impacts is low due to the numerous safeguards required to both prevent and control the release of hazardous materials at such facilities. (Ex. 200, p. 4.4-15.)

Existing locations that involve the use or storage of gaseous or liquid hazardous materials and locations where such facilities might likely be built were considered. The area near the PPEC project site is comprised of other power plants and heavy industrial and commercial establishments, with some residential areas at distances beyond a half mile.

The Applicant will develop and implement a hazardous materials handling program for the PPEC project independent of any other projects considered for potential cumulative impacts. Staff believes that the facility, as proposed by the Applicant and with the additional mitigation measures proposed by Staff, poses a minimal risk of accidental release and an even lower risk of off-site impacts.

Moreover, the evidence indicates that it is unlikely that an accidental release that has very low probability of occurrence (about one in one million per year) would independently occur at the PPEC site and another facility at the same time. Therefore, we conclude that the proposed PPEC facility would not contribute to a significant hazardous materials-related cumulative impact.

The evidence shows that Staff considered the minority population as identified in the **Socioeconomics** section of this Decision in its impact analysis and found no potential significant adverse impacts for any receptors, including environmental justice populations. This analysis used conservative assumptions for establishing methods for analyzing public impacts. The results of that analysis indicate that there would be no direct or cumulative significant public impact to any population in the area. Therefore, given the absence of any significant impacts, there are no disparate impacts and no environmental justice issues associated with hazardous materials management. (Ex. 200, p. 4.4-17.)

7. Response to Agency and Public Comments

No hazardous materials-related comments have been received.

8. Conclusion

With implementation of the eight conditions of certification set forth herein, we find that the PPEC would not pose a significant risk of impacts related to the use or transport of hazardous materials. Condition of Certification **HAZ-1** ensures that no hazardous material would be used at the facility except as listed in **Appendix B** of the Staff assessment, unless there is prior approval by the Energy Commission CPM. Condition of Certification **HAZ-2** requires that an updated RMP be prepared and submitted prior to the delivery of aqueous ammonia.

An accidental release of aqueous ammonia during transfer from the delivery tanker to the storage tank is the most probable accident scenario and therefore proposes Condition of Certification **HAZ-3** requiring the development of a safety management plan for the delivery of all liquid hazardous materials, including aqueous ammonia. The development of a safety management plan addressing the delivery of all liquid hazardous materials during construction, commissioning, and operations will further reduce the risk of any accidental release not addressed by the proposed spill-prevention mitigation measures and the required RMP. This plan would additionally prevent the mixing of incompatible materials that could result in toxic vapors. Condition of Certification **HAZ-4** requires that the aqueous ammonia storage tank be designed to applicable code specifications. The transportation of hazardous materials is addressed in Condition of Certification **HAZ-5**. Site security during both the construction and operations phases is addressed in Conditions of Certification **HAZ-6** and **HAZ-7**. Condition **HAZ-8** addresses safety in purging new pipelines.

FINDINGS OF FACT

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

1. The PPEC will use hazardous materials during construction and operation, including natural gas and aqueous ammonia.

2. The major public health and safety hazards are associated with the risk of fire or explosion related to natural gas and the release of aqueous ammonia.

3. The risk of fire or explosion from natural gas will be reduced to insignificant levels through adherence to applicable codes and the implementation of effective safety management practices. Specifically, this will include the use of double block and bleed valves for secure shut off, automated combustion controls, burner management, inspection of welds, and use of corrosion resistant coatings.

4. The risk of off-site aqueous ammonia migration is minimal, and the risk of on-site leaks will be reduced to insignificant levels with the projects' compliance with applicable regulatory requirements and conditions of certification below.

5. Potential leak and fire risks associated with road crossings by natural gas pipes and other project facilities will be reduced to insignificant levels with SDG&E's and the project's compliance with applicable regulatory requirements.

6. Aqueous ammonia poses the predominant risk associated with hazardous materials transport. The risk of an accidental release during transport in the project area will be reduced to insignificant levels by conformance with applicable regulatory requirements, including standards for vehicle safety and driver qualifications/competence.

7. While the PPEC site could potentially be subject to earthquakes that result in the failure of hazardous material storage facilities, such occurrences are not probable and do not represent a significant risk to the public.

8. The PPEC project will involve on-site hazardous material use/storage in sufficient quantities to merit the development of special site security measures to prevent unauthorized access. These measures would ensure that potential security risks related to construction and operation of the PPEC facility would be less than significant.

9. Hazardous materials proposed for use in the construction and operation of the PPEC, when considered in conjunction with those used at other existing and potential future facilities in the project vicinity, will not cumulatively result in a significant risk to the public.

10. Implementation of the mitigation measures contained in the following conditions of certification will ensure that the PPEC will not cause significant impacts to public health and safety as the result of the use, handling, storage, or transport of hazardous materials.

11. With implementation of the conditions of certification listed below, the PPEC will comply with all applicable LORS related to hazardous materials management.

CONCLUSION OF LAW

We therefore conclude that the use of hazardous materials in association with the PPEC as mitigated by the conditions of certification will not result in any significant direct, indirect, 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 **Appendix B**, below, or in greater quantities or strengths than those identified by chemical name in **Appendix B**, below, unless approved in advance by the 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 new or updated Business Plan and a Risk Management Plan (RMP) prepared pursuant to the California Accidental Release Program (CalARP) to the County of San Diego DEH and the CPM for review. After receiving comments from the DEH 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 DEH for their use and to the CPM for approval.

Verification: At least 30 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Business Plan to the CPM for approval.

At least 30 days prior to delivery of aqueous ammonia to the site, the project owner shall provide the final RMP to the Certified Unified Program Agency (County of San Diego DEH) for information and to the CPM for approval.

HAZ-3 The project owner shall develop and implement a Safety Management Plan for delivery of aqueous ammonia and other liquid hazardous materials by tanker truck. The plan shall include procedures, protective equipment requirements, training, and a checklist. It shall also include a section describing all measures to be implemented to prevent mixing of incompatible hazardous materials including provisions to maintain lockout control by a power plant employee not involved in the delivery or transfer operation. This plan shall be applicable during construction, commissioning, and operation of the power plant.

Verification: At least 30 days prior to the delivery of any liquid hazardous material to the facility, 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 the ASME Pressure Vessel Code and ANSI K61.6 or to API 620. In either case, the storage tank shall be protected by a secondary containment basin capable of holding 125 percent of the storage volume or the storage volume plus the volume associated with 24 hours of rain assuming the 25-year storm. The containment structure shall also include a subsurface vault to contain 125 percent of the storage volume plus the volume associated with 24 hours of rain during a 25-year storm. The drain leading to the vault shall be no larger than 24-inches in diameter. 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 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-7 The project owner shall also prepare a site-specific security plan (or an update to an existing 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 A**), signed by the project owner certifying that background investigations have been conducted on all project personnel. Background investigations shall be restricted to determine the accuracy of employee identity and employment history and shall be conducted in accordance with state and federal laws regarding

security and privacy;

b. a statement(s) (refer to sample, **Attachment B**), signed by the contractor or authorized representative(s) for any permanent contractors or other technical contractors (as determined by the CPM after consultation with the project owner), that are present at any time on the site to repair, maintain, investigate, or conduct any other technical duties involving critical components (as determined by the CPM after consultation with the project owner) certifying that background investigations have been conducted on contractors who visit the project site;

7. site access controls for employees, contractors, vendors, and visitors;

8. a statement(s) (refer to sample, **Attachment C**), signed by the owners or authorized representative of hazardous materials transport vendors, certifying that they have prepared and implemented security plans in compliance with 49 CFR 172.880, and that they have conducted employee background investigations in accordance with 49 CFR Part 1572, subparts A and B;

9. closed circuit TV (CCTV) monitoring system, recordable, and viewable in the power plant control room and security station (if separate from the control room) 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, seven days per week;

    or

    b. power plant personnel on site 24 hours per day, seven days per week, **or** if power plant personnel are not on-site 24 hours per day, seven 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; that have low-light capability, are recordable, and are able to view 100 percent of the perimeter fence, the ammonia storage tank, the outside entrance to the control room, and the front gate from a monitor in the power plant control room; **and**

        2. perimeter breach detectors **or** on-site motion detectors.

The project owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to those security plans.

The CPM may authorize modifications to these measures, or may require additional measures such as protective barriers for critical power plant components—transformers, gas lines, and compressors—depending upon circumstances unique to the facility or in response to industry-related standards, security concerns, or additional guidance provided by the U.S. Department of Homeland Security, the U.S. Department of Energy, or the North American Electrical Reliability Council, after consultation with both appropriate law enforcement agencies and the Applicant.

Verification: At least 30 days prior to the initial receipt of hazardous materials on site, the project owner shall notify the CPM that a site-specific operations site security plan is available for review and approval.

In the annual compliance report, the project owner shall include a statement that all current project employee and appropriate contractor background investigations have been performed and that updated certification statements have been appended to the operations security plan.

In the annual compliance report, the project owner shall include a statement that the operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.

HAZ-8: The project owner shall not allow any fuel gas pipe cleaning activities on site, either before placing the pipe into service or at any time during the lifetime of the facility, that involve "flammable gas blows" where natural (or flammable) gas is used to blow out debris from piping and then vented to atmosphere. Instead, an inherently safer method involving a non-flammable gas (e.g. air, nitrogen, steam) or mechanical pigging shall be used. Exceptions to any of these provisions will be made only if no other satisfactory method is available, and then only with the approval of the CPM.

Verification: At least 30 days before any fuel gas pipe cleaning activities involving fuel gas pipe of four-inch or greater external diameter, the project owner shall submit a copy of the Fuel Gas Pipe Cleaning Work Plan which shall indicate the method of cleaning to be used, what gas will be used, the source of pressurization, and whether a mechanical PIG will be used, to the CBO for information and to the CPM for review and approval.

SAMPLE CERTIFICATION (Attachment A)

Affidavit of Compliance for Project Owners

I,

_____

(Name of person signing affidavit)(Title)

do hereby certify that background investigations to ascertain the accuracy of the identity and employment history of all employees of

_____

(Company name)

for employment at

_____

(Project name and location)

have been conducted as required by the California Energy Commission Decision for the above-named project.

_____

(Signature of officer or agent)

Dated this _____ day of _____, 20 _____.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

SAMPLE CERTIFICATION (Attachment B)

Affidavit of Compliance for Contractors

I,

_____

(Name of person signing affidavit)(Title)

do hereby certify that background investigations to ascertain the accuracy of the identity and employment history of all employees of

_____

(Company name)

for contract work at

_____

(Project name and location)

have been conducted as required by the California Energy Commission Decision for the above-named project.

_____

(Signature of officer or agent)

Dated this _____ day of _____, 20 _____.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

SAMPLE CERTIFICATION (Attachment C)

Affidavit of Compliance for Hazardous Materials Transport Vendors

I,

_____

(Name of person signing affidavit)(Title)

do hereby certify that the below-named company has prepared and implemented security plans in conformity with 49 CFR 172.880 and has conducted employee background investigations in conformity with 49 CFR 172, subparts A and B,

_____

(Company name)

for hazardous materials delivery to

_____

(Project name and location)

as required by the California Energy Commission Decision for the above-named project.

_____

(Signature of officer or agent)

Dated this _____ day of _____, 20 _____.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

HAZARDOUS MATERIALS

Appendix A

Basis for Staff's Use of 75 Parts Per Million Ammonia Exposure Criteria

BASIS FOR STAFF'S USE OF 75 Parts Per Million AMMONIA EXPOSURE CRITERIA

Staff uses a health-based airborne concentration of 75 parts per million (PPM) to evaluate the significance of impacts associated with potential accidental releases of ammonia. While this level is not consistent with the 200-ppm level used by the U.S. Environmental Protection Agency and the California Environmental Protection Agency in evaluating such releases pursuant to the Federal Risk Management Program and State Accidental Release Program, it is appropriate for use in Staff's analysis of the proposed project. The Federal Risk Management Program and the State Accidental Release Program are administrative programs designed to address emergency planning and ensure that appropriate safety management practices and actions are implemented in response to accidental releases. However, the regulations implementing these programs do not provide clear authority to require design changes or other major changes to a proposed facility. The preface to the Emergency Response Planning Guidelines states that "these values have been derived as planning and emergency response guidelines, not exposure guidelines, they do not contain the safety factors normally incorporated into exposure guidelines. Instead they are estimates, by the committee, of the thresholds above which there would be an unacceptable likelihood of observing the defined effects." It is Staff's contention that these values apply to healthy adult individuals and are levels that should not be used to evaluate the acceptability of avoidable exposures for the entire population. While these guidelines are useful in decision making in the event that a release has already occurred (for example, prioritizing evacuations), they are not appropriate for and are not binding on discretionary decisions involving proposed facilities where many options for mitigation are feasible. The California Environmental Quality Act requires permitting agencies making discretionary decisions to identify and mitigate potentially significant impacts through feasible changes or alternatives to the proposed project.

Staff has chosen to use the National Research Council's 30-minute Short Term Public Emergency Limit (STPEL) for ammonia to determine the potential for significant impact. This limit is designed to apply to accidental unanticipated releases and subsequent public exposure. Exposure at this level should not result in serious effects but would result in "strong odor, lacrimation, and irritation of the upper respiratory tract (nose and throat), but no incapacitation or prevention of self-rescue." It is Staff's opinion that exposures to concentrations above these levels pose significant risk of adverse health impacts on sensitive members of the general public. It is also Staff's position that these exposure limits are the best available criteria to use in gauging the significance of public exposures associated with potential accidental releases. It is, further, Staff's opinion that these limits constitute an appropriate balance between public protection and mitigation of unlikely events and are useful in focusing mitigation efforts on those release scenarios that pose real potential for serious impacts on the public. **Appendix A** Table-1 provides a comparison of the intended use and limitations associated with each of the various criteria that Staff considered in arriving at the decision to use the 75-ppm STPEL.

Hazardous Materials Appendix A Table-1
Acute Ammonia Exposure Guidelines

Guideline	Responsible Authority	Applicable Exposed Group	Allowable Exposure Level	Allowable* Duration of Exposures	Potential Toxicity at Guideline Level/Intended Purpose of Guideline
IDLH[2]	NIOSH	Workplace standard used to identify appropriate respiratory protection.	300 ppm	30 minutes	Exposure above this level requires the use of "highly reliable" respiratory protection and poses the risk of death, serious irreversible Injury, or impairment of the ability to escape.
IDLH/10[1]	EPA, NIOSH	Work place standard adjusted for general population factor of 10 for variation in sensitivity	30 ppm	30 minutes	Protects nearly all segments of general population from irreversible effects.
STEL[2]	NIOSH	Adult healthy male workers	35 ppm	15 minutes, 4 times per 8-hour day	No toxicity, including avoidance of irritation.
EEGL[3]	NRC	Adult healthy workers, military personnel	100 ppm	Generally less than 60 minutes	Significant irritation, but no impact on personnel in performance of emergency work; no irreversible health effects in healthy adults. Emergency conditions one-time exposure.
STPEL[4]	NRC	Most members of general population	50 ppm 75 ppm 100 ppm	60 minutes 30 minutes 10 minutes	Significant irritation, but protects nearly all segments of general population from irreversible acute or late effects. One-time accidental exposure.
TWA[2]	NIOSH	Adult healthy male workers	25 ppm	8 hours	No toxicity or irritation on continuous exposure for repeated 8-hour work shifts.
ERPG-2[5]	AIHA	Applicable only to emergency response planning for the general population (evacuation) (not intended as exposure criteria) (see preface attached)	200 ppm	60 minutes	Exposures above this level entail** unacceptable risk of irreversible effects in healthy adult members of the general population (no safety margin).

1) (EPA 1987) 2) (NIOSH 1994) 3) (NRC 1985) 4) (NRC 1972) 5) (AIHA 1989)

* The (NRC 1979), (WHO 1986), and (Henderson and Haggard 1943) all conclude that available data confirm the direct relationship to increases in effect with both increased exposure and increased exposure duration.

** The (NRC 1979) describes a study involving young animals, which suggests greater sensitivity to acute exposure in young animals. The WHO (1986) warned that the young, elderly, asthmatics, those with bronchitis, and those that exercise should also be considered at increased risk based on their demonstrated greater susceptibility to other non-specific irritants.

HAZARDOUS MATERIALS

Appendix B

Hazardous Materials Proposed for Use at the PPEC

Hazardous Materials Appendix B Table-1
Usage And Storage During Operation

Materials	Hazardous Characteristics[i]	Purpose	Storage Location	Minimum Stored[ii]	Storage Type
Acetylene	Ignitability	Welding	Hazardous Materials Storage Area	270 cf	Cylinder
Aqueous Ammonia ([19%] NH4 OH)	Reactivity, toxicity	Oxides of nitrogen (NOx) emissions control	Selective catalytic reduction unit	20,000 gal	Aboveground tank
Acid (Sulfuric or HCL)	Corrosivity, reactivity, toxicity	Cooling tower pH control	Cooling tower	5,000 gal	Aboveground tank
Argon	Ignitability	Welding	Hazardous Materials Storage Area	270 cf	Cylinder
Diesel Fuel Oil	Ignitability	Emergency generator	Emergency generator	2,000 gal	Tank
Sulfuric Acid for Station Batteries	Corrosivity, reactivity, toxicity	Combustion turbine, miscellaneous	Electrical/ bldg	100 gal	Battery
Oxygen – Gaseous	Ignitability	Welding operation	Hazardous Materials Storage Area	275 cf	Cylinder
Paint	Toxicity	Painting	Hazardous Material Storage Area	100 gal	Can
Sodium Hydroxide	Corrosivity	Spill neutralization	Hazardous Material Storage Area	2 gal	Carboy

[i] Hazardous characteristics identified per Title 22 California Code of Regulations Section 66261.20 et seq. for hazardous wastes.
[ii] All numbers are approximate.
cf= Cubic feet
gal = gallon(s)

F. WASTE MANAGEMENT

The Pio Pico Energy Center (PPEC) project will generate non-hazardous and hazardous wastes during construction and operation. This section reviews the project's waste management plans for reducing the risks and environmental impacts associated with handling, storage, and disposal of project-related non-hazardous and hazardous wastes. It further examines whether project wastes can be managed in compliance with all applicable laws, ordinances, regulations and standards. Finally, we consider whether the disposal or diversion of project wastes would result in significant adverse impacts to existing waste disposal or diversion facilities.

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). 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.)

Non-hazardous 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 Class III disposal facilities. (Cal. Code Regs., tit. 14, § 17300 et seq.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Existing Site Conditions

The northern half of East Otay Mesa, where the PPEC site is located, falls within the Otay River watershed, which is approximately one-third the area of the larger 415-square-mile San Diego Bay watershed.

The site was previously used as the laydown area for the Otay Mesa Generating Project. During the spring of 2011, the industrial park developer graded the project site and adjacent laydown area, removing a significant amount of native soil from the site. This created a difference in ground elevation of about 25 feet lower than prior to the earthwork. The excavation has created a large slope (approximately 28 feet tall at about 40 percent slope) at the east property line. (Ex. 200, 4.13-9.)

The two major linear facilities associated with PPEC are an electrical transmission line (owned and maintained by the Applicant) and a natural gas pipeline (constructed, owned, and operated by SDG&E), both would extend beyond PPEC boundaries). The remaining proposed linear facilities are mainly short connections from PPEC to existing underground utilities along PPEC site boundaries that service the area (potable water pipeline, reclaimed water pipeline, stormwater pipeline, and sewer pipeline). (*Id.*)

A Phase I Environmental Site Assessment (ESA) was conducted by the URS Corporation for the proposed PPEC site. The December 7, 2010, ESA report states that the assessment did not identify any recognized environmental conditions (RECs) associated with the proposed project site and linear facility corridors. The assessment was completed in accordance with the American Society for Testing and Materials Standard Practice E 1527-05 for ESAs. (Ex. 1, Appendix. Q.) Although the ESA established that there were no RECs, it is still possible that potentially contaminated soil could be encountered during excavation activities at the project site or the linear facilities. Because such an encounter could present a threat to the environment and/or human health due to exposure to unforeseen contaminants, we have adopted Conditions of Certification **WASTE-1** and **WASTE-2**. These conditions of certification outline detailed procedures for identification of contamination and removal of contamination from the site to ensure that any remaining contaminants do not pose a threat to human health and the environment. (Ex. 200, p. 4.13-10.)

2. Construction Impacts and Mitigation

During the course of the approximately 16-month construction period, the PPEC will generate both nonhazardous and hazardous wastes in solid and liquid forms. (Ex. 1, p. 5.4-7.) Before construction can begin, Condition of Certification **WASTE-3**. Will require the project owner to develop and implement a Construction Waste Management Plan.

a. Non-Hazardous Wastes

Non-hazardous solid wastes generated during construction would include approximately 49 tons of scrap wood, concrete, steel/metal, paper, glass, and plastic waste. (Ex. 1, § 5.14.2.1.) All non-hazardous wastes would be recycled to the extent possible and non-recyclable wastes would be collected by a licensed hauler and disposed in a solid waste disposal facility, in accordance with Title 14,

California Code of Regulations, section 17200 et seq. In addition, since April 21, 2007, the County of San Diego has required that debris from construction and demolition projects must be diverted away from landfill disposal within the unincorporated County of San Diego. In order to comply with the ordinance, applicants must submit a Debris Management Plan and a fully refundable Performance Guarantee prior to building permit issuance. (San Diego County Ord., §§ 68.508-518.) Recovering or recycling project debris will reduce the amount of debris related to a project that is buried in a landfill. Condition of Certification **WASTE-4** ensures that the PPEC will comply with the county's Construction and Demolition Debris Recycling and Reuse Program Ordinance.

Non-hazardous liquid wastes would also be generated during construction, including sanitary wastes, dust suppression drainage, and equipment wash water. Sanitary wastes would be collected in portable, self-contained toilets and pumped periodically for disposal at an appropriate facility.

b. Hazardous Wastes

Hazardous wastes that would likely be generated during construction include solvents, waste paint, oil absorbents, used oil, oily rags, batteries, cleaning wastes, spent welding materials, and empty hazardous material containers. (Ex. 1, Table 5.14-2.) Additional wastes would include hazardous waste containers, solvents, waste paint, oil absorbents, used oil oily rags, batteries, and cleaning wastes. Approximately 1,525 gallons of hazardous wastes could be generated during construction. Condition of Certification **WASTE-5** will require the project owner to obtain a unique hazardous waste generator identification number for the site prior to starting construction. This number would be retained and also used later during the operation phase of the project. (Ex. 200, p. 4.13-12.)

3. Operation Impacts and Mitigation

The PPEC would generate non-hazardous and hazardous wastes in both solid and liquid forms under normal operating conditions. Applicant's AFC contains a summary of all operation waste streams, expected waste volumes and generation frequency, and management methods proposed. (Ex. 1, Table 5.14-3.) To ensure proper handling and management of all wastes, we require the project owner to develop and implement an Operation Waste Management Plan pursuant to proposed Condition of Certification **WASTE-6**.

a. Non-Hazardous Wastes

During plant operation the project is expected to generate less than five tons per year of non-hazardous solid wastes. Such wastes include wet surface air coolers basin sludge, routine maintenance wastes (such as used air filters, spent deionization resins, sand and filter media), and also domestic and office wastes (such as office paper, newsprint, aluminum cans, plastic, and glass). All non-hazardous wastes would be recycled, to the extent possible. Non-hazardous liquid wastes will also be generated. These liquid wastes are discussed in the section of this Decision entitled **Soil and Water Resources**.

b. Hazardous Wastes

Less than two tons per year of hazardous wastes are likely to be generated during the 20-year anticipated operation of the PPEC facility. The hazardous wastes would be temporarily stored on site, transported off site by licensed hazardous waste haulers, and recycled or disposed of at authorized disposal facilities in accordance with established standards applicable to generators of hazardous waste. The generation of hazardous liquid wastes expected during routine project operation includes used hydraulic fluids, oils, greases, oily filters and rags, spent selective catalytic reduction catalysts, cleaning solutions and solvents, and batteries. In addition, spills and unauthorized releases of hazardous liquid materials or hazardous wastes may generate contaminated soils or materials that may require corrective action and management as hazardous waste. To ensure proper cleanup and management of any contaminated soils or waste materials generated from hazardous materials spills, Condition of Certification **WASTE-7**, requires the project owner/operator to report, clean up, and remediate as necessary, any hazardous materials spills or releases in accordance with all applicable federal, state, and local requirements. (Ex. 200, p. 4.13-12.) Condition of Certification **WASTE-8** requires the project owner to notify the CPM whenever the owner becomes aware of any clean up action.

4. Impact on Existing Waste Disposal Facilities

a. Non-Hazardous Wastes

During construction of the proposed project, approximately 326 cubic yards of solid waste, and 97 cubic yards per year of operation waste would be generated and recycled or disposed of in a Class II or III landfill. (Ex. 1, Table 5.14-1, Table

5.14-3.) The evidentiary record contains a list of six waste recycling/disposal facilities, including four Class III disposal facilities within San Diego County that could take the non-hazardous construction and operation wastes generated by the PPEC project facility. The total amount of non-hazardous waste generated from project construction and operation would contribute less than one percent of the available landfill capacity. (Ex. 200. p. 4.13-13.) Therefore, we find that the disposal of the non-hazardous solid wastes generated by PPEC facility can occur without significantly impacting the capacity or remaining life of any of these facilities.

b. Hazardous Wastes

Hazardous wastes generated during construction and operation would be recycled to the extent possible and practical. Wastes that cannot be recycled would be transported off site to a permitted treatment, storage, or disposal facility. Approximately 220 cubic yards of construction hazardous waste, and less than 10 cubic yards per year of operation hazardous waste would be generated from the PPEC facility. This waste would likely be delivered to two Class I landfills in California: the Buttonwillow Landfill in Kern County, and the Kettleman Hills Landfill in King's County. These landfills have a combined available hazardous waste disposal capacity in excess of 10 million cubic yards and up to 33 years of remaining operating lifetimes. The total amount of hazardous wastes generated by the PPEC project would consume less than 0.02 percent of the remaining permitted disposal capacity. (Ex. 1, p. 5.14-3.) Thus, we find that impacts from disposal of PPEC generated hazardous wastes would have a less than significant impact on the remaining capacity at Class I landfills.

5. Cumulative Impacts and Mitigation

The CEQA Guidelines (§ 15355) define cumulative effects as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

The evidence establishes that the PPEC project would not make a significant contribution to regional impacts related to new development and growth. The waste management impacts of the project, in combination with past, present, and reasonably foreseeable projects in the area would not be cumulatively considerable. Project-related non-hazardous wastes would be approximately 326 cubic yards during construction, and 97 cubic yards per year during operation (Ex.1). Two hundred and 20 cubic yards of hazardous waste would be generated

during construction, and less than 10 cubic yards per year would be generated during operation. Waste recycling would be employed wherever practical, and sufficient capacity is available at several treatment and disposal facilities to handle the volumes of wastes that would be generated by the project. No projects have been identified in the project vicinity that would create significant cumulative waste management impacts when considered together with PPEC. (Ex. 200, p. 4.13-15.) We therefore find that the waste generated by the PPEC would not result in significant cumulative waste management impacts.

6 Environmental Justice

The evidentiary record contains census information showing that there are minority populations within one mile and six mile diameters of the project. However, because we have adopted conditions of certification that will reduce project-related risks associated with hazardous waste to a less than significant level, we conclude that there will be no significant impact from construction or operation of PPEC on minority populations. Therefore, there are no environmental justice issues related to the project's waste management.

FINDINGS OF FACT

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

1. Applicant's Phase I Environmental Site Assessments (ESA) for the site and gas pipeline corridor did not identify any recognized environmental conditions (RECs) requiring removal and remediation of soils contaminated with hazardous materials.

2. The project owner will implement appropriate characterization, disposal, and remediation measures to ensure that the potential risk of exposure to unknown contaminated soils at the site or along the gas pipeline corridor is reduced to insignificant levels.

3. The project will generate non-hazardous and hazardous wastes during excavation, construction, and operation.

4. The project will obtain a hazardous waste generator identification number from the United States Environmental Protection Agency.

5. The project will recycle non-hazardous and hazardous wastes to the extent feasible and in compliance with applicable law.

6. Hazardous wastes that cannot be recycled will be transported by registered hazardous waste transporters to appropriate Class I landfills.

7. Solid non-hazardous wastes that cannot be recycled will be deposited at Class II and III landfills in the project vicinity.

8. 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.

9. Disposal of project wastes will not result in any significant direct, indirect, or cumulative impacts on existing waste disposal facilities.

10. The adopted conditions of certification listed below will ensure that there will be no significant impacts from construction or operation of PPEC on minority populations. Therefore, there are no environmental justice issues related to the project's waste management.

CONCLUSIONS OF LAW

1. Implementation of the conditions of certification below, and the waste management practices described in the evidentiary record will reduce potential adverse 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.

3. The disposal or diversion of project wastes would not result in significant adverse impacts to existing waste disposal or diversion facilities.

CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall develop a Soil Management Plan to identify potentially contaminated soil that could be encountered during excavation activities at the project site or the linear facilities. The plan will provide procedures to identify contaminated soil and then to segregate, sample, and analyze soil, if necessary. Employee training will focus on the recognition of subsurface soil contamination, proper handling of waste related materials, and contingency procedures to follow to provide worker safety and protect the public. Handling of contaminated soil will comply with all federal, state, and local requirements.

Verification: At least 60 days prior to any earthwork, including those earthwork activities associated with the site mobilization, ground disturbance, or grading as defined in the general conditions of certification, the project owner shall submit the Soils Management Plan to the CPM for approval.

WASTE-2 The project owner shall provide, to the CPM for review and approval, the resume(s) of an experienced and qualified professional engineer or professional geologist, who shall be available for consultation if site contamination is encountered during excavation, and grading activities. The resume shall show experience in site characterization, remedial investigation, feasibility studies, and health risk assessments.

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, and to determine appropriate actions to be taken for remediation and protection of worker and public health and safety.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit the resume(s) to the CPM for review and approval.

WASTE-3 The project owner shall prepare a Construction Waste Management Plan for all wastes generated during construction of the facility and shall submit the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following:

- a description of all construction waste streams, including projections of frequency, amounts generated, and hazard classifications; and
- 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 assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans.

Verification: The project owner shall submit the Construction Waste Management Plan to the CPM for approval no less than 30 days prior to the initiation of construction activities at the site.

WASTE-4 The project owner shall provide a Debris Management Plan demonstrating how they will divert at least 90 percent of all soil, rock and gravel, and at least 70 percent of all construction (C&D) debris, excluding inert material, to the San Diego County Department of Public Works per Section 68.508 through 68.518 of San Diego County Code of Regulatory Ordinances. The project

owner shall ensure compliance with all of the county of San Diego diversion program requirements and shall provide proof of compliance documentation to the county of San Diego and the CPM, including a Debris Management Plan, receipts, and records of measurement, consistent with the county of San Diego normal reporting requirements.

Verification: Prior to the start of any construction activities, the project owner shall submit to the San Diego County Department of Public Works (SDCDPW) documentation consistent with the requirements of the County's C&D Recycling Program and provide a Debris Management Plan, along with the normally required deposit and administrative fees. At least 60 days prior to the start of any construction activities, the project owner shall submit the proposed C&D Debris Management Plan to the county and CPM for review. The project owner must recycle 90 percent of inert material and 70 percent of other materials. No later than 180 days after completion of project construction, the project owner shall submit a Final Debris Management Plan along with all necessary receipts and records of measurement from entities receiving project wastes to the county and CPM for review and approval.

WASTE-5 The project owner shall obtain a hazardous waste generator identification number from the United States Environmental Protection Agency prior to generating any hazardous waste during construction and operations.

Verification: Prior to the generation of construction and operation hazardous waste, the project owner shall provide documentation of the hazardous waste generation identification number to the CPM in the next scheduled Monthly Compliance Report. Submittal of the notification and issued number documentation to the CPM is only needed once unless there is a change in ownership, operation, waste generation, or waste characteristics that requires a new notification to U.S. EPA. Documentation of any new or revised hazardous waste generation notifications or changes in identification number shall be provided to the CPM in the next scheduled compliance report.

WASTE-6 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 detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications;
- 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 assure correct classification, methods of transportation,

disposal requirements and sites, and recycling and waste minimization/source reduction plans;

- 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;
- 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
- A detailed description of how facility wastes will be managed and disposed of upon closure of the facility.
- 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.

Verification: The project owner shall submit the Operation Waste Management Plan to the CPM for approval no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions to the CPM within 20 days of notification from the CPM that revisions are necessary.

WASTE-7 The project owner shall ensure that all spills or releases of hazardous substances, hazardous materials, or hazardous waste are documented and cleaned up and that wastes generated from the release/spill are properly managed and disposed of, in accordance with all applicable federal, state, and local requirements. The project owner shall document management of all unauthorized releases and spills of hazardous substances, hazardous materials, or hazardous wastes that are in excess of U.S. EPA's reportable quantities (RQ), that occur on the project property or related linear facilities during construction and on the property during operation. The documentation shall include, at a minimum, the following information: location of release; date and time of release; reason for release; volume released; how release was managed and material cleaned up; amount of contaminated soil and/or cleanup wastes generated; 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.

Verification: A copy of the unauthorized release/spill documentation shall be provided to the CPM within 30 days of the date the release was discovered.

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.

VII. ENVIRONMENTAL ASSESSMENT

A. BIOLOGICAL RESOURCES

In its power plant licensing process, the Energy Commission considers potential impacts on biological resources, including state and federally listed species, species of special concern, wetlands, and other resources of critical biological interest such as unique habitats. The evidence describes the biological resources in the vicinity of the project site and along the related linear facilities. The analyses in the evidentiary exhibits assess the potential for adverse effects from the project and determine whether mitigation steps are necessary to reduce any potentially significant impacts and to ensure compliance with applicable laws, ordinances, rules, and standards (LORS) set forth in **Biological Resources Table 1**.

Biological Resources Table 1
Laws, Ordinances, Regulations, and Standards

Applicable Law	***Description***
Federal	
Clean Water Act of 1977 (Title 33, United States Code, sections 1251–1376, and Code of Federal Regulations, part 30, section 330.5(a)(26))	Requires the permitting and monitoring of all discharges to surface water bodies. Section 404 requires a permit from the USACE for a discharge of 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 that 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.
Federal Endangered Species Act (Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq.)	Designates and provides for the protection of threatened and endangered plant and animal species and their critical habitat. The administering agencies are the USFWS and National Marine Fisheries Service.
Eagle Act (Title 50, Code of Federal Regulations, sections 22.26)	Authorizes limited take of bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) where the taking is associated with, but not the purpose of the activity, and cannot practicably be avoided. The administering agency is the USFWS.

Applicable Law	*Description*
Federal	
Eagle Act (Title 50, Code of Federal Regulations, section 22.27)	Provides for the intentional take of eagle nests where necessary to alleviate a safety hazard to people or eagles; necessary to ensure public health and safety; the nest prevents the use of a human –engineered structure, or; the activity, or mitigation for the activity, will provide a net benefit to eagles. Only inactive nests would be allowed to be taken except in the case of safety emergencies. The administering agency is the USFWS.
Bald and Golden Eagle Protection Act (Title 16, United States Code section 668)	Provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the take, possession, and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. The administering agency is the USFWS.
Migratory Bird Treaty (Title 16, United States Code, sections 703 through 711)	Prohibits the take or possession of any migratory nongame bird (or any part of such migratory nongame bird), including nests with viable eggs. The administering agency is the USFWS.
Migratory Bird Treaty Reform Act (70 F.R. 12710-12716 (March 15, 2005))	Includes a significant change to the Migratory Bird Treaty Act (MBTA). The law now excludes those species considered to be not native to the United States. The Secretary of the Interior published in the Federal Register the final list of bird species to which the MBTA does not apply. The administering agency is the USFWS.
Fish and Wildlife Coordination Act (Title 16, United States Code, section 661 et seq.)	Requires federal agencies to coordinate federal actions with the USFWS to conserve fish and wildlife resources.
State	
California Endangered Species Act of 1984 (Fish and Game Code, sections 2050 through 2098)	Protects California's rare, threatened, and endangered species. The administering agency is CDFG.
California Code of Regulations (Title 14, sections 670.2 and 670.5)	Lists the plants and animals that are classified as rare, threatened, or endangered in California. The administering agency is CDFG.
California Code of Regulations (Title 20, sections 1702(q) and (v))	Protects "areas of critical concern" and "species of special concern" identified by local, state, or federal resource agencies within the project area, including the California Native Plant Society (CNPS). The administering state agency is CDFG.
Natural Communities Conservation Planning Act (NCCPA) of 2002 (Fish and Game Code, sections 2800 through 2835)	Established the NCCPA program, which is a cooperative effort between public and private partners that uses a broad-based ecosystem approach to protecting multiple habitats and species. The administering agency is CDFG.
Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515)	Designates certain species as fully protected and prohibits take of such species. The administering agency is CDFG.

Applicable Law	*Description*
State	
Native Plant Protection Act (Fish and Game Code, section 1900 et seq.)	Designates rare, threatened, and endangered plants in California and prohibits the taking of listed plants. The administering agency is CDFG.
Nest or Eggs (Fish and Game Code, section 3503)	Prohibits take, possession, or needless destruction of the nest or eggs of any bird. The administering agency is CDFG.
Birds of Prey (Fish and Game Code, section 3503.5)	Specifically protects California's birds of prey in the orders Falconiformes and Strigiformes by making it unlawful to take, possess, or destroy any such birds of prey or to take, possess, or destroy the nest or eggs of any such bird. The administering agency is CDFG.
Migratory Birds (Fish and Game Code, section 3513)	Prohibits take or possession of any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird. The administering agency is CDFG.
Significant Natural Areas (Fish and Game Code section 1930 et seq.)	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat. The administering agency is CDFG.
Nongame mammals (Fish and Game Code section 4150)	Makes it unlawful to take or possess any non-game mammal or parts thereof except as provided in the Fish and Game Code or in accordance with regulations adopted by the commission.
Public Resources Code, sections 25500 and 25527	Prohibits siting of facilities in certain areas of critical concern for biological resource, such as ecological preserves, refuges, etc. The administering agency is the Energy Commission in coordination with CDFG.
Streambed Alteration Agreement (Fish and Game Code sections 1600 and following)	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 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. The administering agency is CDFG.
Oak Woodlands Conservation Act (Fish and Game Code section (1360-1372)	Establishes a fund for the conservation of oak woodlands, supports community growth and outreach, purchase and conservation of oak woodlands, and directs future planning and conservation of oak woodlands. The administering agency is California Wildlife Conservation Board.
Local	
San Diego County Ordinance section 86.501-86.509; 8845, 9246, 9632, and 10039	Provides guidelines for mitigation implementation for projects within the San Diego County Subregional Plan.

Applicable Law	*Description*
Local	
San Diego Multiple Species Conservation Program (MSCP)	Addresses the needs of multiple species and the preservation of natural vegetation communities in San Diego County. The MSCP Subregional Plan was adopted by the city of San Diego and San Diego County in 1997. The Subarea Plan is a policy document through which the MSCP Subregional Plan is implemented within the county's jurisdiction; it provides a blueprint for habitat preservation and forms the basis for federal and state incidental take permits for 86 plant and animal species within the county.
Otay Subregional Plan – Conservation Element	Intended to promote orderly development, protect environmental and manmade resources, and implement the County of San Diego's objectives for growth management and the structure of government for the Otay Subregion. The Subregional Plan supplements all existing elements of the San Diego County General Plan. The Conservation Element outlines goals to protect environmental resources and objectives to protect Resource Conservation Areas and develop adequate preservation methods.

(Ex. 200, pp. 4.2-2 – 4.2-4.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Setting

The proposed PPEC is located at the southeast quadrant of the intersection of Alta Road and Calzada De La Fuente, in an unincorporated area of San Diego County. As proposed, the PPEC site is near the western base of the San Ysidro Mountains at an elevation approximately 635 feet above mean sea level. Terrain is generally flat to the west and south of the project site. The proposed PPEC site is located approximately 1.5 miles north of the border between the U.S. and Mexico.

Significant ecological areas within five miles of the proposed PPEC include the following:

Otay Lakes County Park. This 78-acre park includes recreational facilities as well as bird watching opportunities and a native plant/demonstration garden. Otay Lakes County Park is located approximately two miles north of the proposed project site.

Otay County Open Space Preserve. This preserve is a hard-line preserve and includes over 11,000 acres to be set-aside as mitigation for impacts to sensitive resources resulting from Otay Ranch development that will occur both within the

County of San Diego and the city of Chula Vista. The Preserve has been designed and will be managed specifically for protection and enhancement of multiple species present on Otay Ranch. The Otay County Open Space Preserve is located approximately three miles northeast of the proposed project site.

Upper and Lower Otay Lakes. Includes two water supply reservoirs that also provide important habitat and recreational opportunities. Lower Otay Lake is the closest of the two lakes to the project and located approximately 2.5 miles north of the proposed project site.

Otay Mountain Wilderness. This 16,885 acre wilderness area is managed by the U.S. Bureau of Land Management. It is located near the U.S.-Mexico border in eastern San Diego County and is home to 20 sensitive plant and animal species, including the federally endangered Quino checkerspot butterfly, stands of Tecate cypress, and populations of the federally endangered Mexican flannelbush. The Otay Mountain Wilderness is located approximately three miles northeast of the proposed project site. (Ex. 200, pp 4.2-4 – 4.2-5.)

The proposed project area consists of the PPEC power plant site, construction laydown area, and all associated linear facilities (i.e., electrical transmission line and gas supply pipeline). The PPEC site would occupy approximately 10 acres. The 6-acre construction laydown area is located in a graded, unpaved area immediately south of the PPEC site.

The proposed PPEC site is bounded to the north by a vacant lot zoned heavy industrial, to the east by the Otay Mesa Generating Project and San Diego Gas and Electric (SDG&E) Otay Mesa switchyard, to the south by a vacant lot zoned technology business park, and to the west by Alta Road and a vacant lot zoned heavy industrial. Several conservation easements recorded in favor of the County of San Diego are located within the proposed 230-kV Transmission Line Route B corridor. (Ex. 200, p. 4.2-5.)

The proposed PPEC is located within the County of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan. The MSCP is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species and the preservation of natural vegetation communities in the County of San Diego. The MSCP addresses the potential impacts of urban growth, natural habitat loss and species endangerment and creates a plan to mitigate the potential loss of covered species and their habitat due to the direct impacts of future development of both public and private lands within the MSCP area. The

total MSCP area encompasses 12 jurisdictions and consists of 582,243 acres, of which 43 percent (252,132 acres) is in unincorporated areas under the jurisdiction of the County of San Diego. (Ex. 200, pp. 4.2-5 – 4.2-6.)

Since approval of the original Otay Mesa Business Park Specific Plan, most of the Specific Plan area has been identified as Amendment Areas to the MSCP. In order for development proposals to be approved and take authorization to be given to the landowner, the amendment process must first be completed as specified in the MSCP Subarea Plan. These Amendment Areas include Major Amendment Areas, Minor Amendment Areas, and Minor Amendment Areas with Special Considerations. The evidence shows that the Minor Amendment conditions have been met and no additional mitigation is required for the PPEC parcel to be considered a Minor Amendment Area. (Ex. 200, p. 4.2-6.)

2. Existing Vegetation and Wildlife

The primary vegetation community found throughout the project study area is California annual grassland, including approximately 2.7 acres along Transmission Line Route B. This habitat consists primarily of non-native annual grasses which include slender wild oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), and red brome (*B. madritensis* ssp. *rubens*). These non-native annual grasslands are a disturbance-related community and have replaced many native grassland and coastal sage scrub habitats throughout southern California. The non-native grasslands may provide nesting and/or foraging habitat for special-status species such as burrowing owl (*Athene cunicularia hypugaea*), golden eagle (*Aquila chrysaetos*), and northern harrier (*Circus cyaneus*). (Ex. 200, p. 4.2-7.)

Although the proposed PPEC site and laydown area have been recently graded, there is habitat along the project linear features and adjacent to the PPEC site that is capable of supporting a diverse assemblage of wildlife. Observations in the project area included various common wildlife species such as western fence lizard (*Sceloperous occidentalis*), great egret (*Ardea alba*), mourning dove (*Zenaida macroura*), western meadowlark (*Sturnella neglecta*), blue gray gnatcatcher (*Polioptila caerulea*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), Cassin's kingbird (*Tyrannus vocierans*), northern mockingbird (*Mimus polyglottos*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), white-crowned sparrow (*Zonotrichia leucophrys*), and house finch (*Carpodacus mexicanus*). Raptors observed in the project area include red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*),

and barn owl (*Tyto alba*). Sign of domestic dog (*Canis familiaris*), coyote (*Canis latrans*), cottontail (*Sylvilagus* sp.), and California ground squirrel (*Otospermophilus beecheyi*) were also observed. (Ex. 200, p. 4.2-8.)

Special-status species are plant and wildlife species that have been afforded special recognition by federal, state, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and typically require unique habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed as threatened or endangered or candidates for future listing as threatened or endangered under the California Endangered Species Act or Federal Endangered Species Act;
- Protected under other state or federal regulations (e.g., Migratory Bird Treaty Act);
- Listed as Species of Special Concern or a Fully Protected Species by CDFG;
- A plant species considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Rank 1A, 1B, and 2);
- Plants listed as rare under the California Native Plant Protection Act;
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective, but is rare or uncommon in a local context such as within a county or region or is so designated in local or regional plans, policies, or ordinances; or
- Any other species receiving consideration during environmental review under CEQA.

Biological Resources Table 2 identifies the special-status species that were reported to occur or potentially occur within five miles of the project area, based on surveys of the proposed project area and vicinity, field surveys and database search results of CDFG's California Natural Diversity Database (CNDDB) (CDFG 2011), and California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants (CNPS 2011). No special-status wildlife species were observed during surveys of the project area; the only special-status plant species observed was San Diego marsh-elder (California rare plant rank 2.2), which was observed within the drainage near proposed Transmission Line Route B. A lack of suitable, natural habitat in the project area reduces the likelihood of occurrence of the majority of these species. Species present in the proposed project area or with at least a moderate potential to occur are discussed in more detail following **Biological Resources Table 2**.

Riverside fairy shrimp (*Streptocephalus wootoni*) and San Diego fairy shrimp (*Branchinecta sandiegonensis*) potentially occur in the project area along Previous Gas Line Route A. A wet season survey conducted in suitable habitat along Previous Gas Line Route A identified two *Branchinecta* females in two separate pools; these individuals were too small to identify at the species level. The Applicant submitted an AFC Refinement on June 8, 2011 which identified Modified Gas Line Route A. The original route was modified to avoid known populations of fairy shrimp within the project area and avoid all vernal pools along the unpaved portion of Alta Road (PPEC 2011o). Since the modified gas line alignment avoids all fairy shrimp habitat, a dry season survey or second wet season survey is not necessary and therefore a complete protocol survey will not be required (Porter 2011b). There is no suitable habitat for this species within the project site, laydown area, along the Transmission Line Route A or B, or adjacent to Modified Gas Line Route A and B.

Biological Resources Table 2
Special Status Species Potentially Occurring Within Pio Pico Energy Center Project Area

Species	Status[1]	Habitat	Potential to Occur in the Project Area
Plants			
San Diego thorn-mint (*Acanthominta ilicifolia*)	FT, SE, RPR 1B.1, S2, G2, NE, MSCP	Openings in chaparral, coastal scrub, valley and foothill grassland, and vernal pools in clay soils; elevation 5 to 300 feet; blooms April–June	Low
California adolphia (*Adolphia californica*)	RPR 2.1, S2, G3G4	Chaparral, coastal shrub, and valley and foothill grassland in clay soils; elevation 10 to 230 feet; blooms December–May	Low
San Diego bur-sage (*Ambrosia chenopodiifolia*)	RPR 2.1, S2.1, G3?	Coastal scrub; elevation 15 to 50 feet; blooms April–June	Low
singlewhorl burrobush (*Ambrosia monogyra*)	RPR 2.2, S2.2, G5	Chaparral and Sonoran desert scrub in sandy soils; elevation 5 to 150 feet; blooms August–November	Absent
San Diego ambrosia (*Ambrosia pumila*)	FE, RPR 1B.1, S1.1, G1, MSCP	Often in disturbed areas, sometimes alkaline areas in chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools in sandy loam or clay soils; elevation 5 to 125 feet; blooms April–October	Low
Otay manzanita (*Arctostaphylos otayensis*)	RPR 1B.2, S2.1, G2, MSCP	Chaparral and valley and foothill grassland in metavolcanic soils; elevation 85 to 520 feet; blooms January–April	Low

Species	Status[1]	Habitat	Potential to Occur in the Project Area
Plants			
Coulter's saltbush (*Atriplex coulteri*)	RPR 1B.2, S2.2, G2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland in alkaline or clay soils; elevation up to 140 feet; blooms March–October	Low
South Coast saltscale (*Atriplex pacifica*)	RPR 1B.2, S2, G3G4	Coastal bluff scrub, coastal dunes, coastal scrub, and playas; elevation up to 40 feet; blooms March–October	Low
Encinitas baccharis (*Baccharis vanessae*)	FT, SE, RPR 1B.1, S1.1, G1, MSCP	Maritime chaparral and cismontane woodland in sandstone substrate; elevation 15 to 220 feet; blooms August–November	Absent
golden-spined cereus (*Bergerocactus emoryi*)	RPR 2.2, S2.1, G2G3	Closed-cone coniferous forest, chaparral, and coastal scrub in sandy soils; elevation up to 120 feet; blooms May–June	Absent
San Diego goldenstar (*Bloomeria clevelandii*)	RPR 1B.1, S2, G2, MSCP	Chaparral, coastal scrub, valley and foothill grassland, and vernal pools in clay soils; elevation 15 to 145 feet; blooms April–May	Low
Orcutt's brodiaea (*Brodiaea orcuttii*)	RPR 1B.1, S1, G1, MSCP	Mesic areas with clay soils, sometimes serpentine soils in closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, meadows and seeps, valley and foothill grassland; elevation 5 to 515 feet; blooms May–July	Low
round-leaved filaree (*California macrophylla*)	RPR 1B.1, S2, G2	Cismontane woodland and valley and foothill grasslands in clay soils; elevation up to 365 feet; blooms March–May	Low
Dunn's mariposa-lily (*Calochortus dunnii*)	SR, RPR 1B.2, S2.1, G2, NE, MSCP	Rocky gabbroic or metavolcanic soils in closed-cone coniferous forest, chaparral, valley and foothill grassland; elevation 55 to 560 feet; blooms April–June	Absent
Lewis' evening primrose (*Camissonia lewisii*)	RPR 3, S1S3, G2G3	Coastal bluff scrub, coastal scrub, coastal dunes, cismontane woodland, valley and foothill grassland in sandy or clay soils; elevation up to 95 feet; blooms March–June	Low
Lakeside ceanothus (*Ceanothus cyaneus*)	RPR 1B.2, S2.2, G2, NE, MSCP	Closed-cone coniferous forest and chaparral; elevation 70 to 230 feet; blooms April–June	Absent

Species	Status[1]	Habitat	Potential to Occur in the Project Area
Plants			
Otay Mountain ceanothus (*Ceanothus otayensis*)	RPR 1B.2, S1.2, G1	Chaparral in metavolcanic or gabbroic rock; elevation 1,969 to 3,609 feet; blooms January−April	Absent
summer holly (*Comarostaphylis diversifolia ssp. diversifolia*)	RPR 1B.2, S2, G3T2	Chaparral and cismontane woodland; elevation 328 to 1,968 feet; blooms April–June	Absent
Otay tarplant (*Deinandra conjugens*)	FT, SE, RPR 1B.1, S1.1, G1, NE, MSCP	Coastal scrub and valley and foothill grassland in clay soils; elevation 82 to 984 feet; blooms May–June	Moderate[2]
western dichondra (*Dichondra occidentalis*)	RPR 4.2, S3.2, G4?	Chaparral, cismontane woodland, coastal scrub, valley and foothill woodland; elevation 164 to 1,640 feet; blooms January–July	Low
Orcutt's bird's-beak (*Dicranostegia orcuttiana*)	RPR 2.1, S1.1, G2?, MSCP	Coastal scrub; elevation 33 to 1,148 feet; blooms March–September	Low
variegated dudleya (*Dudleya variegata*)	RPR 1B.2, S2.2, G2, NE, MSCP	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools in clay soils; elevation 10 to 1,903 feet; blooms April–June	Low
San Diego button-celery (*Eryngium aristulatum var. parishii*)	FE, SE, RPR 1B.1, S2.1, G5T2, MSCP	Mesic areas in coastal scrub, valley and foothill grassland, and vernal pools; elevation 65 to 2,034 feet; blooms April–June	Low
cliff spurge (*Euphorbia misera*)	RPR 2.2, S1, G5	Coastal bluff scrub, coastal scrub, and Mojavean desert scrub in rocky soils; elevation 33 to 1,640 feet; blooms December–August	Absent
San Diego barrel cactus (*Ferocactus viridescens*)	RPR 2.1, S2, G4, MSCP	Chaparral, coastal scrub, valley and foothill grassland, and vernal pools; elevation 10 to 1,478 feet; blooms May–June	Low
Mexican flannelbush (*Fremontodendron mexicanum*)	FE, SR, RPR 1B.1, S2.1, G2	Closed-cone coniferous forest, chaparral, and cismontane woodland in gabbroic, metavolcanic or serpentine soils; elevation 33 to 2,350 feet; blooms March–June	Absent

Species	Status[1]	Habitat	Potential to Occur in the Project Area
Plants			
Palmer's grapplinghook (*Harpagonella palmeri*)	RPR 4.2, S3.2, G4	Chaparral, coastal scrub, and valley and foothill grassland in clay soils; 65 to 3,133 feet; blooms March–May	Low
Tecate cypress (*Hesperocyparis forbesii*)	RPR 1B.1, S1.1, G2, MSCP	Closed-cone coniferous forest and chaparral in clay, gabbroic, or metavolcanic soils; elevation 837 to 4,921 feet; no blooming period specified	Absent
Otay Mountain lotus (*Hosackia crassifolius var. otayensis*)	1B.1, S1.1, G5T1	Often in disturbed areas of chaparral in metavolcanic soils; elevation 3,002 to 3,297 feet; blooms May–August	Absent
San Diego marsh-elder (*Iva hayesiana*)	RPR 2.2, S2.2?, G3?	Marshes, swamps, and playas; 33 to 1,640 feet; blooms April–October	Present
Gander's pitcher sage (*Lepechinia ganderi*)	RPR 1B.3, S2.2, G2, NE, MSCP	Closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland in gabbroic or metavolcanic soils; elevation 1,000 to 3,297 feet; blooms June–July	Absent
Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*)	RPR 1B.2, S2.2, G5T2?	Chaparral and coastal scrub; elevation 3 to 2,904 feet; blooms January–July	Low
felt-leaved monardella (*Monardella hypoleuca ssp. lanata*)	RPR 1B.2, S2.2, G4T2	Chaparral and cismontane woodland; elevation 984 to 5,167 feet; blooms June–August	Low
Jennifer's monardella (*Monardella stoneana*)	RPR 1B.2, S1.2, G1	Usually in rocky, intermittent streambeds in closed-cone coniferous forest, chaparral, coastal scrub, and riparian scrub; elevation 33 to 2,592 feet; blooms June–September	Low
willowy monardella (*Monardella viminea*)	FE, SE, RPR 1B.1, S2.1, G2, NE, MSCP	Alluvial ephemeral washes in chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland; elevation 164 to 738 feet; blooms June–August	Absent
Little mousetail (*Myosurus minimus ssp. apus*)	RPR 3.1, S2.2, G5T2Q	Valley and foothill grassland and alkaline vernal pools; elevation 65 to 3,000 feet; blooms March–June	Low
mud nama (*Nama stenocarpum*)	RPR 2.2, S1S2, G4G5	Marsh and swamps (lake margins and riverbanks) ; elevation 16 to 1,640 feet; blooms January–July	Absent
Moran's nosegay (*Navarretia fossalis*)	FT, RPR 1B.1, S1, G1	Chenopod scrub, playas, vernal pools, and assorted shallow freshwater areas in marshes and swamps; elevation 98 to 2,149 feet; blooms April–June	Absent
Snake cholla (*Opuntia californica var. californica*)	RPR 1B.1, S1.1, G3T2, MSCP	Chaparral and coastal scrub; elevation 98 to 492 feet; blooms April–May	Low

Species	Status[1]	Habitat	Potential to Occur in the Project Area
Plants			
California Orcutt grass (*Orcuttia californica*)	FE, SE, RPR 1B.1, S2.1, G2, MSCP	Vernal pools; elevation 49 to 2,165 feet; blooms April–August	Absent
Otay Mesa mint (*Pogogyne nudiuscula*)	FE, SE, RPR 1B.1, S1.1, G1, MSCP	Vernal pools; elevation 295 to 820 feet; blooms May–July	Absent
Cedros Island oak (*Quercus cedrosensis*)	RPR 2.2, S1.2, G2?	Closed-cone coniferous forest, chaparral, and coastal scrub; elevation 837 to 1,099 feet; blooms April–May	Absent
Nuttall's scrub oak (*Quercus dumosa*)	RPR 1B.1, S1.1, G1G2	Closed-cone coniferous forest, chaparral, and coastal scrub in sandy, clay loam soils; elevation 49 to 1,312 feet; blooms February–August	Absent
Munz's sage (*Salvia munzii*)	RPR 2.2, S2.2, G3	Chaparral and coastal scrub; elevation 120 to 1,065 feet; blooms February–April	Absent
ashy spike-moss (*Selaginella cinerascens*)	RPR 4.1, S3S4, G3G4	Chaparral and coastal scrub; elevation 65 to 2,100 feet	Low
purple stemodia (*Stemodia durantifolia*)	RPR 2.1, S2.1?, G5	Often in mesic sandy soils in Sonoran desert scrub; elevation 0 to 984 feet; blooms January–December	Absent
Laguna Mountains jewel-flower (*Streptanthus bernardinus*)	RPR 4.3, S3.3, G3	Chaparral and lower montane coniferous forest; elevation 2,198 to 8,202 feet; blooms May–August	Absent
Parry's tetracoccus (*Tetracoccus dioicus*)	RPR 1B.2, S2.2, G3, MSCP	Chaparral and coastal scrub; elevation 541 to 3,291 feet; blooms April–May	Low
Invertebrates			
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	FE, S1, G2, MSCP	Tectonic swales/earth slump basins in grassland and coastal sage scrub habitats in seasonally astatic pools filled by winter/spring rains	Absent
Thorne's hairstreak (*Callophyrs thornei*)	S1, G1, MSCP	Dependent on tecate cypress as the host plant in chaparral or closed-cone coniferous forest	Absent
Quino checkerspot butterfly (*Euphydryas editha quino*)	FE, S1, G5T1	Larvae feeds on dwarf plantain or exserted Indian paintbrush in open coastal sage scrub, chaparral, and grassland habitats	Absent[2]

Species	Status[1]	Habitat	Potential to Occur in the Project Area
Invertebrates			
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE, S1, G1, MSCP	Tectonic swales/earth slump basins in grassland and coastal sage scrub habitats in seasonally astatic pools filled by winter/spring rains	Absent
Amphibians			
western spadefoot (*Spea hammondii*)	SSC, S3, G3	Vernal pools and wetlands in cismontane woodland, coastal scrub, valley and foothill grasslands	Low
Reptiles			
orange-throated whiptail (*Aspidoscelis tigris stejnegeri*)	SSC, S2, G5	Washes, streams, terraces, and other sandy areas, often where there are rocks and patches of brush and rocky hillsides in coastal chaparral, thornscrub, and streamside growth	Low
coastal whiptail (*Aspidoscelis tigris stejnegeri)*	S2S3, G5T3T4	Grasslands, coastal sage scrub, chaparral, and woodlands	Low
coast horned lizard (*Phrynosoma blainvilli*)	SSC, S3S4, G4G5	Open areas with loose fine soils in chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, desert wash, pinyon and juniper woodlands, riparian scrub, riparian woodland, valley and foothill grassland	Low
coast patch-nosed snake (*Salvadora hexalepis virgultea*)	SSC, S2S3, G5T3	Semi-arid brushy areas of canyons, rocky hillsides, and plains in chaparral	Absent
two-striped garter snake (*Thamnophis hammondii*)	SSC, S2, G3	Near water sources, often in rocky areas of oak woodland, chaparral, brushland, and coniferous forest	Absent
Birds			
southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	WL, S2S3, G5T2T4, MSCP	Open shrubby habitat on rocky, xeric slopes in coastal sage scrub, coastal bluff scrub, and chaparral	Low
western burrowing owl (*Athene cunicularia*)	SSC, S2, G4, MSCP	Rodent burrows in sparse grassland, desert, and agricultural habitats	Moderate
golden eagle *(Aquila chrysaetos)*	BGEPA, FP, S3, G5, MSCP	Forage in grassy and open shrub habitats; nest primarily on cliffs, secondarily in large trees	Moderate
coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)	SSC, S3, G5T2Q, MSCP	Nests almost exclusively in prickly pear and coastal cholla in coastal sage scrub	Absent

Species	Status[1]	Habitat	Potential to Occur in the Project Area
Birds			
Northern harrier *Circus cyaneus*	SSC, S3, G5, MSCP	Meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands	Moderate
White-tailed kite *Elanus leucurus*	FP	Open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations	Low
California horned lark (*Eremophila alpestris actia*)	WL, S3, G53TQ	Sparsely vegetated open terrain in a variety of habitats	Low
yellow-breasted chat (*Icteria virens*)	SSC, S3, G5	Dense thickets, brush, and secondary growth	Absent
coastal California gnatcatcher (*Polioptila californica californica*)	FT, G3T2, S2, SSC, MSCP	Coastal sage scrub/chaparral	Moderate[2]
least Bell's vireo (*Vireo bellii pusillus*)	FE, SE, S2, G5T2, MSCP	Nests in mesquite, willows, and mule fat in low riparian areas close to water or dry riverbeds	Low
Mammals			
northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)	SSC, S2S3, G5T3	Sparse, low desert shrub lands to dense, high coastal sage scrub vegetation	Low
western mastiff bat (*Eumops perotis californicus*)	SSC, S3?, G5T4, WBWG-H	Roosts are often found under large exfoliating slabs of granite, sandstone slabs or in columnar basalt, on cliff faces or in crevices of large boulders and buildings generally high above ground	Absent
western red bat (*Lasiurus xanthinus*)	SSC, S3?, G5, WBWG-H	Roosts alone generally in foliage of trees and shrubs in riparian areas	Low
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	SSC, S3?, G5T3?	Coastal sage scrub and grassland	Low
western small-footed myotis (*Myotis ciliolabrum*)	S2S3, G5, WBWG-M	Roosts alone or in small groups in cliff and rock crevices, buildings, concrete overpasses, caves, and mines in variety of habitats	Absent
Yuma myotis (*Myotis yumanensis*)	S4?, G5, WBWG-L	Roosts in bridges, buildings, cliff crevices, caves, mines, and trees in a wide variety of habitats	Absent
San Diego desert woodrat (*Neotoma lepida intermedia*)	SSC, S3?, G5T3?	Coastal scrub with an abundance of rock outcrops, rocky cliffs, and slopes and moderate to dense vegetation canopies	Absent

Species	Status[1]	Habitat	Potential to Occur in the Project Area
Mammals			
pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC, S2S3, G4, WBWG-M	Roosts in colonies in crevices of rugged cliffs, high rocky outcrops, slopes, and buildings near large open water sources in a variety of habitats	Absent
American badger (*Taxidea taxus*)	SSC, S4, G5, MSCP	variety of open, arid habitats, but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub with friable soils	Low

[1] **Status Legend**

Federal FC= Candidate species for listing
FE = Federally listed endangered: species in danger of extinction throughout a significant portion of its range
FT = Federally listed, threatened: species likely to become endangered within the foreseeable future

State SSC = California Species of Special Concern - Species of concern to CDFG because of declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction
FP = State fully protected
SE = State listed as endangered
ST = State listed as threatened
WL = State watch list

Local MSCP = County of San Diego Multiple Species Conservation Plan covered species

Western Bat Working Group
WBWG-H = High Priority: are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats
WBWG-MH = Medium-High Priority: lack of adequate data to assess species' status and indicates the need for closer evaluation, research and conservation actions
WBWG-M = Medium Priority: medium risk of imperilment based on available information on distribution, status, ecology and known threats

California Native Plant Society Rare Plant Rank (RPR)
List 1B = Rare, threatened, or endangered in California and elsewhere
List 2 = Rare, threatened, or endangered in California but more common elsewhere
List 3 = Plants which need more information
List 4 = Limited distribution – a watch list
List 1A = Presumed extinct because they have not been seen or collected in the wild in California for many years. This list also includes plants which are presumed extirpated

Threat Rank
0.1 = Seriously threatened in California (high degree/immediacy of threat)
0.2 = Fairly threatened in California (moderate degree/immediacy of threat)
0.3 = Not very threatened in California (low degree/immediacy of threats or no current threats known)

Global Rank/State Rank
Global rank (G-rank) and State rank (S-rank) is a reflection of the overall condition of an element throughout its global (or State) range. Subspecies are denoted by a T-rank; multiple rankings indicate a range of values. State rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. An H-rank indicates that all sites are historical.
G1 or S1 = Critically imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 or S2 = Imperiled – At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
G3 or S3 = Vulnerable – At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.

G4 or S4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 or S5 = Secure – Common; widespread and abundant.
G#G# and S#S# = Range Rank is used to indicate the range of uncertainty about the exact status of a taxon or ecosystem type.
Q = Questionable taxonomy that may reduce conservation priority.
H = Possibly extinct
? = Inexact numeric rank
T# = Infraspecific taxon refer to subspecies, varieties and other designations below the level of species.

[2] These species are analyzed in the indirect impacts section of this FSA despite not occurring in the area of direct impact.

[‡]**Definitions Regarding Potential Occurrence:**

Present:	Species or sign of its presence observed on the site
High:	Species or sign not observed on the site, but reasonably certain to occur on the site
Moderate:	Species or sign not observed on the site, but conditions suitable for occurrence
Low:	Species or sign not observed on the site, conditions marginal for occurrence
Absent:	Species or sign not observed on the site, conditions unsuitable for occurrence

(Ex. 200, pp. 4.2-9 – 4.2-16.)

San Diego marsh-elder is found from Los Angeles to San Diego counties within the United States, and northern Baja California within Mexico. San Diego marsh-elder is a woody perennial that is found in alkaline soils within playas as well as marshes and swamps below 1,000 feet in elevation and blooms from April to October. Decline of this species and its loss of habitat are attributed to waterway channelization, coastal development, vehicles, and non-native plants.

There are 10 CNDDB occurrences of San Diego marsh-elder within five miles of the project area; the closest record is located approximately 0.5 mile northeast of the project site. There is no suitable habitat for this species within the power plant site or laydown area; however, there is habitat along the proposed Transmission Line Route B. A small population was detected during surveys within the drainage located near the proposed Transmission Line Route B. (Ex. 200, p. 4.2-17.)

Otay tarplant is found in southwest San Diego County within the United States, and northern Baja California within Mexico. Otay tarplant is an annual plant which grows on clay soils within coastal scrub and valley and foothill grassland at elevations from 80 up to 1,000 feet and blooms from May to June. Decline of this species is attributed to ongoing loss and degradation of suitable habitat and fragmentation of remaining populations. Loss of suitable habitat has occurred though its range as a result of urban development and agricultural activities, invasion and competition from invasive non-native species, and habitat fragmentation and degradation. (*Id.*)

There are 10 CNDDB occurrences of Otay tarplant within five miles of the project area; the closest record is located approximately 0.25 mile southeast of the project site. There is no suitable habitat for this species within the power plant site or laydown area; however, there is marginally suitable habitat along the proposed Transmission Line Route B. Critical Habitat Unit 3C occurs east of the project site along a portion of Transmission Route B, although the species was not observed here.

Quino checkerspot butterfly is a subspecies of the Edith's checkerspot butterfly currently known only from western Riverside County, southern San Diego County and northern Baja California, Mexico. The life cycle includes one, or rarely two, generations, of adults per year. The adult's flight period lasts for a four to six week period beginning from late January to early March and continuing to early May depending on weather conditions. Females begin egg laying upon emergence as adults from pupae and lay one to two egg clusters per day for most of their adult life. Adults live from 10 to 14 days. Larvae hatch within 10 to 14 days after egg deposition by adults. The eggs are laid on a primary host plant upon which the larvae feed or may move to another host plant of the same species to feed or another host plant species (secondary host plant) when primary host plants become inedible. The larvae may re-enter diapause (physiological state of dormancy) if conditions are poor and reemerge in November or December after sufficient rainfall. The most commonly used primary host plant is the native plantain (*Plantago erecta*); however, white snapdragaon (*Antirrhinum coulterianum*) is also an important primary host plant. Wooly plantain (*Plantago patagonicais*) and thread-leaved bird's-beak (*Cordylanthus rigidus*) have also been documented as primary host plants. Secondary host plants include purple owl's-clover (*Castilleja exserta*). (Ex. 200, pp. 4.2-17 – 4.2-18.)

The range of this species has been reduced by over 95 percent. The reasons for decline and current threats to this species include urban and agricultural development, invasion by non-native plant species, off-road vehicle use, grazing, and fire management practices. Other ongoing factors that contribute to the decline of the species include enhanced nitrogen deposition, elevated atmospheric carbon dioxide concentrations, and climate change. (Ex. 200, p. 4.2-18)

There are 12 CNDDB occurrences of Quino checkerspot butterfly within five miles of the project area; the closest record is located 0.5 mile southeast of the project site. USFWS Critical Habitat Unit 8 occurs immediately adjacent to

proposed Transmission Line Route B. There is no suitable habitat for this species within the project site based on a habitat assessment conducted by the Applicant on March 11, 2011 and no Quino checkerspot host plants were detected within the project area, but a single host plant, native plantain (*Plantago erecta*), was identified approximately 1,600 feet northeast of the project footprint. All areas within the project study area were determined by the Applicant to be excluded areas during the site assessment and no butterfly surveys were conducted. However, as Quino checkerspot butterfly have been detected in the non-native grassland immediately east of the project study area, it is not accurate to state that all areas within the study area are classified as excluded areas, including areas classified as non-native grasslands. Since the Applicant will be required to avoid all potential Quino checkerspot butterfly habitat by installing linear facilities within existing road rights-of-way, no Quino checkerspot butterfly surveys are necessary as direct impacts to habitat will be avoided. (*Id*.)

The golden eagle forages in grasslands or open agricultural lands, which occur adjacent to the project site and portions of the transmission line routes. Suitable nesting habitat for golden eagle includes cliffs of all heights and large trees in open areas. There is one CNDDB occurrence for golden eagle within 10 miles of the project site. A single nesting record from 1991 is located approximately eight miles east of the project area in the San Ysidro Mountains. This species was detected foraging in grasslands west and southeast of the PPEC site during surveys conducted for the OMGP in 1999. However, this species was not detected during biological surveys of the PPEC project area. The project site does not contain foraging or nesting habitat for this species; however, foraging habitat is located adjacent to the PPEC site and linears. (*Id*.)

Northern harriers forage in grasslands or open agricultural lands and nest on the ground in shrubby vegetation, usually near a marsh edge. There is one CNDDB occurrence for northern harrier located approximately 10 miles east of the project site. This species was detected during surveys conducted for the OMGP in 1999. However, this species was not detected during biological surveys of the PPEC project area. The project site does not contain foraging or nesting habitat for this species, however foraging and nesting habitat is located adjacent to the PPEC site and linears. (Ex. 200, p. 4.2-19.)

The burrowing owl is a yearlong resident of open, dry grassland, prairie, or desert floor habitats. Burrowing owls may be diurnal (active during day), crepuscular (active during dawn and dusk), or nocturnal (active at night), although hunting typically occurs at night. The burrowing owl is known to occur in urban, disturbed

areas, and at the edges of agricultural fields, and typically hunts from a perch or hops after prey on the ground. It typically nests in the vacant burrow of a ground squirrel or other small mammal although it is also known to occupy manmade structures including culverts, pipes, nest boxes, and piles of debris. The nesting season, as recognized by the California Burrowing Owl Consortium, is from February 1 through August 31. (*Id.*)

There are 12 CNDDB occurrences of western burrowing owl within five miles of the project area; the closest record is located less than 0.5 mile south of the PPEC site. Surveys of the project site and laydown area plus a 150-meter buffer were completed in March 2011 by the landowner as a condition of the grading permit issued to the landowner prior to grading. Surveys were conducted according to the protocol issued by the California Burrowing Owl Consortium and no observations or sign of burrowing owl presence was observed. There are several known western burrowing owl CNDDB occurrences along Gas Line Routes A and B, including an occurrence located along Modified Gas Line Route A. However, these occurrences no longer exist likely due to frequent grading. There is no suitable habitat for this species within the project site; however, suitable habitat is located along the Transmission Line Route B and adjacent to the Gas Line Routes A and B. Although this species was not observed during surveys for the proposed project, the ruderal grasslands adjacent to the proposed project site and linears support prey for this species including insects, small mammals, lizards, and other birds. In addition, ground squirrels were detected during surveys and any burrows located along the transmission line or gas line routes could provide suitable nesting opportunities for burrowing owl. (Ex. 200, p. 4.2-19.)

The coastal California gnatcatcher is a year-long resident of scrub dominated plant communities and is strongly associated with various successional stages of sage scrub habitat. It is found from southern Ventura County southward through Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties, California and into Baja California, Mexico. Coastal California gnatcatchers also associated with chaparral, grassland, and riparian plant communities when adjacent to or intermixed with sage scrub habitat. The nesting season for this species extends from about February 15 through August 30, with peak activity occurring from mid-March through mid-May. The primary threat to the species includes urban and agricultural development, wildland fire, and habitat type conversion caused by the presence of non-native plants, atmospheric pollution,

and anthropogenic disturbance. Other threats include climate change, which could increase the likelihood of droughts and wildland fire. (Ex. 200, pp. 4.2-19 – 4.2-20.)

There are 13 CNDDB occurrences for California gnatcatcher within five miles of the project area; the closest record is located approximately 0.35 mile northeast of the project site (CNDDB 2011). No observations of California gnatcatcher were recorded during biological resource surveys of the proposed project site (PPEC 2011h). There is no suitable habitat for this species within the project site; however marginal habitat is located along Transmission Line Route B including the drainage area recorded as a conservation easement. A parcel of USFWS Critical Habitat Unit 1 for this species is located less than 0.25 mile east of the proposed PPEC site. (Ex. 200, p. 4.2-20.)

Critical habitat is a formal designation under the federal Endangered Species Act. It is a specific area designated as essential to the conservation and recovery of a federally listed species. These areas may require special management consideration or protection. Critical habitat for seven federally listed species occurs within five miles of the project area. This includes critical habitat for spreading navarretia (*Navarretia fossalis*), Otay tarplant (*Deinandra conjugens*), Mexican flannelbush (*Fremontodendron mexicanum*), Quino checkerspot butterfly (*Euphydryas editha quino*), Riverside fairy shrimp (*Streptocephalus woottoni*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), and California gnatcatcher (*Polioptila californica*).

Waters of the U.S. are defined as traditional navigable waters; interstate waters; wetlands adjacent to either traditional navigable waters or interstate waters; non-navigable tributaries to traditional navigable waters that are relatively permanent, meaning they contain water at least seasonally; and wetlands that directly abut relatively permanent waters as well as waters that are determined to have a significant nexus to a traditional navigable water or interstate water. The significant nexus of a water is determined by the US Army Corps of Engineers (USACE) on a case by case basis. Waters of the State are regulated through Section 401 of the Clean Water Act and are defined more broadly than Waters of the U.S. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state, whether private or public, including waters in both natural and artificial channels.

A wetland delineation was conducted by the Applicant on December 6, 2010 and May 18, 2011. The Preliminary Jurisdictional Determination Report identified

seven features located within the project study area (project disturbance area plus 500-foot buffer) that are considered potential USACE Waters of the U.S.; of these features, all seven are also identified as Waters of the State. Most of these features are stormwater drainages in ruderal habitat dominated by non-native vegetation. However, one of the features along Transmission Line Route B is a drainage within an area protected by a conservation easement for biological resources. This drainage supports riparian and wetland vegetation including willows (*Salix lasiolepis* and *S. exigua*), southern cattatil (*Typha domingensis*), and curley dock (*Rumex crispus*). The total acreage for potentially jurisdictional Other Waters and Waters of the State is 4.15 acres. (Ex. 200, p. 4.2-21.)

There are several areas recorded as conservation easements located within the proposed Transmission Line Route B corridor. The conservation easements recorded in favor of the County of San Diego include three easements set aside for wildlife and habitat values, one easement set aside for archeological conservation, and two easements set aside as fire buffers. The biological conservation easements are for the protection of federal and state jurisdictional wetlands, federal waters of the U.S, and non-native grasslands. Non-native grasslands are a Tier III habitat that is required to be mitigated for under the MSCP Subarea Plan. Per the easement recorded in favor of the County of San Diego, the following are prohibited within the easement: grading, excavation, placement of soil, sand, rock, gravel, or other material, razing, clearing of vegetation, construction, erection or placement of any building or structure, vehicular activities, trash dumping, use of herbicides, rodenticides, weed abatement activities, otherwise altering the generally topography or the property, including building or roads, removing, destroying or cutting or trees or other vegetation except as required by law for fire breaks or use for any purpose other than open space. (*Id*.)

3. Construction Impacts

The proposed project site would result in the permanent disturbance of approximately 10 acres. This area has been recently graded and development of the proposed project would not result in any impacts to native vegetation. Construction of the proposed project would not result in substantial loss of native vegetation or a regionally unique habitat type; any temporary or permanent impacts to general vegetation would be less than significant. In addition, the landowner has previously mitigated for direct impacts to vegetation communities within the PPEC project area based on the mitigation ratios set forth in the MSCP Minor Amendment. The landowner satisfied the requirements of the MSCP Minor

Amendment, in part, by purchasing 23 acres to compensate for the loss of 46 acres of Tier III habitat required for development of the Otay Mesa Generating Project parcel and an additional 15.16 acres required for the loss of Tier III habitat resulting from subdivision of the remaining parcel. No further habitat compensation is required for the PPEC project as part of the MSCP Minor Amendment. (Ex. 200, p. 4.2-23.)

Direct loss of small mammals, reptiles, and other less mobile species could occur during construction of the proposed project. This would result primarily from the use of construction vehicles and equipment at the PPEC site. (*Id.*)

Construction activities during the nesting season could adversely affect breeding birds through direct mortality or indirectly through disruption or harassment. The Applicant proposes to conduct vegetation clearing outside the typical breeding season for nesting birds (February 1 to August 31); if this is not possible, the Applicant would conduct breeding bird surveys and submit reports prior to each phase of construction and maintain minimum buffer zones for the duration of ground-disturbing activities, should breeding birds be discovered (PPEC 2011a). Staff has incorporated this applicant-proposed measure into Condition of Certification **BIO-8** (Pre-Construction Nest Surveys and Impact Avoidance and Minimization Measures for Breeding Birds), which provides additional detail on survey timing and recommendations to avoid disturbance to active nests and ensure compliance with the Migratory Bird Treaty Act. With implementation of Condition of Certification **BIO-8**, significant impacts to nesting birds would not result from proposed project construction activities. (Ex. 200, p. 4.2-24.)

The drainage area, held in conservation easement, located near the proposed alternative Transmission Line Route B provides suitable foraging habitat for several bird species, including small passerines. Construction activities near the drainage, including placement of poles and stringing of line may result in indirect water quality impacts (i.e., project-related erosion, sedimentation, or contamination from construction materials or equipment) to the habitat and wildlife species potentially occurring therein. The Applicant proposed several impact avoidance and minimization measures, including clearly delineating environmentally sensitive areas, using a biological monitor, prohibiting construction discharges into surface waters, installing erosion control measures, and complying with best management practices. These measures are incorporated into Condition of Certification **BIO-6**. (*Id.*)

Terrestrial wildlife could become entrapped in open trenches during construction, especially if trenches remain open during inactive construction periods. Implementation of Condition of Certification **BIO-7** would require wildlife exclusion measures for open trenches (e.g., fencing or covering), inspection of trenches prior to resuming construction activities each day, and installation of escape ramps so that animals that fall in the trench could escape. Implementation of these measures would minimize adverse impacts to wildlife from entrapment. (*Id*.)

Project construction would occur entirely within previously disturbed areas or in ruderal uplands that were determined to not support special-status plants with the exception of marginally suitable habitat along Transmission Line Route B, particularly near areas held in biological conservation easement. One special-status plant, San Diego marsh elder (*Iva hayesiana*), was detected during Applicant surveys within the unnamed drainage, in the area held in conservation easement, located along Transmission Line Route B. (Ex. 200, p. 4.2-25.)

Limiting offsite disturbance, as proposed in Condition of Certification **BIO-7** would prevent impacts to special-status plant populations occurring or potentially occurring along Transmission Line Route B. In order to avoid and minimize impacts to special-status plants and to identify any species not adequately targeted in previous surveys, Staff proposes preconstruction surveys during the appropriate blooming period for all special-status plants with a low to moderate potential to occur and implementation of impact avoidance and minimization measures including using establishing avoidance buffers if special-status plant populations are detected in an area of impact; these measures are described in Condition of Certification **BIO-9** (Special-Status Plant Pre-construction Surveys and Avoidance and Minimization Measures). Because the project is located in a Minor Amendment area, take is authorized for any special-status plant species covered under the MSCP. If special-status plants covered under the MSCP are identified within the construction area and cannot be avoided, the terms and conditions of the MSCP for affected species must be implemented pursuant to Condition of Certification **BIO-9**. If special-status plant species that are not covered under the MCSP are identified during focused surveys, the Applicant would be required to construct Transmission Line Route A as described in Condition of Certification **BIO-9**. Implementation of these impact avoidance and minimization measures in Condition of Certification **BIO-9** would reduce impacts to special-status plants to less than significant levels. (*Id*.)

Northern harriers as well as golden eagles and burrowing owls foraging in the grasslands adjacent to the PPEC could be disturbed or displaced by noise and elevated human activity during construction. No foraging habitat would be lost as a result of proposed project development. Due to the existing level of disturbance in the project area the additional disturbance to foraging northern harriers, golden eagle, and burrowing owl from PPEC construction would be less than significant. (Ex. 200, p. 4.2-26.)

Condition of Certification **BIO-10** (Western Burrowing Owl Impact Avoidance and Minimization Measures) outlines impact minimization and avoidance measures to avoid construction impacts to western burrowing owl that are based on the County of San Diego Biological Mitigation Ordinance. Since the project site has been previously disturbed, pre-grading surveys, as described in Section 3.4 of the Strategy to Mitigate Impacts to Burrowing Owls in the Unincorporated County, would be required instead of the full protocol survey per the County of San Diego Biological Survey and Report Requirements; this requirement is also encompassed in Condition of Certification **BIO-10**. With implementation of Condition of Certification **BIO-10**, impacts to burrowing owl would be less than significant. (*Id*.)

Indirect impacts to California gnatcatcher from construction noise or elevated human presence include disruption or harassment, which could result in nest abandonment. Condition of Certification **BIO-11** (Transmission Line Route B Alternative Impact Avoidance Measures) prohibits any impacts to the conservation easement, including vegetation removal and ground disturbance; implementation of this condition would avoid direct impacts to California gnatcatcher. Condition of Certification **BIO-12** (California Gnatcatcher Impact Avoidance and Minimization Measures) outlines impact minimization and avoidance measures to avoid indirect construction impacts to nesting California gnatcatcher; these include pre-construction surveys, installation of exclusion fencing along the drainage, and establishment of no-disturbance buffers around excluded areas during the breeding season. With implementation of Conditions of Certification **BIO-11** and **BIO-12**, impacts to California gnatcatcher would be less than significant. (*Id*.)

It is anticipated that project construction will not cause loss or fill of any wetlands or other waters that are potentially Waters of the U.S. or Waters of the State, as construction would avoid the potentially jurisdictional drainage held in conservation easement. (Ex. 200, p. 4.2-27.)

a. Construction Noise and Vibration

Studies have shown that noise levels over 60 A-weighted decibels (dBA) can affect the behavior of certain bird species. In addition, 60 dBA has been used by the USFWS and the Energy Commission as a reference point for evaluating noise impacts on wildlife.

To minimize noise impacts to breeding birds, including special-status birds such as burrowing owl and California gnatcatcher, potentially nesting in the row of eucalyptus trees east of the project, other ornamental trees surrounding the OMGP, ruderal areas along linear routes, and at the drainage area held in conservation easement, Staff recommends Condition of Certification **BIO-8**. Condition **BIO-8** would require a qualified biologist to monitor any bird nest locations exposed to excessive construction noise until the biologist determines that nestlings have fledged. Activities that might disturb nesting activities (e.g., excessive noise above 60 dBA), would be prohibited within the buffer zone until such a determination is made. Buffer zones could range from 250 feet to 500 feet based on the particular sensitivity of a species to disturbance and the location of the nest. Buffers smaller than 250 feet may be acceptable depending on the species, but not likely for California gnatcatcher. With implementation of **BIO-8**, impacts to nesting birds from proposed project construction noise would be less than significant. (Ex. 200, p. 4.2-28.)

b. Construction Lighting

The following applicant-proposed impact avoidance and minimization measures pertain to project lighting:

- External lighting shall incorporate commercially available fixture hoods and shielding that direct light downward or toward the area to be illuminated.
- Light fixtures shall not cause obtrusive spill light beyond the project boundary.
- All lighting shall be of minimum necessary brightness consistent with operational safety and security.
- Direct lighting shall not illuminate the nighttime sky.

Implementation of these applicant-proposed measures would ensure that temporary and permanent construction lighting would not create substantial sources of new light. These measures are incorporated into Staff's proposed Conditions of Certification **BIO-7** and **VIS-3** (see the Visual Resources section of the Final Staff Assessment). With implementation of these conditions, impacts to

sensitive wildlife from increased night lighting during construction would not occur. (Ex. 200, pp. 4.2-28 – 4.2-29.)

The project would not directly affect any creeks, drainages, wetlands, or other aquatic resources. Appropriate soil erosion and sediment controls will be implemented on-site and along all linear features to prevent construction materials and/or eroded soils from entering aquatic resources. Staff is proposing Conditions of Certification **SOIL & WATER-1** and **SOIL & WATER-2**, in which the Applicant is required to develop and implement a site-specific Drainage, Erosion, and Sediment Control Plan (DESCP), and a construction SWPPP, respectively. In addition, the Applicant would install wildlife exclusion fencing to protect the unnamed drainage, held as a conservation easement by San Diego County, in the vicinity of the transmission line corridor along proposed Transmission Line Route B (Condition of Certification **BIO-7**). With implementation of these measures potential project impacts to aquatic resources would be less than significant. (Ex. 200, p. 4.2-29.)

4. Operations Impacts.

Potential operation-related impacts include impacts to birds due to collision with and/or electrocution by the transmission lines, disturbance to wildlife due to increased noise and lighting, storm water runoff, and indirect impacts to special-status species and their habitat from air emissions.

Birds are known to collide with transmission lines, exhaust stacks, and other structures, causing mortality to the birds. Bird collisions with power lines and structures generally occur when a power line or other structure transects a daily flight path used by a concentration of birds and these birds are traveling at reduced altitudes and encounter tall structures in their path.

The evidence includes analysis of potential impacts from a stormwater retention basin on-site, operational lighting impacts, and the risk of avian electrocutions with project-related power lines. Because the project's exhaust stacks and transmission lines would be significantly shorter than 350 feet tall, these proposed project features would pose a relatively low height-related collision risk to migrating birds. In addition, the transmission line routes will run parallel to the existing Otay Mesa Generating Station and would not be in the typical flight path of resident or migratory birds. Potential project impacts to resident or migratory bird populations would be less than significant. (Ex. 200, p. 4.2-31.)

Egrets, herons, raptors, and other large aerial perching birds, including those offered state and/or federal protection, are susceptible to transmission line electrocution if they simultaneously contact two energized phase conductors or an energized conductor and grounded hardware. To avoid potential electrocution impacts, the Applicant proposes to construct the transmission lines in accordance with Avian Powerline Interaction Committee guidelines specifically designed to reduce the risk of bird electrocution. Staff agrees with this applicant-proposed impact avoidance and minimization measure and has incorporated it into Staff's proposed Condition of Certification **BIO-7**. The proposed PPEC transmission lines would be 230-kV; therefore, phase-to-phase and phase-to-ground clearances are expected to be sufficient to minimize bird electrocutions. (*I*d.)

A slight increase in light is expected to occur during operation of the PPEC. Under certain circumstances, lights can disorient migratory birds or bats flying at night or attract wildlife such as insects and insect-eaters. Implementation of applicant-proposed measures would ensure that operational lighting would not create substantial sources of new light. (*Id*.)

It is likely that animals in this area have become habituated to an elevated ambient noise level. Operational noise levels of the plant would range from 68 dBA at the edge of the facility to 48 dBA at the edge of the study area which includes the project's proposed ground disturbance footprint and a 500-foot buffer. This would produce slightly elevated noise levels to baseline ambient; however, species occurring near the project site are likely acclimated to an elevated level of noise. We find there would be no significant impact to biological resources by increased operational noise. (Ex.200, p. 4.2-32.)

Storm water runoff from open areas on the PPEC project site that does not infiltrate the site would be conveyed through culverts and swales to an on-site detention basin. The grading and drainage facilities will be designed pursuant to County of San Diego requirements. The project would not affect any creeks, drainages, wetlands, or other aquatic resources. Appropriate soil erosion and sediment controls will be implemented on-site and along the linears to prevent materials and/or eroded soils from entering aquatic resources (especially the drainage within the conservation easement). (*Id*.)

An 80-foot wide right-of-way would be required for the transmission line route. The 80-foot-right-of-way would not be allowed to lie within any area recorded as an open space easement. These measures have been incorporated into

Condition of Certification **BIO-11**. With implementation of Condition of Certification **BIO-11,** which requires complete avoidance of parcels with an open space conservation easement, impacts would be less than significant. (Ex. 200, p. 4.2-33.)

Nitrogen deposition is the input of nitrogen oxide (NO_X) and ammonia (NH_3) derived pollutants, primarily nitric acid (HNO_3), from the atmosphere to the biosphere. Mechanisms by which nitrogen deposition can lead to impacts on sensitive species include direct toxicity, changes in species composition among native plants, and enhancement of invasive species. Although non-native plant invasions have impacted the vernal pools in the region, invasions generally occur in years when precipitation is sparse. In wetter years, the number of non-native plants is reduced as the non-native upland species are intolerant of inundation and the invasion cycle may be reset in some cases. Therefore, it is anticipated that nitrogen deposition effects in the vernal pools at the edge of the PPEC plume are negligible. Impacts to San Diego fairy shrimp, Riverside fairy shrimp, and critical habitat from PPEC nitrogen deposition are considered adverse, but less than significant.

According to the Applicant, modeled nitrogen deposition rates from PPEC in critical habitat within the San Ysidro Mountains would range from 0.1 to 1.5 kg/ha/yr. Considering PPEC's emissions in combination with background levels, the nitrogen deposition rate within coastal sage scrub habitat in the San Ysidro Mountains within critical habitat for Otay tarplant, Quino checkerspot butterfly, and California gnatcatcher would range from approximately 10.34 to 13.68 kg/ha/yr. Given that threats to these endangered species from noxious weeds are exacerbated by nitrogen fertilization, the proposed project's deposition of additional nitrogen at this already stressed ecosystem would be a significant indirect impact. (Ex. 200, p. 4.2-35.)

The Applicant will be required to provide funding to support a noxious weed abatement program on or acquire and conserve in perpetuity 46.93 acres of Quino checkerspot butterfly habitat, 18.57 acres of California gnatcatcher habitat, and 11.86 acres of Otay tarplant habitat. Mitigation can be implemented for these species either separately or together if suitable habitat for a combination of species can be found in the same location (see **Biological Resources Table 3** and Condition of Certification **BIO-13** (Weed Abatement Program Funding or Land Acquisition). Refer to Biological Resources Appendix A at the end of this FSA section for tables showing the calculated values for each map zone per listed species.

Biological Resources Table 3
Impacts to Quino Checkerspot Butterfly,
Coastal California Gnatcatcher, and Otay Tarplant Critical Habitat

Species	Total Acres of Critical Habitat Impacted by PPEC	Calculated Mitigation Acreage
Quino Checkerspot Butterfly	2,706.39	46.93
Otay Tarplant	305.10	11.86
Coastal California Gnatcatcher	1,093.12	18.57

(Ex. 200, p. 4.2-36.)

One mitigation option is to fund a new or established weed abatement program on critical habitat or habitat that contains the primary constituent elements[1] for Quino checkerspot butterfly, Otay tarplant and California gnatcatcher. Purchasing lands within the area affected by PPEC nitrogen deposition to set aside as a conservation easement would also address the indirect and cumulative impacts to listed species from PPEC nitrogen deposition. The Applicant would be required to purchase the lands to be set aside as a conservation easement and set up an endowment to fund management, likely including weed abatement, of the lands in perpetuity. (Ex. 200, p. 4.2-37.)

These mitigation options are fully described in Staff's proposed Condition of Certification **BIO-13**. Weed abatement and/or land acquisition would enhance or preserve habitat for the listed species impacted by nitrogen deposition from the PPEC project. The Applicant conducted an analysis illustrating the location of public and private lands in relation to records of Quino checkerspot butterfly, California gnatcatcher, and Otay tarplant occurrences (PPEC 2012b). Based on Staff's independent verification of these data and discussions with CDFG and USFWS regarding options for implementing mitigation on public lands, it is expected that land is available on which to implement Condition of Certification **BIO-13**. Implementation of this condition would reduce impacts to Quino checkerspot butterfly, California gnatcatcher, and Otay tarplant from PPEC nitrogen deposition to less than significant. (Ex. 200, p. 4.2-38.)

The Applicant is proposing to offset the project's NO_X emissions through the purchase of banked emission reduction credits (ERCs), per the San Diego Air Pollution Control District (SDAPCD) rules and regulations. However, for the following reasons, these offsets would not completely avoid the project's impacts from nitrogen deposition at critical habitat within the San Ysidro Mountains:

[1] Primary constituent elements are those physical and biological features of a landscape that a species needs to survive and reproduce (USFWS 2000).

- Some ERCs are volatile organic compound (VOC) offsets, which may be used to offset emission increases of NO_X (SDAPCD Rule 20.3(d)(5)(v)). Reducing VOCs does not mitigate nitrogen deposition.
- The NO_X offsets will not offset NH_3, which would be emitted along with project NO_X and would be a substantial contributor to total nitrogen deposition.
- The NO_x-specific ERCs would offset some nitrogen deposition occurring within the San Diego County region, particularly in Chula Vista. Because the South Bay Power Plant is more than 10 miles upwind of the affected critical habitat in the San Ysidro Mountains, its shutdown would not completely offset the localized nitrogen deposition that would occur at this resource from the PPEC, which is less than 0.5 mile upwind of the critical habitat.

Accordingly, we find that Applicant's offset proposal will not provide adequate mitigation for the project's nitrogen deposition impacts. Implementation of Condition of Certification **BIO-13** will provide adequate mitigation of those impacts. (*Id*.)

5. Cumulative Impacts

Cumulative impacts refer to a proposed project's incremental effect viewed over time, together with other closely related past, present, and reasonably foreseeable future projects (Pub. Resources Code, § 21083; Cal. Code Regs., tit. 14, §§ 15064(h), 15065(c), 15130, and 15355). Cumulative impacts can occur when individually minor but collectively significant projects take place over time.

The cumulative scenario for biological resources includes past, present, and reasonably foreseeable future projects in the southern San Diego area, including industrial development, business parks, detention facilities, an asphalt and ready-mix concrete plant, an aggregate quarry, and the existing Otay Mesa Generating Project. (Ex. 200, p. 4.2-39.)

The area within this geographic extent has experienced extensive development that has threatened native plant and animal communities by habitat loss, fragmentation, and degradation. Because the PPEC site has been previously graded, the proposed project would not result in or contribute to cumulative loss of special-status species habitat or sensitive aquatic habitats. Furthermore, the proposed PPEC site has been included in the MSCP as a Minor Amendment area and habitat compensation credits were purchased to offset impacts resulting from direct loss of habitat. Other projects in the MSCP area are also required to

offset any impacts to covered species, which include many of the same special potentially affected by the proposed project. PPEC construction activities could result in mortality of special-status plants and wildlife as well as disruption and displacement of wildlife species from construction noise and elevated levels of human activity. Special-status species proximate to the project currently experience ongoing human disturbance and elevated noise levels accompanying the developed land uses in the area. Implementation of the conditions of certification proposed herein, particularly **BIO-8**, **9**, **10**, and **11**, would reduce impacts to biological resources to less than significant and the project's contribution to cumulative impacts would be less than cumulatively considerable. (*Id*.)

Regarding impacts from nitrogen emissions, the cumulative scenario for biological resources includes past, present, and reasonably foreseeable future projects with emissions that contribute to nitrogen deposition in coastal sage scrub habitat in the San Ysidro Mountains and the USFWS critical habitat contained therein. These projects include the existing Pacific Recovery Power Plant, Calpeak Border Peaker Project, Larkspur 1 and 2 Energy Facility, Otay Mesa Generating Station and the San Ysidro-Puerta Mexico Port of Entry, as well as several other existing and proposed industrial stationary sources (e.g., manufacturing facilities), mobile sources, and other nitrogen-emitting activities such as aerial application of fertilizer. (*Id*.)

The proposed PPEC project would contribute to nitrogen deposition within coastal sage scrub habitat in the San Ysidro Mountains which contains USFWS-designated critical habitat for all three species. In consideration of the cumulative nitrogen deposition baseline from applicable regional sources, the project's contribution is relatively small (approximately one percent) to substantial (approximately 12.9 percent). Nonetheless, given the threat to these species from noxious weed invasions and of the existing noxious weed infestations in coastal sage scrub habitat in the San Ysidro Mountains, especially related to nitrogen deposition, PPEC emissions and the resulting incremental effect to federally endangered Quino checkerspot butterfly, federally threatened and state endangered Otay tarplant, and federally threatened coastal California gnatcatcher we recommend implementation of Condition of Certification **BIO-13** to reduce the project's contribution to cumulative impacts. This would require the Applicant either to provide funding to an existing or new weed abatement program or to acquire lands to be held in conservation easement in perpetuity to benefit the listed species affected by the PPEC project's nitrogen deposition. As described above, the acreage on which the weed abatement would occur or that

would be acquired would be proportional to the proposed project's contribution to nitrogen deposition occurring at USFWS-designated critical habitat in the San Ysidro Mountains. Implementation of Condition of Certification **BIO-13** would mitigate the project's incremental contribution towards nitrogen deposition within critical habitat to less than cumulatively considerable. (Ex. 200, p. 4.2-40.)

6. Compliance with LORS

Biological Resources Table 4 provides a discussion of the project's compliance with the applicable LORS.

Biological Resources Table 4
LORS Compliance

LORS	Compliance Determination	Discussion
Federal		
Clean Water Act of 1977 (Title 33, United States Code, sections 1251–1376, and Code of Federal Regulations, part 30, Section 330.5(a)(26).)	Yes	Construction would avoid potentially jurisdictional drainages. **BIO-11** requires complete avoidance of conservation easements, which would include the potentially jurisdictional drainage therein. USACE is expected to issue a letter with a Preliminary Jurisdictional Determination that impacts to federally jurisdictional resources would be avoided.
Federal Endangered Species Act (Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq.)	Yes	**Direct:** Construction of the proposed project could result in the "take" of California gnatcatcher and Otay tarplant listed under the federal ESA. The Applicant has take coverage through the Minor Amendment processed for the project parcels through the County of San Diego Multiple Species Conservation Program South County Subarea Plan (MSCP) which covers impacts to all of the species covered under the MSCP. Conditions of Certification **BIO-7** and **BIO-12** provide measures to avoid and minimize direct impacts to these species. **Indirect and Cumulative:** Operation of the proposed project would result in indirect and cumulative impacts to federally-listed species from PPEC nitrogen deposition. It is Staff's opinion that take of listed species would not result, but the ultimate determination of federal ESA compliance will be made by the USFWS with issuance of its Biological Opinion to USEPA.
Eagle Act (Title 50, Code of Federal Regulations, sections 22.26 and 22.27)	Yes	Golden eagles are not expected to nest near the project site or along any project linear features; however, eagles may forage in grasslands and coastal sage scrub habitats located adjacent to the project site. Condition of Certification **BIO-7** limits off-site disturbance.
Bald and Golden Eagle Protection Act (Title 16, United States Code section 668)	Yes	Golden eagles are not expected to nest near the project site or along any project linear features; however, eagles may forage in grasslands and coastal sage scrub habitats located adjacent to the project site. Condition of Certification **BIO-7** limits off-site disturbance.

LORS	Compliance Determination	Discussion
Federal		
Migratory Bird Treaty (Title 16, United States Code, sections 703 through 711)	Yes	Condition of Certification **BIO-8** provides for pre-construction nest surveys, protective buffers, and monitoring if nests are found, and Condition of Certification **BIO-7** limits off-site disturbance.
Migratory Bird Treaty Reform Act (70 F.R. 12710-12716 (March 15, 2005).)	Yes	Condition of Certification **BIO-8** provides for pre-construction nest surveys, protective buffers, and monitoring if nests are found, and Condition of Certification **BIO-7** limits off-site disturbance.
Fish and Wildlife Coordination Act	Yes	Formal Section 7 consultation is in progress between the USEPA and USFWS. Condition of Certification **BIO-14** requires that all terms and conditions contained in the Biological Opinion be incorporated into the project's BRMIMP and implemented by the project owner.
State		
California Endangered Species Act of 1984 (Fish and Game Code, sections 2050 through 2098.)	Yes	**Direct:** Construction of the proposed project could result in the "take" of Otay tarplant listed under CESA. The Applicant has take coverage through the Minor Amendment processed for the project parcels through the County of San Diego Multiple Species Conservation Program South County Subarea Plan (MSCP) which covers impacts to all of the species covered under the MSCP. Condition of Certification **BIO-7** provides measures to avoid and minimize direct impacts to these species. **Indirect and Cumulative:** Operation of the proposed project would result in indirect and cumulative impacts to state-listed species from PPEC nitrogen deposition. However, it is Staff's determination that take of listed species would not result. CDFG has determined that an Incidental Take Permit will not be required pursuant to section 2081 of CESA.
California Code of Regulations (Title 14, sections 670.2 and 670.5.)	Yes	The Applicant has take coverage through the Minor Amendment approved by CDFG and USFWS for the project parcels through the County of San Diego Multiple Species Conservation Program South County Subarea Plan (MSCP) which covers impacts to all of the species covered under the MSCP. Permits from CDFG and USFWS issued to the MSCP are extended to the Applicant through the approval of the Minor Amendment for the project parcels in 2001. Conditions of Certification **BIO-7, BIO-10,** and **BIO-12** provide measures to avoid and minimize direct impacts to these species.
California Code of Regulations (Title 20, sections 1702(q) and (v).)	Yes	The proposed project is not sited in an area of critical concern for biological resources.
Natural Communities Conservation Planning Act (NCCPA) of 2002 (Fish and Game Code, sections 2800 through 2835.)	Yes	The Applicant has take coverage through the Minor Amendment approved by the CDFG and USFWS for the project parcels through the County of San Diego Multiple Species Conservation Program South County Subarea Plan (MSCP) which covers impacts to all of the species covered under the MSCP. Permits from CDFG and USFWS issued to the MSCP are extended to the Applicant through the approval of the Minor Amendment for the project parcels issued to the landowner in 2001.

LORS	Compliance Determination	Discussion
State		
Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515.)	Yes	Golden eagles and other bird species that may be found in the project area are California Fully Protected species. Golden eagle are not expected to nest onsite or along any project linear features; however, eagles may forage in grasslands and coastal sage scrub habitats located adjacent to the project site. Condition of Certification **BIO-8** provides for pre-construction nest surveys, protective buffers, and monitoring if nests are found, and Condition of Certification **BIO-7** limits off-site disturbance.
Native Plant Protection Act (Fish and Game Code, section 1900 et seq.)	Yes	Condition of Certification **BIO-7** provides for pre-construction special-status plant surveys along Transmission Route B as well as protective buffers and Condition of Certification **BIO-7** limits off-site disturbance.
Nest or Eggs (Fish and Game Code, section 3503.)	Yes	Condition of Certification **BIO-8** provides for pre-construction nest surveys, protective buffers, and monitoring if nests are found, Condition of Certification **BIO-7** limits off-site disturbance, and **BIO-5** includes a Worker Environmental Awareness Program (WEAP) to educate workers about compliance with environmental regulations, including Fish and Game Code section 3503.
Birds of Prey (Fish and Game Code, section 3503.5.)	Yes	Condition of Certification **BIO-8** provides for pre-construction nest surveys, protective buffers, and monitoring if nests are found, Condition of Certification **BIO-7** limits off-site disturbance, and **BIO-5** includes a WEAP to educate workers about compliance with environmental regulations, including Fish and Game Code section 3503.
Migratory Birds (Fish and Game Code, section 3513.)	Yes	Condition of Certification **BIO-8** provides for pre-construction nest surveys, protective buffers, and monitoring if nests are found, Condition of Certification **BIO-7** limits off-site disturbance, and **BIO-5** includes a WEAP to educate workers about compliance with environmental regulations, including Fish and Game Code section 3513.
Nongame mammals (Fish and Game Code section 4150.)	Yes	Condition of Certification **BIO-7** limits off-site disturbance.
Significant Natural Areas (Fish and Game Code section 1930 et seq.)	Yes	The proposed project would not be sited in a significant natural area.
Public Resources Code, sections 25500 and 25527.	Yes	The proposed project would not be sited in an area of critical concern for biological resources.
Streambed Alteration Agreement (Fish and Game Code sections 1600 et seq.)	Yes	Since there will be no impacts to the bed, bank, or channel of the drainage held in conservation easement, a 1600 permit would not be required. Condition of Certification **BIO-7** limits off-site disturbance.
Oak Woodlands Conservation Act (Fish and Game Code Section (1360-1372)	Yes	No oak trees or oak woodlands would be impacted as a result of the project.

LORS	Compliance Determination	Discussion
Local		
San Diego County Ordinance Section 86.501-86.509; 8845, 9246, 9632, and 10039	Yes	The Applicant has take coverage through the Minor Amendment approved by CDFG and USFWS for the project parcels through the County of San Diego Multiple Species Conservation Program South County Subarea Plan (MSCP) which covers impacts to all of the species covered under the MSCP. Permits from CDFG and USFWS issued to the MSCP are extended to the Applicant through the approval of the Minor Amendment for the project parcels in 2001. Conditions of certification **BIO-7, BIO-8, BIO-10, and BIO-12** provide measures to avoid and minimize direct impacts to these species.
San Diego Multiple Species Conservation Program (MSCP)	Yes	The Applicant has take coverage through the Minor Amendment approved by CDFG and USFWS for the project parcels through the County of San Diego Multiple Species Conservation Program South County Subarea Plan (MSCP) which covers impacts to all of the species covered under the MSCP. Because CDFG and USFWS concurrence of the Minor Amendment was for the entire 79.09-acre parcel and not tied to a specific subdivision map and the conditions of the Minor Amendment have been met, the proposed PPEC project would not conflict with any habitat or natural community conservation plan. Permits from CDFG and USFWS issued to the MSCP are extended to the Applicant through the approval of the Minor Amendment for the project parcels in 2001. Conditions of Certification **BIO-7, BIO-8, BIO-10, and BIO-12** provide measures which are consistent with the requirements of the MSCP to avoid and minimize direct impacts to these species.
Otay Subregional Plan – Conservation Element	Yes	Impacts within Otay Subregional Plan area would be within previously disturbed lands and would not be located in a Resource Conservation Area.

a. Federal Endangered Species Act (ESA; 16 USC section 1531 et seq.)

Potential take of federally-listed species requires compliance with the federal ESA. “Take” of a federally-listed species is prohibited without a permit. The definition of “take” under ESA section 3(19) includes “harm”. Harm is further defined to include “significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering” (50 CFR section 17.3). It is Staff’s opinion that the proposed project’s contribution to cumulative nitrogen deposition and the resultant degradation of critical habitat in the San Ysidro Mountains would not result in harm, as described above, and the project is in compliance with the federal ESA. However, the ultimate determination of federal ESA compliance is made by the USFWS; a Biological Opinion (BO) from the USFWS is required to comply with the federal ESA. (Ex. 200, p. 4.2-45.)

Conditions of certification, particularly **BIO-13**, were developed in coordination with and reviewed by USFWS in an effort to ensure that they are consistent with the terms and conditions in the BO. USFWS concurs that Condition of Certification **BIO-13** is consistent with the anticipated terms and conditions of the Biological Opinion. The terms and conditions contained therein are to be included in the Biological Resources Mitigation and Implementation and Monitoring Plan (BRMIMP) and would be implemented by the project owner. Equivalent mitigation in the BO would fully mitigate impacts under CEQA and would fulfill the requirements of Condition of Certification **BIO-13**. (*Id*.)

b. California Endangered Species Act (Fish and Game Code section 2050 et seq.)

CESA prohibits the "take" of state-listed species such as the state-endangered Otay tarplant. We find that the proposed project's incremental contribution to cumulative nitrogen deposition and the resultant degradation of critical habitat in the San Ysidro Mountains would not result in take, as defined above. CDFG has determined that the proposed PPEC would not require an Incidental Take Permit. Further, conditions of certification, particularly **BIO-13**, were developed in coordination with and reviewed by CDFG. Therefore, it is our conclusion that the proposed project would comply with CESA. (*Id*.)

FINDINGS OF FACT

1. The PPEC site is essentially devoid of vegetation due to grading performed by the industrial park developer.

2. The proposed PPEC is located within the County of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan.

3. No special-status wildlife species were observed during surveys of the project area; the only special-status plant species observed was San Diego marsh-elder which was observed within the drainage near proposed Transmission Line Route B.

4. The natural gas supply line route would be located along or within existing roads and road shoulders that are adjacent to developed areas or areas characterized by ruderal vegetation, agricultural areas, and ephemeral drainages.

5. The special-status Quino checkerspot butterfly, golden eagle, western burrowing owl, coastal California gnatcatcher and northern harrier have been detected in the PPEC area.

6. With implementation of the Applicant's proposed mitigation measures and compliance with the Commission's conditions of certification, the cumulative impacts of the PPEC will be less than cumulatively considerable in respect to special status species, sensitive or rare habitats, or other sensitive biological resources.

7. Potential impacts to special-status plant and wildlife species during construction will be fully mitigated to a less than significant level

8. Impacts of the PPEC to local wildlife species are expected to be fully mitigated through our conditions of certification and Applicant's proposed mitigation measures.

9. PPEC's nitrogen deposition impacts will be mitigated to below the level of significance through weed abatement or purchase of lands to set aside as a conservation easement funded by the Applicant.

CONCLUSIONS OF LAW

1. Any project-related impacts to sensitive plant and wildlife species will be mitigated to a less than significant level.

2. The project will comply with all applicable laws, ordinances, regulations, and standards listed in **Appendix A** of this Decision and referenced under **Biological Resources**.

CONDITIONS OF CERTIFICATION

DESIGNATED BIOLOGIST SELECTION

BIO-1 The project owner shall submit the resume, at least three references and contact information of the proposed Designated Biologist (DB) to the Compliance Project Manager (CPM) for approval.

The Designated Biologist must at least meet the following minimum qualifications:

1. Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field;

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

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

In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM that the proposed DB or alternate has the appropriate training and background to effectively implement the conditions of certification.

Verification: The project owner shall submit the specified information at least 45 days prior to the start of pre-construction site mobilization. No pre-construction site mobilization activities shall commence until an approved Designated Biologist is available to be on-site.

If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist. In an emergency, the project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.

DESIGNATED BIOLOGIST DUTIES

BIO-2 The project owner shall ensure that the Designated Biologist performs the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities. The Designated Biologist may be assisted by the approved Biological Monitor(s), but remains the contact for the project owner and CPM.

1. Advise the project owner's construction and operation managers on the implementation of the **Biological Resources** Conditions of Certification;

2. Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special status species or their habitat;

3. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;

4. Notify the project owner and the CPM of any non-compliance with any **Biological Resources** Condition of Certification;

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

6. Maintain written records of the tasks specified above. Summaries of these records shall be submitted in the Monthly Compliance Report during project construction.

Verification: The Designated Biologist shall submit in the Monthly Compliance Report to the CPM copies of all written reports and summaries that document biological resources activities. If actions may affect biological resources during operation a Designated Biologist shall be available for monitoring and reporting.

BIOLOGICAL MONITOR SELECTION

BIO-3 The project owner's CPM-approved Designated Biologist shall submit the resume, at least three references, and contact information for the proposed biological monitors to the CPM for approval. The resume shall demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the assigned duties.

Verification: The project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any pre-construction site mobilization. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) have been trained, including the date when training was completed. If additional Biological Monitors are needed during construction, the specified information shall be submitted to the CPM for approval 10 days prior to their first day of monitoring activities.

DESIGNATED BIOLOGIST AND BIOLOGICAL MONITOR AUTHORITY

BIO-4 The project owner's Construction/Operation Manager shall act on the advice of the Designated Biologist and Biological Monitor(s) to ensure conformance with the biological resources conditions of certification.

If required by the Designated Biologist or Biological Monitor(s) the project owner's construction/operation manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist.

The Designated Biologist or Biological Monitor(s) shall:

1. Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued;
2. Inform the project owner and the Construction/Operation Manager when to resume activities; and
3. Notify the CPM if there is a halt of any activities, and advise the CPM of any corrective actions that have been taken, or would be instituted, as a result of the work stoppage.

Verification: The project owner shall ensure that the Designated Biologist or Biological Monitor notifies the CPM immediately (and no later than the following

morning of the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem.

Whenever corrective action is taken by the project owner, a determination of success or failure would be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner would be notified by the CPM that coordination with other agencies would require additional time before a determination can be made.

WORKER ENVIRONMENTAL AWARENESS PROGRAM

BIO-5 The project owner shall develop and implement a CPM-approved Worker Environmental Awareness Program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation, and closure are informed about sensitive biological resources associated with the project.

The WEAP must:

1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media is made available to all participants;
2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas, if present;
3. Present the reasons for protecting these resources;
4. Present the meaning of various temporary and permanent habitat protection measures as necessary;
5. Discuss penalties for violation of applicable LORS (e.g., federal and state endangered species acts);
6. Identify whom to contact if there are further comments and questions about the material discussed in the program; and
7. Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines.

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

Verification: At least 60 days prior to the start of pre-construction site mobilization, the project owner shall provide to the CPM the proposed WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program.

At least 10 days prior to pre-construction site mobilization, the project owner shall submit two copies of the CPM-approved materials. The project owner shall provide in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.

WEAP text, and photos to be used as part of a presentation, shall be approved by the CPM prior to the production of an electronic WEAP presentation, if the latter is to be used.

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

During project operation, signed statements for operational personnel shall be kept on file for six months following the termination of an individual's employment.

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN (BRMIMP)

BIO-6 The project owner shall develop a BRMIMP and submit two copies of the proposed BRMIMP to the CPM (for review and approval) and to CDFG, USFWS (for review and comment) if applicable and shall implement the measures identified in the approved BRMIMP.

The BRMIMP shall be prepared in consultation with the Designated Biologist and shall identify:

1. all biological resource mitigation, monitoring, and compliance measures proposed and agreed to by the project owner;
2. all applicant-proposed mitigation measures presented in the Application for Certification, data request responses, and workshop responses;
3. all **Biological Resource** Conditions of Certification identified as necessary to avoid or mitigate impacts;
4. all biological resources mitigation, monitoring, and compliance measures required in the County of San Diego Multiple Species Conservation Plan Biological Mitigation Ordinances and the USFWS Biological Opinion;
5. all biological resource mitigation, monitoring, and compliance measures required in other state agency terms and conditions, such as those provided in the National Pollution Discharge Elimination System (NPDES) Construction Activities Stormwater General Permit;
6. all biological resource mitigation, monitoring, and compliance measures required in local agency permits, such as site grading and landscaping requirements;

7. a list of all sensitive biological resources to be impacted, avoided, or mitigated during project construction, operation, and closure;
8. all required mitigation measures for each sensitive biological resource;
9. a detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities;
10. all locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
11. aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities — one set prior to any site (and related facilities) mobilization disturbance and one set subsequent to completion of project construction. Include planned timing of aerial photography and a description of why times were chosen;
12. duration for each type of monitoring and a description of monitoring methodologies and frequency;
13. performance standards to be used to help decide if/when proposed mitigation is or is not successful;
14. all performance standards and remedial measures to be implemented if performance standards are not met;
15. a preliminary discussion of biological resources-related facility closure measures; and
16. a process for proposing BRMIMP modifications to the CPM and appropriate agencies for review and approval.

Verification: The project owner shall provide the draft BRMIMP to the CPM at least 60 days prior to start of any site (or related facilities) mobilization. If there are any permits that have not yet been received when the BRMIMP is first submitted, these permits shall be submitted to the CPM within five days of their receipt, and the BRMIMP shall be revised or supplemented to reflect the permit condition within 10 days of their receipt by the project owner. At least 10 days prior to site and related facilities mobilization the revised BRMIMP shall be resubmitted to the CPM.

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

Any changes to the approved BRMIMP must also be approved by the CPM, in consultation with the USFWS and CDFG if they choose to comment, to ensure no conflicts exist.

Implementation of BRMIMP measures will be reported in the Monthly Compliance Reports by the Designated Biologist (i.e., survey results,

construction activities that were monitored, species observed). Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction completion report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases, and which mitigation and monitoring items are still outstanding. Additional copies shall be provided to County of San Diego Department of Planning and Land Use, CDFG, and USFWS.

GENERAL IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-7 The project owner shall implement the following measures during site mobilization, construction, operation, and closure to manage their project site and related facilities in a manner to avoid or minimize impacts to biological resources:

1. Limit Disturbance Area. Clearly demarcate construction exclusion zones around biologically sensitive areas, including but not limited to all areas held in conservation easement located along the transmission line routes, and any other sensitive biological resources identified during pre-construction surveys. Any potential Quino checkerspot butterfly habitat along linear routes will also be avoided. Vehicles and personnel shall be prohibited from entering sensitive habitats. Protection would include wildlife exclusion fencing and/or silt fencing, signs, and sediment control measures installed prior to pre-construction site mobilization. Standard Best Management Practices from the project Stormwater Pollution Prevention Plan the will be implemented during all phases of the project.

2. Minimize Impacts of Transmission Lines. Transmission lines and all electrical components shall be designed, installed, and maintained in accordance with the *Avian Power Line Interaction Committee (APLIC), Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) to reduce the likelihood of electrocutions of large birds.

3. Avoid Use of Toxic Substances. Road surfacing and sealants as well as soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants.

4. Minimize Lighting Impacts. Facility lighting shall be designed, installed, and maintained to prevent side casting of light towards the project boundaries. Lighting shall be shielded, directional, and at the lowest intensity required for safety. Lighting shall be directed away from biologically sensitive areas (e.g., drainage area held in conservation easement by the County of San Diego).

5. Avoid Wildlife Pitfalls. At the end of each work day, the Designated Biologist or Biological Monitor shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access. Should wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and relocate the individual to a safe location. Any wildlife encountered during the course of construction shall be allowed to leave the construction area unharmed.

6. Avoid Entrapment of Wildlife. Any construction equipment, pipe, culvert, or similar structure with a diameter of 4 inches or greater, stored less than 8 inches above ground for one or more days/nights, shall be inspected for wildlife before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored, or placed on pipe racks.

7. Report Wildlife Injury and Mortality. Report all inadvertent deaths of special-status species to the appropriate project representative, including road kill. Species name, physical characteristics of the animal (sex, age class, length, weight), and other pertinent information shall be noted and reported in the Monthly Compliance Reports. Injured animals shall be reported to CDFG and/or USFWS and the CPM and the project owner shall follow instructions that are provided by CDFG or USFWS. The USFWS office shall be notified in writing within three working days of the accidental death or injury to special-status species during project-related activities.

8. Avoid Spread of Noxious Weeds. The project owner shall implement the following measures during construction and operation to prevent the spread and propagation of noxious weeds:

   A. Limit the size of any vegetation and/or ground disturbance to the absolute minimum and limit ingress and egress to defined routes;

   B. Use only weed-free straw, hay bales, and seed for erosion control and sediment barrier installations. Invasive non-native species shall not be used in landscaping plans and erosion control. Monitor and rapidly implement control measures to ensure early detection and eradication of weed invasions.

9. Worker Guidelines. During construction all trash and food-related waste shall be placed in self-closing containers and removed weekly from the site. Workers shall not feed wildlife or bring pets to the project site. Except for law enforcement personnel, no workers or visitors to the site shall bring firearms or weapons.

10. Limit Vehicle Impacts. Vehicles shall be confined to established roadways and preapproved overland access routes. Limit access routes and the number and size of staging areas and work areas to the minimum necessary to achieve the project goals. Routes and boundaries of work areas, including access roads, shall be clearly marked prior to initiating project construction.

11. Minimize Impacts to Trees. During construction measures will be implemented to minimize impacts to existing trees adjacent to the PPEC project site and linear facilities. This includes installation of silt fencing and/or wildlife exclusion fencing to reduce the likelihood of impacts to trees.

12. Implement Pesticide Use Best Management Practices. During construction and operation the project owner shall conduct pesticide management in accordance with standard Best Management Practices (BMPs). The BMPs shall include non-point source pollution control measures. The project owner shall use a licensed herbicide applicator and obtain recommendations for herbicide use from a licensed Pest Control Advisor. Herbicide applications must follow EPA label instructions. Minimize use of rodenticides and herbicides in the project area and prohibit the use of chemicals and pesticides known to cause harm to non-target plants and wildlife. The project owner shall only use pesticides for which a "no effect" determination has been issued by the EPA's Endangered Species Protection Program for any species likely to occur within the project area or downstream. If rodent control must be conducted, zinc phosphide or an equivalent product shall be used.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures will be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed. Additional copies shall be provided to the CDFG and USFWS.

PRE-CONSTRUCTION NEST SURVEYS AND IMPACT AVOIDANCE AND MINIMIZATION MEASURES FOR BREEDING BIRDS

BIO-8 Pre-construction nest surveys shall be conducted if construction activities will occur from February 1 through August 31. The Designated Biologist or Biological Monitor shall perform surveys in accordance with the following guidelines:

1. Surveys shall cover all potential nesting habitat in the project site and within 250 feet of the boundaries of the plant site as well as the natural gas line route and transmission line route. Surveys

specifically for nesting northern harriers shall be conducted within 1,000 feet of designated disturbance areas that contain appropriate nesting habitat.

2. At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. Pre-construction surveys shall be conducted no more than 30 days prior to initiation of construction activity. One survey needs to be conducted within the 14-day period preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation.

3. If active nests are detected during the survey, a no-disturbance buffer zone (protected area surrounding the nest), the size of which is to be determined by the Designated Biologist in consultation with the CPM (in coordination with CDFG and USFWS) and monitoring plan shall be developed. Nest locations shall be mapped using GPS technology and submitted, along with a weekly report, stating the survey results, to the CPM, in the Monthly Compliance Reports.

4. The Designated Biologist shall monitor the nest until he or she determines that nestlings have fledged and dispersed. Activities that might, in the opinion of the Designated Biologist, disturb nesting activities (e.g., excessive noise above 60 dBA), shall be prohibited within the buffer zone until such a determination is made.

Verification: Prior to the start of any pre-construction site mobilization, the project owner shall provide the CPM a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of species observed.

If active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest and shall depict the boundaries of the no-disturbance buffer zone around the nest, and a monitoring plan shall be submitted to the CPM for review and approval. Additional copies shall be provided to the CDFG and USFWS. Approval of the plan is required before construction may commence. All impact avoidance and minimization measures related to nesting birds shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist.

PRE-CONSTRUCTION SPECIAL-STATUS PLANT SURVEYS AND IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-9 The project site shall be surveyed for special-status plant species by a qualified botanist, approved by the CPM, prior to pre-construction site mobilization. The Transmission Line Route B and any other areas

containing potential habitat shall be surveyed for special-status plants during the blooming period, when species are both evident and identifiable, for all special-status plants identified in Biological Resources Table 2 as having a low to moderate potential to occur in the project area. Surveys shall be consistent with CDFG Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFG 2009).

1. If special-status plant species are detected they shall be avoided and the CPM and if necessary, the CDFG and/or USFWS, shall be contacted for further guidance.
2. If special-status plant species are detected that cannot be avoided and are not covered for take under the MSCP, the project owner will utilize Transmission Route A.
3. If special-status plant species are detected that cannot be avoided which are covered for take under the MSCP, the project owner will avoid to the maximum extent practicable, and the terms and conditions of the MSCP shall be followed as applicable to the species.
4. Any special-status plant species detected will be documented and the data will be submitted to the California Natural Diversity Database (CNDDB) within 30 days of completion of surveys. CNDDB data will be submitted following the current instructions on the CDFG website.

Verification: No less than 30 days prior to the start of any pre-construction site mobilization, the project owner shall provide the CPM a letter-report describing the findings of the pre-construction special-status plant surveys following the Botanical Survey Report Guidelines in the CDFG Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFG 2009), including the dates, identity and qualifications of the surveyor(s); discussion of timing of surveys, and a list of all species observed. Raw GPS data, metadata, and CNDDB field forms shall be submitted to the CPM within two weeks of the completion of the survey. The results for the botanical surveys shall also be submitted to the CPM within two weeks following the completion of the surveys. If surveys are split into more than one period, then a summary letter shall be submitted following each survey period. The final letter-report shall include a detailed accounting of the acreage of project impacts to special-status plant occurrences.

If special-status plants are detected during the survey, the report shall include a map or aerial photo identifying the location and shall depict the boundaries of the no-disturbance buffer zone around the plant population, An avoidance and minimization plan shall be submitted to the CPM for review and approval. Additional copies shall be provided to the CDFG and USFWS. Approval of the plan is required before construction may commence. All impact avoidance and minimization measures related to special-status plants shall be included in the

BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Copies of all CNDDB forms shall also be included in the Monthly Compliance Report.

WESTERN BURROWING OWL IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-10 The project owner shall implement the following measures to manage their construction site, and related facilities, in a manner to avoid or minimize impacts to breeding and foraging burrowing owls.

1. A qualified biologist, approved by the CPM, shall conduct a pre-grading survey no more than 30 days before initial brushing, clearing, grubbing, or grading of the project site, regardless of the time of the year.
2. Surveys shall take place in accordance with all requirements for Pre-Grading Surveys listed in Section 3.4 of the Strategy to Mitigate Impacts to Burrowing Owls in the Unincorporated County included in the County of San Diego Report Format and Content Requirements – Biological Resources (CDS 2010) or most current Biological Mitigation Ordinances issued by the County of San Diego Department of Planning and Land Use (DPLU) and the Department of Fish and Game's Staff Report on Burrowing Owl Mitigation (1995). This includes following all pre-grading survey guidelines, measures if burrowing owl are not found during pre-grading surveys, measures if burrowing owl are found during pre-grading surveys, pre-grading survey report, pre-construction meeting, and Best Management Practices listed in Section 3.4.3 of the Strategy to Mitigate Impacts to Burrowing Owls in the Unincorporated County during construction. The results of the surveys shall be sent to the CPM for review and approval, in consultation with CDFG.
3. If burrowing owls are detected during the breeding season then construction shall occur outside of the breeding season (February 1 through August 31).
4. If burrowing owl are detected and it is not during the breeding season, the burrowing owl may be evicted following the requirements outlined in Section 4.5.4 of the Strategy to Mitigate Impacts to Burrowing Owls in the Unincorporated County. Both passive translocation and eviction require approval from the CPM in consultation with the County of San Diego DPLU, CDFG, and USFWS.
5. If burrowing owls are to be evicted from the project site, artificial burrows shall be built following the requirements of Section 4.5.4 of the Strategy to Mitigate Impacts to Burrowing Owls in the Unincorporated County. Long-term monitoring requirements will be included in a resource management plan prepared in accordance

with the requirements of Section 4.6 of the Strategy to Mitigate Impacts to Burrowing Owls in the Unincorporated County and monitoring of the mitigation site will follow the requirements of Section 4.7 of the Strategy to Mitigate Impacts to Burrowing Owls in the Unincorporated County.

Verification: All avoidance and minimization measures related to burrowing owl shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. The project owner shall immediately report the results of the pre-grading survey to the CPM and the County of San Diego Mitigation Monitoring Coordinator, CDFG and USFWS prior to grading and must be provided in writing. The written and signed pre-grading survey report shall be submitted within 14 days of the survey. If passive relocation or burrow closures are required a report summarizing owl exclusions and burrow closures shall be submitted to the CPM, the County of San Diego Department of Planning and Land Use (DPLU), CDFG, and USFWS within seven days of completing exclusions and burrow closures. If a resource management plan is required, the project owner shall submit a final management plan to the CPM that has been reviewed and approved by the CPM, in consultation with the County of San Diego DPLU, USFWS, CDFG and the land-owning city department (city of San Diego), if applicable, at least 60 days prior to the start of project construction.

TRANSMISSION LINE ROUTE B ALTERNATIVE IMPACT AVOIDANCE MEASURES

BIO-11 In the event that Transmission Line Alternative Route B is selected for the PPEC project, the project owner shall design, construct, operate, and maintain the transmission line in a manner that avoids any and all disturbances to the Open Space Easement area (*Easement in Favor of the County of San Diego for Open Space, recorded September 13, 2001 as File No. 2001-0657832, O.R., Easement in Favor of the County of San Diego for Conservation of Parcel "A", recorded May 31, 2006 as File No. 2006-0384034, O.R., and Easement in Favor of the County of San Diego for Conservation of Parcel "B", recorded May 31, 2006 as File No. 2006-0384034, O.R*), which protects biological resources areas, as depicted on Parcel Map 20473, Easement Areas "B", "E", and "F". The Designated Biologist or Biological Monitor shall monitor all construction activities during the construction of Transmission Line Alternative Route B.

Verification: At least 30 days prior to the initiation of any construction-related ground disturbance, the project owner shall submit to the CPM for review and approval, a map figure, based on Parcel Map 20473, that depicts the final design plans for the construction of Transmission Line Alternative Route B (including the precise power pole locations, transmission line rights-of-way, construction staging areas, and all points of access for construction and maintenance activities, relative to the Open Space Easement areas.

At least 30 days prior to the initiation of any construction-related ground disturbance, the project owner shall prepare and submit a written plan to the CPM for review and approval that describes in detail how the construction, operation, and maintenance of Transmission Line Alternative Route B will not encroach upon or disturb the Open Space Easement areas.

At least two weeks prior to the initiation of any construction-related ground disturbance for Transmission Line Alternative Route B, the project owner shall notify both the CPM and the Designated Biologist in writing (via letter or email), describing the schedule for the construction of Transmission Line Alternative Route.

CALIFORNIA GNATCATCHER IMPACT AVOIDANCE AND MINIMIZATION MEASURES

BIO-12 The following measures shall be implemented to avoid and minimize impacts to California gnatcatcher.

1. Pre-construction surveys shall be conducted concurrent with the nesting bird pre-construction surveys. Surveys shall be conducted as described in Condition of Certification **BIO-8.**
2. ESA fencing will be installed to protect the conservation easement along the unnamed drainage within the transmission line corridor (Route B) as described under general impact avoidance and minimization measures (see **BIO-7**).
3. All brushing, clearing, and/or grading shall be restricted such that none will be allowed within 300 feet of habitat protected within an open space easement (easement along Transmission Route B) during the breeding season of the California gnatcatcher (between March 1 and August 15). The project owner can apply to the County of San Diego Department of Planning and Land Use for a waiver of the no-disturbance buffer zone requirements if no California gnatcatcher is present in the vicinity of brushing, clearing, or grading. The waiver must also be approved by the CDFG and USFWS and the CPM must be notified of any request for a waiver.

Verification: The project owner shall submit a letter-report to the CPM, the County of San Diego Department of Planning and Land Use (DPLU), CDFG, and USFWS at least 30 days prior to pre-construction site mobilization that describes when surveys were completed, observations, and measures to be implemented. All avoidance and minimization measures related to California gnatcatcher shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist.

WEED ABATEMENT PROGRAM FUNDING AND/OR LAND ACQUISITION

BIO-13 *Note: This condition is superseded by equivalent mitigation set forth in the PPEC's Biological Opinion when provided by USFWS pursuant to Condition of Certification **BIO-14**. Equivalent mitigation in the BO*

would fully mitigate impacts under CEQA and would fulfill the requirements of this condition.

To mitigate for nitrogen deposition impacts to critical habitat and associated listed species (Otay tarplant, Quino checkerspot butterfly, and California gnatcatcher), prior to start of project operation the project owner shall fund one or more of the following options:

Weed Abatement Program

A. Provide funding to support an existing or establish a new noxious weed abatement program on critical habitat, occupied habitat, or habitat that contains the Primary Constituent Elements[2] in the amount listed for the following species: 46.93 acres of Quino checkerspot butterfly habitat, 18.57 acres of California gnatcatcher habitat, and 11.86 acres of Otay tarplant habitat. Weed abatement can be implemented for habitat either separately or together if suitable habitat for a combination of species can be found at the same location. For example, if 46.93 acres of suitable Quino checkerspot butterfly habitat is also suitable for California gnatcatcher and Otay tarplant habitat, additional acreage for California gnatcatcher and Otay tarplant habitat would not be required beyond 46.93 acres. If habitat is identified that benefits all three species, less than 46.93 acres will be allowed if approved in writing by the CPM (in consultation with CDFG and County of San Diego DPLU) and USFWS.

   If the project owner proposes to establish a weed abatement program, the project owner shall conduct a Property Analysis Record (PAR) or PAR-like analysis to establish the appropriate long-term fee to fund the weed abatement program for the identified lands for the life of the project. The project shall also demonstrate that the lands on which the new weed abatement program will be conducted are under conservation easement or otherwise protected in perpetuity. If the project owner proposes to fund an established weed abatement program, the project owner shall identify the cost of funding the weed abatement program lands for the life of the project as determined by the entity implementing the program.

   The project owner will submit to the CPM the name of the entity that will be implementing the program for the life of the PPEC project and the endowment funds in the amount determined to be adequate to provide funding for weed abatement on the required acres for the life of the PPEC project. The entity to implement the program and the amount of the endowment shall be approved by

[2] Primary constituent elements are those physical and biological features of a landscape that a species needs to survive and reproduce (USFWS 2000).

the CPM in consultation with the USFWS, CDFG, and the County of San Diego Department of Planning and Land Use (DPLU).

If the project owner chooses to establish a new weed abatement program, the project owner shall submit a weed abatement plan to the CPM for review and approval and to the USFWS, CDFG, and the County of San Diego DPLU for review and comment. The weed abatement plan shall include the following for the mitigation lands: (1) existing conditions at the site(s) and goals for habitats and specific plant populations to be managed and monitored; (2) site preparation methods (weed control treatments, soil preparation methods, native species protection methods, timing); (3) weed abatement and site restoration specifications; (4) short (12 months or less) and long-term maintenance and monitoring schedule and methods. If the weed abatement program will be implemented within the nitrogen deposition impact area, then the weed abatement program shall include a biological monitoring component to assess populations of Otay tarplant within the affected area for any long-term effects of competition from noxious weeds. If funding is provided to an existing weed abatement program, the project owner shall submit the management plan or other statement of work from the existing program.

Weed abatement programs could include the San Diego's Quino Checkerspot Adaptive Management and Monitoring Strategy, to be implemented as part of the County of San Diego's Quino Checkerspot Butterfly Amendment currently in preparation, if approved prior to start of project operation. Management activities funded may include but are not limited to: noxious weed eradication using appropriate methods at the optimal time-of-year to limit seed dispersion and avoid impacts to species, native seed application from local sources (preferably on-site) including Otay tarplant seeds, planting of shrubs in appropriate habitat for California gnatcatcher, and propagation and transplantation of host plants for Quino checkerspot butterfly.

The project owner also shall request an annual report from the San Diego Foundation or other third-party approved by the CPM documenting how each annual payment provided from the endowment required hereunder was used and applied to assist in noxious weed abatement.

Land Acquisition

B. Acquire lands within critical habitat, occupied habitat, or habitat that contains the Primary Constituent Elements[3] Otay tarplant, Quino checkerspot butterfly, and California gnatcatcher in the amount

[3] Primary constituent elements are those physical and biological features of a landscape that a species needs to survive and reproduce (USFWS 2000).

listed for the following species: 46.93 acres of Quino checkerspot butterfly habitat, 18.57 acres of California gnatcatcher habitat, and 11.86 acres of Otay tarplant habitat. Habitat can be acquired either separately or together if suitable habitat for a combination of species can be found at the same location. For example, if 46.93 acres of suitable Quino checkerspot butterfly habitat is also suitable for California gnatcatcher and Otay tarplant habitat, additional acreage for California gnatcatcher and Otay tarplant habitat would not be required beyond 46.93 acres. If habitat is identified that benefits all three species, less than 46.93 acres will be allowed if approved in writing by the CPM (in consultation with CDFG and County of San Diego DPLU) and USFWS. The project owner shall calculate an appropriate endowment for management of the compensation habitat in perpetuity using the Center for Natural Lands Management Property Analysis Record (PAR) or PAR-like analysis. The endowment amount shall be approved by the CPM in consultation with CDFG, USFWS, and County of San Diego DPLU. Also to be provided is the name of the entity that would manage and protect the land in perpetuity.

Verification: **Option A**. At least 30 days prior to the start of project operation the project owner shall submit a final Weed Management Plan to the CPM that has been reviewed and approved by the CPM, in consultation with the CDFG, USFWS, and the County of San Diego DPLU. No less than 30 days prior the start of project operation, the project owner shall provide written verification to the CPM that the endowment has been paid in full to San Diego Foundation or other third-party approved by the CPM in accordance with this condition of certification. The project owner shall provide evidence that it has specified that its annual payment from the endowment to the third-party approved by the CPM can be used only to assist in noxious weed management and remediation of its effects (e.g., activities to support continued survival Quino checkerspot butterfly, California gnatcatcher, and Otay tarplant) at approved locations within critical habitat or habitat that contains the Primary Constituent Elements for these species that is protected in perpetuity.

Thereafter, within 30 days after each anniversary date of the commencement of project operation, the project owner also shall request an annual report from the San Diego Foundation or other third-party approved by the CPM documenting how each annual payment from the endowment required hereunder was used and applied to assist in noxious weed management and/or habitat restoration/enhancement at approved locations for these species. The project owner shall provide copies of such reports to the CPM within 30 days of receipt. This verification shall be provided annually for the operating life of the project.

Option B. At least 30 days prior to the start of project operation the project owner shall provide to the CPM for approval, in consultation with the CDFG, USFWS, and the County of San Diego DPLU, the name of the land management entity, written verification that the compensation lands have been purchased, and

written verification that the appropriate endowment fund amount (determined by the PAR analysis) has been received by the approved endowment management entity.

FEDERAL BIOLOGICAL OPINION

BIO-14 The project owner shall provide to the CPM a copy of the Biological Opinion per Section 7 of the federal Endangered Species Act written by the U. S. Fish and Wildlife Service in consultation with U.S. Environmental Protection Agency. The terms and conditions contained in the Biological Opinion shall be incorporated into the project's BRMIMP and implemented by the project owner.

Verification: At least 30 days prior to the start of any pre-construction site mobilization activities, the project owner shall submit to the CPM a copy of the U.S. Fish and Wildlife Service's Biological Opinion and verification that the terms and conditions contained in the Biological Opinion are included in the BRMIMP and will be implemented by the project owner.

B. SOIL AND WATER RESOURCES

This section focuses on the soil and water resources associated with the Pio Pico Energy Center, 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.

In accordance with the California Environmental Quality Act (CEQA) Guidelines and performance standards, this discussion evaluates each of the following items:

- Whether construction or operation would lead to accelerated wind or water erosion and sedimentation.
- Whether the project would exacerbate flood conditions in the vicinity of the project.
- Whether the project's water use would cause a substantial, or potentially substantial, adverse change in the quantity or quality of groundwater or surface water.
- Whether project construction or operation would lead to degradation of surface or groundwater quality.
- Whether the project would comply with all applicable LORS. (CEQA Guidelines, Appendix G [Tit. 14, Cal Code Regs, §§ 15000 - 15387].)

We also evaluate the project's compliance with the applicable laws, ordinance, regulations, and standards and policies presented in **Soil & Water Table 1**, below, and in **Appendix A** to this Decision. These LORS reflect a comprehensive regulatory system, with adopted standards and established practices designed to prevent or minimize adverse impacts to soil and water resources.

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Soil & Water Table 1
Laws, Ordinances, Regulations, and Standards (LORS) and Policies

Federal LORS	
Clean Water Act (33 U.S.C. Section 1257 et seq.)	The Clean Water Act (CWA) (33 USC § 1257 et seq.) requires states to set standards to protect water quality, which includes regulation of stormwater and wastewater discharges during construction and operation of a facility. California established its regulations to comply with the CWA under the Porter-Cologne Water Quality Control Act.
State LORS	
California Constitution, Article X, section 2	The California Constitution 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.
Senate Bill 610 (Water Code Sections 10910-10915)	Signed into law in 2001 amending Sections 10910-10915 of the California Water Code. Requires public water systems to prepare water supply assessments (WSA) for certain defined development projects subject to the California Environmental Quality Act. Lead agencies determine, based on the WSA, whether protected water supplies will be sufficient to meet project demands along with the region's reasonably foreseeable cumulative demand under average-normal-year, single-dry-year, and multiple-dry-year conditions.
The Porter-Cologne Water Quality Control Act of 1967, California Water Code Section 13000 et seq.	Requires the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) to adopt water quality criteria to protect state waters. Those regulations require that the RWQCBs issue waste discharge requirements (WDRs) specifying conditions for protection of water quality as applicable. Section 13000 also states that the state must be prepared to exercise its full power and jurisdiction to protect the quality of the waters of the state from degradation. Although Water Code 13000 et seq. is applicable in its entirety, the following specific sections are included as examples of applicable sections.
California Water Code Section 13240, 13241, 13242, 13243, & Water Quality Control Plan for the San Diego Basin (Basin Plan)	The Basin Plan establishes water quality objectives that protect the beneficial uses of surface water and groundwater in the Region. The Basin Plan describes implementation measures and other controls designed to ensure compliance with statewide plans and policies and provides comprehensive water quality planning.
California Water Code Section 13260	This section requires filing, with the appropriate RWQCB, a report of waste discharge that could affect the water quality of the state unless the requirement is waived pursuant to Water Code section 13269.
California Water Code Section 13523	If a RWQCB determines that it is necessary to protect public health, safety, or welfare, the RWQCB may prescribe water reclamation requirements for recycled water after consultation with the California Department of Public Health (CDPH).

State LORS	
California Water Code Section 13550	Requires the use of recycled water for industrial purposes when available and when the quality and quantity of the recycled water are suitable for the use, the cost is reasonable, the use is not detrimental to public health, and the use will not impact downstream users or biological resources.
Water Recycling Act of 1991 (Water Code 13575 et. seq.)	The Water Recycling Act states that retail water suppliers, recycled water producers, and wholesalers should promote the substitution of recycled water for potable and imported water in order to maximize the appropriate cost-effective use of recycled water in California.
Water Conservation Act of 2009 (Water Code 10608 et. Seq.)	This 2009 legislative package requires a statewide 20 percent reduction in urban per capita water use by 2020. It requires that urban water retail suppliers determine baseline water use and set reduction targets according to specified requirements, and requires agricultural water suppliers prepare plans and implement efficient water management practices.
California Code of Regulations, Title 17	Requires prevention measures for backflow prevention and cross connections of potable and non-potable water lines.
California Code of Regulations, Title 22	Requires CDPH to review and approve new or modified recycled water projects to ensure they meet all recycled water criteria for the protection of public health.
California Code of Regulations, Title 20, Division 2, Chapter 3, Article 1	The regulations under Quarterly Fuel and Energy Reports (QFER) require power plant owners to periodically submit specific data to the California Energy Commission, including water supply and water discharge information.
SWRCB Order 2009-0009-DWQ	The SWRCB regulates stormwater discharges associated with construction affecting areas greater than or equal to 1 acre to protect state waters. Under Order 2009-0009-DWQ, the SWRCB has issued a National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges associated with construction activity. Projects can qualify under this permit if specific criteria are met and an acceptable Stormwater Pollution Prevention Plan (SWPPP) is prepared and implemented after notifying the SWRCB with a Notice of Intent.
SWRCB Order 97-03-DWQ	The SWRCB regulates stormwater discharges associated with several types of facilities, including steam electric generating facilities. Under Order 97-03-DWQ, the SWRCB has issued a NPDES General Permit for stormwater discharges associated with industrial activity. Projects can qualify under this permit if specific criteria are met and an acceptable SWPPP is prepared and implemented after notifying the SWRCB with a Notice of Intent.
Local LORS	
San Diego County Title 8, Division 7 Ordinance 9547	Excavation And Grading, Clearing, And Watercourses Ordinance: Combines the regulations affecting the grading and clearing of land, and activities affecting watercourses, within the unincorporated area of San Diego County. It is intended to improve environmental protection, streamline the required procedures and permits for grading and clearing, and to comprehensively clarify the duties and responsibilities of county officials administering the permit and enforcement processes. www.sdcounty.ca.gov/cob/ordinances/ord9547.doc

Local LORS	
San Diego County Ordinance No. 10140 (N.S.)	Specifies development fees, agreements, and requirements for the San Diego County Sanitation District, including the East Otay Mesa Sewer Service Area. http://www.sdcounty.ca.gov/cob/ordinances/ord10140.doc
RWQCB San Diego Region Order No. R9-2007-01	San Diego Municipal Stormwater Permit: Requires implementation of a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force." www.swrcb.ca.gov/rwqcb9/water_issues/programs/stormwater/sd_stormwater.shtml The County has adopted the Standard Urban Stormwater Mitigation Plan (SUSMP) for Land Development and Public Improvement Projects. The SUSMP only addresses land development and capital improvement projects. It is focused on project design requirements and related post-construction requirements, not on the construction process itself. www.sdcounty.ca.gov/dpw/watersheds/susmp/susmp.html
San Diego County Code Sections 67.801 et seq. Ordinances 10096	County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance (WPO): Seeks to protect water resources and to improve water quality. Contains discharge prohibitions and requirements that vary depending on type of land activity and location in the County. www.sdcounty.ca.gov/dpw/watersheds/watershedpdf/watershed_ordinance_signed_dec2010.pdf The Stormwater Standards Manual (SSM) is an appendix of the WPO and sets out in more detail, by project category, what dischargers must do to comply with the WPO and to receive permits for projects and activities that are subject to the WPO. www.sdcounty.ca.gov/dpw/watersheds/watershedpdf/watershed-std-manual.pdf
City of San Diego, Municipal Code 64.0500-64.0520	Any discharger of industrial wastes into the Metropolitan sewerage system is required to obtain a permit from the Industrial Wastewater Control Program to meet federal law (Code of Federal Regulations, Title 40, Effluent Guidelines and Standards). Also requires a Trucker's Discharge Permit for liquid waste transport trucks to discharge into the City's public sewers or facilities. www.sandiego.gov/mwwd/environment/iwcp/docs.shtml
State Policies and Guidance	
Integrated Energy Policy Report (Public Resources Code, Div. 15, Section 25300 et seq.)	In the 2003 Integrated Energy Policy Report (IEPR), consistent with SWRCB Policy 75-58 and the Warren-Alquist Act, the Energy Commission clearly outlined the state policy with regards to water use by power plants, stating that the Energy Commission would approve the use of fresh water for cooling purposes only where alternative water supply sources and alternative cooling technologies are shown to be "environmentally undesirable" or "economically unsound."

State Policies and Guidance	
SWRCB Res. 2009-0011 (Recycled Water Policy)	This policy supports and promotes the use of recycled water as a means to achieve sustainable local water supplies and reduction of greenhouse gases. This policy encourages the beneficial use of recycled water over disposal of recycled water.
SWRCB Res. 75-58	The principal policy of the SWRCB that addresses siting of energy facilities is the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling, adopted by the Board on June 19, 1976, by Resolution 75-58. This policy states that use of fresh inland waters should only be used for cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound.
SWRCB Res. 77-1	SWRCB Resolution 77-1 encourages and promotes recycled water use for non-potable purposes and use of recycled water to supplement existing surface and groundwater supplies.

(Ex. 200, pp. 4.9-2 – 4.9-6.)

The evidence establishes that with implementation of the adopted conditions of certification, there will be no significant environmental impacts and the project will comply with all applicable LORS.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Setting

PPEC would be constructed in East Otay Mesa, a business park located in the southwestern portion of unincorporated San Diego County immediately north of the U.S./Mexico border. The East Otay Mesa Specific Plan sets aside over 2,000 acres as a modern industrial and business center while about 550 acres is set aside for conservation or very low-density residential use. The area consists of a relatively flat mesa with the steep San Ysidro Mountains on the eastern edge and the Otay River Valley and tributary canyon to the north. Historically, the flatter portions were used for agriculture and the steeper areas were never developed. (Ex. 200, p. 4.9-6.)

The northern half of East Otay Mesa, where the PPEC site is located, falls within the Otay River watershed, which is approximately one third the area of the larger 415-square-mile San Diego Bay watershed. Major water bodies in the nearby vicinity include the Upper Otay Reservoir, formed by Upper Otay Dam, the Lower Otay Reservoir, formed by Savage Dam, and the Otay River, which ultimately discharges into the south end of San Diego Bay. The topographic flow from this

portion of East Otay Mesa drains west toward Johnson Canyon then into the Otay River. The confluence between Johnson Canyon Creek and Otay River is approximately three miles downstream of Savage Dam and nine miles upstream of San Diego Bay (*Id*.).

Flow from this portion of East Otay Mesa drains west toward Johnson Canyon, then into the Otay River. The beneficial uses for Johnson Canyon and the Otay River, as designated by the Basin Plan, are:

- Agricultural Supply –farming, horticulture, or ranching;
- Non-contact Water Recreation – recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible (e.g. picnicking, hiking, camping, boating);
- Warm Freshwater Habitat – supports warm water ecosystems;
- Wildlife Habitat – supports terrestrial ecosystems or wildlife water and food sources; and
- Rare, Threatened, or Endangered Species (for Otay River only) – supports habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

Groundwater comprises only a minor portion of water supplies in the San Diego regional area, and no comprehensive program exists to monitor groundwater elevations in the Otay River watershed. The Otay Valley Groundwater Basin has a surface area of approximately 11 square miles located adjacent to the Pacific Coast and extending inland along the Otay River past the confluence with Johnson Canyon Creek. The East Otay Mesa area is found upgradient and outside the boundary of the Otay Valley Groundwater Basin. (Ex. 200, p. 4.9-7.)

2. Local Water Supplies

East Otay Mesa is located within the water service area of Otay Water District (OWD), a water purveyor and a member agency of the San Diego County Water Authority (SDCWA). SDCWA is San Diego County's regional water wholesaler, formed in 1944 for the purpose of supplementing local supplies with imported water. Since 1980, 70 to 95 percent of annual water supplies in the SDCWA service area have been imported from the Colorado River Aqueduct and State Water Project, supplying approximately 97 percent of County residents. (Ex. 200, p. 4.9-7.)

OWD is responsible for delivering potable and recycled water to customers within its jurisdictional area of approximately 80,320 acres (125.2 square miles). OWD is located in southwestern San Diego County, inland from the cities of San Diego, Chula Vista, and National City. OWD's primary potable supply system delivers potable water from SDCWA conveyance facilities to all of its customers. (*Id*.)

In addition to supplying potable water throughout its service area, OWD owns and operates the Ralph W. Chapman Water Reclamation Facility, which produces approximately 1.2 million gallons per day (mgd) of recycled water to a tertiary level for non-potable reuse. OWD's recycled water distribution system is currently limited to only a portion of its service area, delivering recycled water mainly to the eastern part of Chula Vista where it is used mostly for landscape and golf course irrigation. In 2003, OWD entered into an agreement to purchase additional recycled water from the South Bay Water Reclamation Plant (SBWRP) operated by the city of San Diego. The agreement included an annual amount of up to 6 mgd of recycled water that met specific water quality criteria. In 2007, OWD completed a major transmission project that allowed recycled water from the city of San Diego's facility to be conveyed and blended with the recycled water from OWD's facility, increasing the output to OWD customers by up to three times the previous amount. (Ex. 200, p. 4.9-8.)

Although developers in the area have been required to install recycled water service laterals and meters in anticipation of future recycled water availability, recycled water is not currently available in Otay Mesa. OWD plans to expand its regional recycled water delivery system to Otay Mesa, including this area, beginning in 2017, but states that projects may be accelerated or deferred to account for issues such as funding limitations, environmental concerns, or availability of additional recycled water supplies. (*Id*.)

3. Wastewater Sewer Service

The East Otay Mesa area is served by the San Diego County Sanitation District, East Otay Mesa Service Area. Wastewater flows from the district are conveyed to the city of San Diego’s Metropolitan sewerage system for treatment and disposal.

The San Diego Metropolitan Sewage System (Metro System) is owned by the city of San Diego and provides conveyance, treatment, reuse, and disposal of wastewater for the city of San Diego and 15 other cities and agencies. Wastewater flows from the city of San Diego comprise approximately 70 percent

of total Metro System flows, and the remaining flows are contributed by the other 15 participating agencies. Metro System facilities include wastewater collection interceptors and pump stations, wastewater treatment and water recycling plants, and sludge pipelines and solids handling facilities. (Ex. 200, p. 4.9-8.)

During the construction period, all sanitary waste would be collected in portable toilets (no discharge) supplied by a licensed contractor for collection and disposal at an appropriate receiving facility. Construction wastewater would be comprised only of water used for hydrostatic testing, because construction water used for dust control and soil compaction would not discharge offsite. Wastewater from hydrostatic testing would be discharged to the existing East Otay Mesa sewer system, which is served by the San Diego County Sanitation District. (Ex. 200, p. 4.9-35.)

Implementation of Staff-recommended Condition of Certification **SOIL&WATER-8** would require the PPEC to meet the requirements of the San Diego County Sanitation District and the city of San Diego Industrial Waste Department prior to discharge into the sanitary sewer. Provided the PPEC complies with these requirements, we find that the project's proposed management and disposal of wastewater during construction would not result in any significant impact. (Ex. 200, p. 4.9-36.)

The wastewater generated by the PPEC project during operations would be transported offsite with tanker trucks to the city of San Diego's Pump Station No. 1, the only regional facility for hauled liquid industrial waste. The Applicant received a will serve letter from the city of San Diego indicating that they would have capacity to accept and treat a wastewater flow. Based on the will serve letter Staff believes that there would be sufficient treatment capacity to handle the wastewater generated by the proposed project. Additionally, Staff believes that by meeting the requirements of the Trucked Industrial Waste Generator Permit set by the city of San Diego, the impact of the proposed project on existing wastewater treatment systems and water quality downstream of the site would be less than significant. Implementation of Staff-recommended Condition of Certification **SOIL&WATER-9** would require PPEC to obtain and meet the requirements of a Trucked Industrial Waste Generator Permit set by the city of San Diego. (*Id*.)

4. Soil Erosion and Stormwater Control

The project's onsite drainage would consist of an underground drainage system and ditches around the site conveying stormwater runoff into an unlined detention basin in the northwest corner of the site. Drainage facilities are sized to discharge the 100-year, 24-hour storm event without flooding the project site. From the basin stormwater would flow to an existing 30-inch stormwater pipeline that crosses under Calzada de la Fuente and into the regional stormwater management and conveyance system, (Ex. 200, p. 4.9-9).

Prior to construction, the Applicant would prepare a Stormwater Pollution Prevention Plan (SWPPP) to control stormwater and soil erosion during the facility's construction using best management practices (BMP) as well as through the life of the project. These measures would apply both to the project site and to the construction laydown area. (*Id*.)

The two major linear facilities associated with PPEC are an electrical transmission line (to be owned and maintained by the Applicant) and a natural gas pipeline (to be constructed, owned, and operated by SDG&E). Both would extend beyond PPEC boundaries. Installation and construction of these short linear facilities can result in soil erosion; therefore BMPs would be identified and included in the construction-phase SWPPP. (Ex. 200, p. 4.9-10.)

Condition of Certification **SOIL&WATER-4** requires an approved Stormwater Management Plan and Hydromodification Plan prior to construction that reflects the PPEC final drainage design. The Hydromodification Plan would require that post-project runoff not exceed estimated pre-project rates and durations. Condition of Certification **SOIL&WATER-1** requires a construction Stormwater Pollution Prevention Plan (SWPPP) for the PPEC site and laydown area. Construction activities for the proposed natural gas and electrical transmission linear facilities would also require implementation of a construction SWPPP, specific for each Linear Underground/Overhead Project. Implementation of Condition of Certification **SOIL&WATER-2** would ensure compliance with the federal General Construction Permit for construction of the electrical transmission line because this linear facility would be owned by the Applicant. SDG&E, which would own the proposed natural gas line, would be responsible for complying with federal General Construction Permit for construction activities related to that linear facility. Condition of Certification **SOIL&WATER-3** requires the project owner to comply with all requirements of the General NPDES Permit for Discharges of Stormwater Associated with Industrial Activity, including the

development and implementation of an operational Stormwater Pollution Prevention Plan, unless otherwise documented that this permit is not required. (Ex. 200, p. 4.9-23.)

We find that implementation of Conditions of Certification **SOIL&WATER-1**, **-2**, **-3**, and **-4** would sufficiently manage potential onsite flooding.

The PPEC site, laydown area, or linears would not alter existing offsite drainage patterns such as the course of a stream or river. In addition, no surface water features (intermittent or continuous) currently cross nor would cross any portion of the proposed PPEC site or the construction laydown area. Based on the topography of the proposed site and the surrounding areas, the construction of PPEC would not cause offsite flooding to areas upstream of the proposed site.

However, proposed grading and construction of PPEC would increase the amount of impervious area onsite. This would increase the amount of storm-water runoff volume and rate leaving the site, also known as hydromodification, and can cause offsite flooding of areas that are downstream of the project site if flows overwhelm the discharge capacity of these downstream offsite drainage structures. (Ex. 200, p. 4.9-18.)

The evidence shows that the Applicant submitted a Preliminary Draft Drainage, Erosion, and Sediment Control Plan (DESCP), and that the proposed design adequately manages stormwater during both construction and operation. Because the peak discharge of the 100-year, 24-hour storm event leaving the onsite detention basin is less during post-development conditions compared to pre-development conditions, we agree with Staff that PPEC would avoid significant adverse impacts which would result in offsite flooding. In addition, Staff verified that the regional stormwater system accounts for discharge from upstream contributing properties, including the PPEC site and surrounding areas. Condition of Certification **SOIL&WATER-4** requires an approved Stormwater Management Plan and Hydromodification Plan prior to construction that reflects PPEC final drainage design. The Hydromodification Plan would require that post-project runoff not exceed estimated pre-project rates and durations. We find that compliance with **SOIL&WATER-1**, **-2**, **-3**, and **-4** would sufficiently manage potential off-site flooding without the redundancy of implementing a DESCP. (Ex. 200, p. 4.9-19.)

Soil losses would be created by construction and grading activities that would expose and disturb the soil and leave soil particles vulnerable to detachment by

wind and water. Soil erosion results in the loss of topsoil and increases in sediment loading to nearby receiving waters or sewer systems. In the absence of proper BMPs, earthwork could cause significant fugitive dust and erosion. (Ex. 200. p. 4.9-20.)

The Applicant submitted a Preliminary Draft DESCP that identifies, in general terms, the six groups of Best Management Practices (BMPs) categories that would be implemented to prevent or minimize soil erosion during construction activities. The specific BMPs that were identified in a drawing labeled Best Management Practices Plan are: check dams, silt fences, stabilized construction entrances, silt fence/fiber rolls (presumed for drainage inlet protection), rip rap (presumed for velocity dissipation of flow at culvert outlets), and a detention/sedimentation basin. The Preliminary Draft DESCP also states that a Construction Stormwater Sampling and Analysis Plan would be developed as part of a Stormwater Pollution Prevention Plan (SWPPP) to ensure performance standards and monitor the effectiveness of BMPs. (*Id*.)

Soil & Water Table 2 shows a summary of erosion estimates during construction for all proposed elements of the PPEC project. The industrial park developer graded the project site and adjacent laydown area during the spring of 2011, and the resulting topography is considered the project's site baseline conditions. The newly exposed material is "Otay Formation", which is rockier and less prone to erosion by water or wind than the native Diablo Clay soil present prior to site grading[1]. Erosion estimates for these areas in **Soil & Water Table 2** are conservative, but nonetheless show that implementation of BMPs will lower the potential for erosion.

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[1] The USGS Geologic map of the Otay Mesa area describes Otay Formation as "poorly indurated massive light colored sandstone, siltstone and claystone, interbedded with bentonite lenses." For further discussion on the area's geological setting, refer to the **Geology and Paleontology** section of this FSA.

Soil & Water Table 2
Summary of Erosion Calculations during Construction[1]

Project Element (acres exposed to erosion)[2]		**Due to Water[3]** (tons)	**Due to Wind[4]** (tons)
PPEC Site	with BMPs	13.97	4.2
	no BMPs	14.47	19.9
Laydown Area	with BMPs	3.23	1.4
	no BMPs	4.74	12.0
Gas Line[5]	Route A (1.78 acres)	0.09	0.9
	Route B (2.36 acres)	0.12	1.2
Power Line[5]	Route A (0.48 acres)	0.02	0.2
	Route B (0.61 acres)	0.03	0.3

Notes:
1. Assumes 1 month of grading followed by 15 months of construction. Also assumes soil is the Diablo Clay that was present prior to site grading of the baseline conditions.
2. Assumes approximately 50 percent of the PPEC site would be exposed during construction. Also assumes gravel is applied to the laydown area.
3. Estimates generated using RUSLE2 (version: 2.0.4.0).
4. Estimates generated using WEPS (version: 1.0_b468).
5. Assumes 2 months to construct each linear facility and additional 2 months to establish permanent cover.

(Ex. 200, p. 4.9-22.)

BMPs during construction would reduce or avoid impacts to soil from erosion. Implementation of Condition of Certification **SOIL&WATER-1** would require a construction Stormwater Pollution Prevention Plan (SWPPP) for the PPEC site and laydown area. The SWPPP would specify BMPs that would prevent all construction pollutants, including erosion products, from contacting stormwater, eliminate or reduce non-stormwater discharges to waters of the United States, and provide for inspection and monitoring of BMPs. Also, conditions of certification in the **Air Quality** section of this Decision require a construction mitigation plan to prevent significant impacts from fugitive dust and wind erosion during construction.

Construction activities for the proposed natural gas and electrical transmission linear facilities would also require implementation of a construction SWPPP, specific to each Linear Underground/Overhead Project. Implementation of Condition of Certification **SOIL&WATER-2 would** ensure compliance with the federal General Construction Permit for construction of the electrical transmission line. While PPEC should be required to comply with this condition because this linear facility would be owned by the Applicant. SDG&E, which would own the proposed natural gas line, would be responsible for complying with federal

General Construction Permit for construction activities related to that linear facility. (Ex. 200, p. 4.9-23.)

With implementation of BMPs and associated monitoring activities included in the construction SWPPPs pursuant to **SOIL&WATER-1** and **-2**, impacts on soil erosion would be expected to be less than significant during construction of the proposed project site and linear facilities. We find that compliance with **SOIL&WATER-1**, **-2**, **-3**, and **-4** would sufficiently manage potential erosion so as to avoid significant impacts to soil resources.

5. Water Use

PPEC proposes to use recycled water as its primary source of cooling and process water. The total average annual use of recycled water is estimated at 314 acre feet per year (afy) as shown in **Soil & Water Table 3**. To increase efficient use of the recycled water provided by OWD, PPEC would treat process wastewater through an onsite Enhanced Water Treatment System (see "Process Wastewater" description below). This high-pH reverse osmosis system would mix with incoming recycled water for facility process reuse, reducing the amount of annual water consumption. PPEC does not propose the use of any groundwater and thus would not result in groundwater overdraft, low well yield, well interference, poor groundwater quality, or a decrease in the amount of groundwater recharge.

Soil & Water Table 3
Annual Water Flows Based on Recycled Water Supply

Process Use	Annual Amount
Cooling System Makeup: recycled water in a wet surface air cooler (WSAC) system would provide evaporative cooling of the closed loop cooling tube bundle used for CTG intercoolers and lube oil coolers to improve compressor efficiency	178 afy
NO_X Reduction and Compressor Blade Cleaning: recycled water processed through ultrafiltration and reverse osmosis systems for production of demineralized water that would be injected into each CTG	178 afy
Evaporative Cooler Makeup: recycled water would cool the inlet air at each CTG to enhance performance during hot weather	18 afy
Service Water: recycled water use for wash-down and other routine facility water use	3 afy
Total Process Water Use	377 afy
Enhanced Water Treatment (EWT) System: an onsite high-pH reverse osmosis system would treat process wastewater making it suitable to mix with incoming recycled water for process reuse	(63 afy)
Total Process Water Demand	314 afy

(Ex. 200, p. 4.9-11.)

In order to provide the Otay Mesa area with recycled water, OWD must first increase its supply of recycled water. The reclamation facility owned by OWD regularly produces its maximum capacity of recycled water. Although additional supplies from SBWRP has increased output to OWD customers by up to three times, supplies are barely enough to meet summer peak demands for OWD's current recycled water service area. Expanding recycled water service to the Otay Mesa area would require additional supplies, particularly during hot summer months when the PPEC would mostly operate. (Ex. 200, p. 4.9-32.)

OWD's plans to expand its recycled water system into the Otay Mesa area include the construction of a 24-inch transmission main pipeline and pressure-reducing station, known as the Wueste Road Pipeline project, which would be located approximately two miles north of the PPEC site. The new pipeline, approximately 2.5 miles long, would bridge the gap between an existing pipeline that currently delivers recycled water in Chula Vista and an existing 30-inch pipeline in Otay Mesa that was previously installed in anticipation of the eventual availability of recycled water. This 30-inch existing pipeline is located directly adjacent to the property line of the PPEC site and would readily deliver recycled water to the proposed site. The Applicant indicated willingness to fund the up-front costs of construction for the Wueste Road Pipeline project, with partial reimbursement as construction milestones are achieved. However, because a source of additional recycled water is not yet secured, OWD did not want to incur this debt to the Applicant without assurance of a supplemental recycled water supply from the city of San Diego. (*Id*.)

The calculated interim potable demand for facility operation is expected to be approximately 311 afy. When domestic use water is added, the total potable water demand would be 312 afy. OWD prepared a Water Supply Assessment Report for the PPEC that projected potable demand and supply requirements for current and future users. The report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or agreements relevant to the identified water supply needs for the proposed PPEC project. The report projected demand and supply requirements adjusted to reflect an additional 372 afy of potable water demand for the PPEC project. The report concludes that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal conditions and in single and multiple dry years to meet the projected demand of the proposed PPEC project and the existing and other planned development projects to be served by OWD. (Ex. 200, p. 4.9-29.)

A 500,000 gallon above-ground raw water storage tank would hold recycled water to be supplied by OWD and treated process wastewater produced from the onsite Enhanced Water Treatment System prior to use as PPEC process water. This tank would also serve as a secondary source of the facility's fire protection water. If the recycled water deliveries were temporarily interrupted, the PPEC facility could still continue to operate for approximately 8.5 hours during average operations using water stored on site in the raw water storage tank and the 240,000 gallon above-ground demineralized water storage tank. A potable water connection on site can be used as an emergency back-up water supply. (Ex. 200, p. 4.9-11.)

Since recycled water is currently not available at the project site and in East Otay Mesa, the PPEC project would rely on currently available potable water to be provided by OWD. **Soil & Water Table 4** shows the maximum daily, average daily, and average annual water flows of process water using recycled water compared to potable water. The difference in process water amounts would be due to a higher facility efficiency using potable water. (*Id*.)

Soil & Water Table 4
Process Water Daily and Annual Flows

Source	Max Daily (1,000 gpd)	Ave Daily (1,000 gpd)	Annual (afy)
Recycled water	706	280	314
Potable water	700	278	311

(Ex. 200, p. 4.9-12.)

PPEC would use potable water for drinking water, showers, sinks, toilets, eye wash stations, safety showers in hazardous chemical areas, and landscape irrigation. Potable water will also serve as the facility's primary source of fire protection water. The estimated amounts of potable water for these uses would be:

- Maximum Daily of 3,000 gallons per day (gpd)
- Average Daily of 1,000 gpd
- Annual of 1 afy

Potable water would also be used as an emergency back-up for industrial use in case recycled water deliveries from OWD are temporarily interrupted. In the event recycled water becomes available, PPEC would continue the use of potable water for these domestic water uses with the exception of landscape irrigation. (Ex. 200, p. 4.9-12.)

During construction of PPEC, water would be required for dust suppression, soil compaction, and hydrostatic testing (see **Soil & Water Table 5**).

Soil & Water Table 5
Construction Water Daily and Annual Flows

Water Demand	Max Daily (1,000 gpd)	Ave Daily (1,000 gpd)	Annual (afy)
Dust Suppression & Soil Compaction	30	23	26
Hydrostatic test water	840	280	2

(Ex. 200, p. 4.9-12.)

The Applicant proposes to develop a 'Non-Potable Construction Plan' to limit the use of potable water for any construction activity that is suitable for non-potable water use. The plan would identify activities such as dust control, equipment washing, soil compaction, and other short-term uses during construction that would use non-potable water. However, until recycled water is available at the project site and in East Otay Mesa, construction activities would rely on currently available potable water. (Ex. 200, p. 4.9-12.)

OWD relies almost exclusively on SDCWA for its freshwater supply. SDCWA in turn gets a majority of its supply from the State Water Project (SWP) and Colorado River. These supplies have been and continue to be strained. Both the SWP and Colorado River have been experiencing historic shortages. (Ex. 200, p. 4.9-30.)

The SWP has experienced frequent reductions in water allocations to water supply districts due to regulatory restrictions during drought periods. During periods of limited allocations, water users serviced by SWP contractors are required to limit their use of water. South of the Sacramento-San Joaquin Delta (Delta), agricultural users have had full allocations only one of the past 10 years and have had their allocations cut by 25-60 percent in seven of the past 10 years and cut by 90 percent in 2009. In 2011, even with record levels of snowpack, allocations to agricultural users are currently only set at 80 percent, illustrating the new reality of ongoing reduced water supply allocations. (*Id*.)

In Resolution 2010-0039, the State Water Resources Control Board (SWRCB) recently determined that the Delta is in ecological crisis and that recent Delta flows have been inadequate to support aquatic habitat for endangered native fish species. Returns of salmon on the Sacramento River have declined by 97 percent since 2002, reaching critical levels that required the suspension of commercial and recreational fishing in 2008 and 2009. The Delta Stewardship Council's Draft Delta Plan concluded that California's total water supply is

oversubscribed. When water exports from the Delta are reduced, the consequence is increased demand on an already overused and unsustainable groundwater system. The Stewardship Council also concluded that the Delta system has already been altered to the extent that some native species may not survive. (*Id*.)

In addition, as required in the Delta Reform Act (SBX7 1), the SWRCB released new flow criteria for the Delta in Resolution 2010-0039 designed to protect federal and state listed endangered species that depend upon aquatic habitat in the Delta for survival. These criteria indicate that the Delta outflows should be increased to about 75 percent of natural unimpaired flows from November through June to support endangered fish species. Thus, the SWRCB is recommending that Delta diversions would need to be cut by about 65 percent from the historic levels during drought years to address the significant impacts to the Delta. The SWRCB indicated that the determinations in Resolution 2010-0039 do not have regulatory or adjudicatory effect. When the SWRCB develops Delta flow objectives with regulatory effect, it must ensure the reasonable protection of beneficial uses, which may entail balancing of competing beneficial uses of water, including municipal and industrial uses, agricultural uses, and other environmental uses. The SWRCB will evaluate the effect of any changes in flow objectives on the environment of the Delta, the upgradient watersheds, and the areas where Delta water is used, as well as, an evaluation of economic impacts. The SWRCB indicated that it may amend the terms and conditions of water right permits and licenses to impose further limitations on the diversion and use of water by water rights holders to protect the Delta or to meet water quality and flow objectives in Water Quality Control Plans it has adopted. The SWRCB also indicated that it may impose restrictions in diversions by the Central Valley Project (CVP) and SWP when the Department of Water Resources and US Bureau of Reclamation seek to change points of diversion for the CVP and SWP as part of a proposed peripheral canal. The report will also be used for development of the ‘Delta Plan’, also required in the Delta Reform Act, which will identify policies and actions responsible resource agencies must implement for improved water supply reliability and protection of the Delta ecosystem. (Ex. 200, p. 4.9-30.)

In addition, the Colorado River has also been experiencing a historic drought. The U.S. Bureau of Reclamation’s June 2011 Colorado River Basin Water Supply and Demand Study indicates that water supplies on the Colorado River are anticipated to further decrease by about nine percent over the next 50 years due to climate change with a projected increase in both drought frequency and

duration. Droughts lasting five years or more are projected to occur 40 percent of the time over the next 50 years. Meanwhile consumptive uses derived from the Colorado River have increased by 23 percent between 1971 and 1999. This raises the very real possibility that as demand outstrips supply in the future, supplies of Colorado River water imported into the San Diego region will be reduced. (Ex. 200, p. 4.9-31.)

Given the reality of water supplies imported from the SWP and Colorado River and the policies and goals identified by the SWRCB over the past three years, the availability of existing and additional freshwater supplies could be affected by near future decisions. We acknowledge the findings in the Water Supply Assessment report indicating the proposed project would not significantly impact OWD's local potable water supply. Nonetheless, we believe it is important carefully to consider the delicate balance of freshwater supplies in the region and the continued commitment of freshwater supplies which could exacerbate an already critical situation. Implementation of Condition of Certification **SOIL&WATER-5** will help ensure that PPEC's potable water usage does not exceed the values used for the Water Supply Assessment report. It would also require that PPEC convert to recycled water when available. When recycled water is available in the area, OWD will require each development to test and meet with all the approving agencies a second time before the recycled pipeline connection is charged with recycled water. Implementation of Conditions of Certification **SOIL&WATER-6** and **-7** will help ensure compliance with these requirements.

We are mindful of the fact that if any of these supplies are delayed or interrupted, the project could use potable water for some extended period of time or even for the life of the project. As mentioned in the Potable Water Supply discussion above, the Water Supply Assessment reports that sufficient potable water supplies are planned for and intended to be available to meet the project and future demands. The ability of OWD to meet these demands, however, is also based on the availability of additional water supplies, including recycled water, and implementation of as yet defined or implemented water conservation.

Any use of potable water for power plant cooling when recycled water is available is clearly contrary to state water policy calling for the use of recycled water for industrial use. The state's policies discourage the use of freshwater (surface water) and groundwater for industrial purposes. The California Energy Commission, under legislative mandate specified in the 2003 Integrated Energy Policy Report (IEPR), would approve the use of fresh water for power plant

cooling purposes only where alternative water supply sources and alternative cooling technologies are shown to be environmentally undesirable or economically unsound. SWRCB Resolution 75-58 states that fresh inland waters should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. The Warren-Alquist Act promotes all feasible means of water conservation (Pub. Resources Code, Div. 15, § 25000 et seq.). SWRCB Resolution 77-1 promotes the use of reclaimed water for non-potable uses and to supplement existing surface and groundwater supplies. SWRCB Resolution 2009-0011 promotes the use of reclaimed water as a means to achieve sustainable local water supplies and to reduce greenhouse gases.

While PPEC consumes potable water, and until recycled water is available, PPEC can offset its potable water use by supporting water conservation programs. Staff has proposed a condition of certification that would require the Applicant to fund a water conservation plan. Implementation of Staff-recommended Condition of Certification **SOIL&WATER-10** would require a one-time payment from the Applicant of $425,000 for implementation of a Water Conservation Plan (WCP) if reclaimed water is not available and potable water will be used at plant start-up for cooling and process water. The WCP propose one or more recipients of the funds to be used to conserve potable water in the region. At the time of submission of the WCP, the project owner shall identify whether reclaimed water has been made available and will be used for power plant cooling and process water needs. If, at the time of submitting the WCP, reclaimed water is available to the project, then the project owner shall so state in the WCP and not be required to make any payment. The project owner shall then use reclaimed water for all process and cooling needs with potable only acting as an emergency, limited-time use for process and cooling needs should reclaimed water be temporarily unavailable as specified in **SOIL&WATER-5**.

We find that implementation of Condition of Certification **SOIL & WATER-10** will satisfy the requirements of the state's water policy by ensuring that any use of potable water for power plant cooling and processes will be offset by equivalent conservation measures.

6. Cumulative Impacts

A project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in

connection with the effects of past projects, the effects of other current projects, and the effects of reasonably foreseeable future projects. (Cal. Code Regs., tit. 14, §15130.)

Temporary and permanent disturbances associated with construction of the proposed project would cause accelerated wind- and water-induced erosion. However, the evidence shows that implementation of conditions of certification, will ensure that the project would not contribute significantly to cumulative erosion and sedimentation impacts.

If the PPEC uses potable water in lieu of recycled water, it would consume a maximum of approximately 311 afy of potable water for process use. This is 0.8 percent of the 40,000 afy of potable water that OWD distributes to its customers. Although the amount is individually minor, when added with present and future potable water users, it could lead to significant impacts to potable water supplies. While we find that the PPEC project's contribution would not be "cumulatively considerable" and, thus, not significant, forthcoming legal and policy actions by other state and federal agencies responsible for protection of the supply could affect the availability of freshwater supplies in the region. Implementation of the conditions of certification recommended herein will help ensure that PPEC's use of potable water will be offset by equivalent conservation measures and thus not contribute to a cumulatively considerable impact.

7. Compliance with LORS

We find that use of potable water for operation processes would be in compliance with state water use policy that encourages all feasible means of water conservation (Pub. Resources Code, Div. 15, § 25000 et seq.), provided that the requirements of Condition of Certification **SOIL&WATER-10** are met.

The PPEC would satisfy the requirements of the RWQCB and SWRCB 2009-0009-DWQ with the development of construction SWPPPs in accordance with **SOIL&WATER-1** and **-2**, and development of an industrial SWPPP in accordance with **SOIL&WATER-3**.

Water Code section 13523 requires the RWQCB to prescribe water reclamation requirements for water that is, or proposed to be, used as reclaimed water. These requirements may be placed upon the entity reclaiming the water and the user of the water. These requirements are to be developed by the RWQCB after consultation with and receipt of recommendations from California Department of

Public Health (CDPH) and any party who has requested in writing to be consulted. Through compliance with Condition of Certification **SOIL&WATER-6** and **-7**, the CDPH would review and comment on the Engineering Report and Cross Connection inspection results for the transmission and use of recycled water. Recycled water use and handling would be required to comply with the requirements specified in Title 22. Backflow prevention and possible cross connections between potable and non-potable water lines would be required to comply with the requirements specified in Title 17.

The Otay Water District prepared a Water Supply Assessment (WSA) for PPEC in conformance with Water Code Sections 10910-10915 that documents and demonstrates sufficient potable water to supply PPEC. The WSA was approved by OWD's Board of Directors on October 5, 2011.

Power plant owners are required to periodically report specific operational data to the California Energy Commission, including water supply and water discharge information. Through compliance with Condition of Certification **SOIL&WATER-5** and **-9**, PPEC would provide the required data for water use and wastewater disposal, respectively.

Sections 13550 and 13575 of the California Water Code require that the water resources of the state be put to the highest possible beneficial use and prohibit the use of potable domestic water for non-potable uses if recycled water is available. Within these sections, use of potable domestic water for industrial cooling towers is identified as a waste or unreasonable use of water if suitable recycled water is available. With the use of recycled water for PPEC operation processes, the PPEC would be fully compliant with this section of the water code and public resources code. Condition of Certification **SOIL&WATER-5** would ensure that recycled water would be used, when available, for the PPEC construction and plant operation processes.

The RWQCB San Diego Region Order No. R9-2007-01 is the San Diego Municipal Stormwater Permit requiring protection of water resources and improved water quality.

San Diego County Code Ordinances 9547 and 10096 implement the Municipal Stormwater Permit by requiring new development projects to develop plans to manage increases in runoff discharge rates and durations. Implementation of Condition of Certification **SOIL&WATER-4** would ensure that PPEC would comply with the San Diego County Municipal Stormwater Permit by requiring a

Stormwater Management Plan and Hydromodification Plan, as required by the County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance (WPO) and the San Diego County Standard Urban Stormwater Mitigation Plan.

San Diego County Ordinance 10140 and city of San Diego Municipal code section 64.0500 et seq. specify development fees, agreements, and requirements for the San Diego County Sanitation District, including the East Otay Mesa Sewer Service Area, and the city's municipal code specifies requirements to discharge industrial waste into their public sewer system. Implementation of Condition of Certification **SOIL&WATER-9** would require PPEC to obtain and meet the requirements of a Trucked Industrial Waste Generator Permit set by the city of San Diego.

8. Agency and Public Comments

Staff received comments from the U.S. Customs and Border Protection Agency requesting that storm drains and other underground features be equipped with grates and other appropriate barriers to human entry, and also requested copies of as-built plans showing the locations of such features. Staff responded by forwarding these requests to the Applicant.

FINDINGS OF FACT

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

1. Project construction and operation has the potential to induce erosion and sedimentation, adversely affect water supplies, and degrade water quality.

2. The project will not significantly increase or decrease erosion rates with implementation of conditions of certification set forth herein.

3. Potential on-site drainage impacts to on-site structures and offsite property will be mitigated to insignificant levels with implementation of conditions of certification set forth herein.

4. The proposed use of potable water will not significantly impact the supply of potable water with implementation of conservation plans required by the conditions of certification set forth herein.

5. The conditions of certification, below, are adequate to ensure that construction and operation of the PPEC will comply with LORS and will not create significant adverse impacts to the matters addressed in the discipline of **Soils and Water Resources**.

CONCLUSION OF LAW

We therefore conclude that the project will conform to all applicable laws, ordinances, regulations, and standards identified in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

CONSTRUCTION – STORMWATER POLLUTION PREVENTION PLANS

SOIL&WATER-1: The project owner shall manage stormwater pollution from PPEC construction activities by fulfilling the requirements contained in State Water Resources Control Board's *National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWG, NPDES No. CAS000002)* and all subsequent revisions and amendments. The project owner shall develop and implement a construction Stormwater Pollution Prevention Plan (SWPPP) for the construction of the PPEC project.

Verification: Thirty days prior to site mobilization of PPEC construction activities, the project owner shall submit the construction SWPPP to the CBO and CPM for review and the SWRCB for approval. A copy of the approved construction SWPPP shall be kept accessible onsite at all times. Within 10 days of its mailing or receipt, the project owner shall submit to the CPM any correspondence between the project owner and the San Diego RWQCB about the general NPDES permit for discharge of stormwater associated with construction and land disturbance activities. This information shall include a copy of the notice of intent and the notice of termination submitted by the project owner to the SWRCB.

SOIL&WATER-2: The project owner shall manage stormwater pollution from electrical transmission line construction activities by fulfilling the requirements contained in State Water Resources Control Board's *National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWG, NPDES No. CAS000002)* and all subsequent revisions and amendments. The project owner shall develop and implement a construction Stormwater Pollution Prevention Plan (SWPPP) for the construction of the electrical transmission line.

Verification: Thirty days prior to site mobilization of electrical transmission line construction activities, the project owner shall submit the construction SWPPP to the CBO and CPM for review and the SWRCB for approval. A copy of the approved construction SWPPP shall be kept accessible onsite at all times. Within 10 days of its mailing or receipt, the project owner shall submit to the CPM any correspondence between the project owner and the San Diego RWQCB about the general NPDES permit for discharge of stormwater associated with construction and land disturbance activities. This information shall include a copy of the notice of intent and the notice of termination submitted by the project owner to the SWRCB. Documentation from the SWRCB or the San Diego RWQCB indicating that one general permit is sufficient to cover construction activities for both the PPEC project and the electrical transmission line would satisfy this condition.

INDUSTRIAL – STORMWATER POLLUTION PREVENTION PLAN

SOIL&WATER-3: The project owner shall comply with the requirements of the State Water Resources Control Board's NPDES General Permit for Discharges of Stormwater Associated with Industrial Activities (Order No. 97-03-DWQ, NPDES No. CAS000001) and all subsequent revisions and amendments. The project owner shall develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for the operation of the site. The project owner may also submit a Notice of Non- Applicability (NONA) to the RWQCB to apply for an exemption to the general NPDES permit.

Verification: At least 30 days prior to commercial operation, the project owner shall submit the operational SWPPP to the SWRCB for approval. A copy of the approved operational SWPPP shall be submitted to the CPM, and a copy shall be retained on site. Within 10 days of its mailing or receipt, the project owner shall submit to the CPM any correspondence between the project owner and the San Diego RWQCB about the general NPDES permit for discharge of stormwater associated with industrial activity. This information shall include a copy of the notice of intent sent by the project owner to the SWRCB and the notice of termination. A letter from the SWRCB or the San Diego RWQCB indicating that there is no requirement for a general NPDES permit for discharges of stormwater associated with industrial activity would satisfy this condition.

STORMWATER MANAGEMENT PLAN & HYDROMODIFICATION PLAN

SOIL&WATER-4: The project owner shall comply with the requirements of the San Diego County Municipal Stormwater Permit (RWQCB Order R9-2007- 0001) and the San Diego County Watershed Protection, Stormwater Management and Discharge Control Ordinance (Ordinance No. 10096). The project owner shall develop and implement for the operation of PPEC a Stormwater Management Plan (SWMP) and a Hydromodification Plan (HMP) in accordance with the requirements of the County's Standard Urban Stormwater Mitigation

Plan for Land Development and Public Improvement Projects. The project owner shall provide a copy of the required SWMP and HMP to the CPM and notify the CPM in writing of any reported non-compliance with the county requirements, including documentation of any measures taken to correct the non-compliance and the results of those corrective measures. It is the Commission's intent that these requirements be enforceable by both the Commission and the County of San Diego. Accordingly, the Commission and the County of San Diego shall confer with each other and coordinate, as needed, in enforcement of the requirements.

Verification: At least 180 days prior to site mobilization, the project owner shall submit to San Diego County a copy of the SWMP and HMP for compliance of Ordinance No. 10096. Thirty days prior to PPEC construction activities, the project owner shall submit to the CPM a copy of the county approved SWMP and county approved HMP. A copy of both documents shall be retained on site. The project owner shall submit to the CPM all copies of any relevant correspondence between the project owner and the County regarding stormwater management in the annual compliance report.

WATER USE AND REPORTING

SOIL&WATER-5: Water supply for project construction shall be potable water supplied from OWD. Potable water use for construction shall not exceed 28 acre-feet per year. A monthly summary of project construction water use shall be submitted to the CPM.

Water supply for project domestic needs during operation will be potable water from OWD. Water supply for project operation shall be recycled water. If recycled water is not available to the PPEC, potable water supplied by the Otay Water District (OWD) may be used on an interim basis as the water supply for project operation and shall not exceed a total annual maximum of 312 acre-feet per year. An annual summary of project operation water use shall be submitted to the CPM in the annual compliance report.

At such time as recycled water is made available to the PPEC, the project owner shall use recycled water for project operation process needs. The project's use of recycled water shall be tertiary-treated water from OWD and shall comply with California Code of Regulations Title 22, Division 4, Chapter 3 and Title 17, Division 1, Chapter 5. Recycled water use shall not exceed a total annual maximum of 314 acre-feet per year. An annual summary of daily water use, differentiating between potable and recycled water, shall be submitted to the CPM in the annual compliance report.

Once recycled water is made available for project operation, potable water may only be used for domestic uses and emergency project operation. Domestic use shall be limited to one afy. For purposes of

this condition, the term emergency shall mean the inability for the PPEC to take, or for the OWD to deliver, recycled water to the PPEC in a quantity sufficient to meet PPEC demand due to natural disaster or other circumstances beyond the control of the project owner and it is necessary for the PPEC to continue to operate to serve a peaking load.

Verification: The project owner shall record PPEC construction water use on a daily basis and shall notify the CPM within 14 days upon forecast to exceed the maximum annual use of 28 acre-feet per year of potable water. Prior to exceeding the maximum use, the owner shall provide a plan to modify construction practices or offset excess water use.

The project owner shall record PPEC operation water use (from any source) on a daily basis and shall notify the CPM within 14 days upon forecast to exceed the maximum annual use as described above. Prior to exceeding the maximum use, the owner shall provide a plan to modify operations.

The project owner shall submit a water use summary report to the CPM in the annual compliance report for the life of the project operation. The annual summary report shall be based on, and shall distinguish, recorded daily use of potable and recycled water. The report shall include calculated monthly range, monthly average, daily maximum within each month and annual use by the project in both gallons per minute 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.

Once recycled water is used for project operation, the project owner shall notify the CPM when potable water will be used for emergency plant operation for more than 96 hours cumulatively. The project owner shall notify the CPM within 24 hours when potable water is used for emergency plant operation for more than 32 hours consecutively. Within the notification, the project owner shall provide justification for 96 cumulative hours or 32 consecutive hours of emergency backup and the expected duration of its use. The project owner shall not use potable water as an emergency backup supply for more than 96 consecutive hours of plant operation without CPM approval.

WATER METERING

SOIL&WATER-6: Prior to the use of a water source during commercial operation, 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 total volume(s) of water supplied to the PPEC from the water source. Those metering devices shall be operational for the life of the project and must be able to record the volume from each source separately.

The project owner shall comply with Otay Water District's requirement for recycled water connections and systems, notwithstanding its conveyance of potable water, including compliance with California

Water Code section 13523 and California Code of Regulations, Title 22 and Title 17, Division 1, Chapter 5.

Verification: At least 30 days prior to use of any water source for PPEC operation, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the potable and recycled 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.

No later than 60 days prior to the delivery of water to the connections and systems designed for future recycled water conveyance, the PPEC owner shall submit the Engineering Report and Cross Connection inspection report to the San Diego RWQCB, and California Department of Public Health (CDPH). The PPEC owner shall submit to the CPM a copy of the Engineering Report and Cross Connection inspection report and include any relevant comments from the San Diego RWQCB and CDPH prior to the delivery of water from OWD.

PRIOR TO USE OF RECYCLED WATER

SOIL&WATER-7: The project owner shall provide the CPM copies of the executed Recycled Water Purchase Agreement (agreement) with the Otay Water District (OWD) for the long-term supply (20 – 25 years) and delivery of tertiary treated recycled water to the PPEC. If OWD does not enter into such agreements, the project owner shall obtain a Will-Serve letter from OWD that demonstrates the level of recycled water service that OWD will provide to PPEC. The PPEC shall not receive recycled water without the final agreement or Will-Serve letter in place demonstrating level of service.

The project's use of recycled water shall be tertiary-treated water from OWD and shall comply with California Water Code section 13523 and California Code of Regulations, Title 22 and Title 17, Division1, Chapter 5.

Verification: No later than 60 days prior to the connection to the OWD recycled water pipeline, the project owner shall submit a copy of the executed agreement for the long-term supply and delivery of tertiary treated recycled water to the PPEC. The agreement shall specify all terms and costs for the delivery and use of recycled water by the PPEC. If OWD does not enter into such agreements, no later than 60 days prior to the connection to the OWD recycled water pipeline, the project owner shall provide the CPM a copy of a Will-Serve letter from OWD that demonstrates the level of service that OWD will provide recycled water to PPEC. The Will-Serve letter shall specify the costs associated with the delivery and the use of recycled water by the PPEC.

No later than sixty (60) days prior to delivery of recycled water to the PPEC project, the PPEC owner shall submit to the CPM documentation from OWD that all connections and systems designed for recycled water conveyance meet OWD requirements.

The project owner shall submit any notice of a regulatory inspection and/or violations from the California Department of Health, San Diego Regional Water Quality Control Board, or Otay Water District to the CPM within 10 days of receipt and fully explain the corrective actions taken in the next monthly compliance report or annual compliance report.

HYDROSTATIC TEST WATER DISCHARGE

SOIL&WATER-8: Prior to hydrostatic test water discharge to the existing municipal sewer system, the project owner shall fulfill the requirements of the San Diego County Sanitation District and the city of San Diego Municipal Code 64.0500-64.0520. The Industrial Users Wastewater Discharge Permit from the city of San Diego Industrial Waste Department shall clearly specify the discharge limits set on the wastewater discharge of the project and any other conditions imposed.

Verification: No later than 30 days prior to scheduled hydrostatic test water discharge, the project owner shall submit to the CPM a copy of the approved wastewater discharge permit from the city of San Diego Industrial Waste Department for hydrostatic test water discharge. Written verification from the city of San Diego that a permit does not apply and the reasons for exclusion can be used to satisfy this condition.

OPERATION WASTE WATER DISPOSAL AND REPORTING

SOIL&WATER-9: The project owner shall comply with the requirements of the city of San Diego's Municipal Code 64.0500 – 64.0520. The Trucked Industrial Waste Generator Permit shall clearly specify the discharge limits set by the city of San Diego on the wastewater discharge of the project and any other conditions imposed. During operation, any monitoring reports provided to the city of San Diego shall be provided to the CPM. The CPM shall be notified of any violations of discharge limits or amounts. An annual summary of industrial wastewater discharge shall be submitted to the CPM in the annual compliance report.

Verification: No later than 60 days prior to commercial operation, the project owner shall submit the information and data required to satisfy the city of San Diego's Municipal Code 64.0500 – 64.0520 for a Trucked Industrial Waste Generator Permit to the city of San Diego's Industrial Wastewater Control Program for review and approval, and a copy to the CPM. Written verification from the city of San Diego that a permit does not apply and the reasons for exclusion can be used to satisfy this condition.

During operations, the project owner shall submit any water quality monitoring required by the city of San Diego to the CPM in the annual compliance report. The project owner shall submit any notice of violations from the city of San Diego to the CPM within 10 days of receipt and fully explain the corrective actions taken in the annual compliance report.

The project owner shall submit an industrial wastewater discharge summary report to the CPM in the annual compliance report for the life of the project operation. The report shall include the average TDS concentration, monthly range, monthly average, daily maximum within each month, and annual discharge by the project. After the first year and for subsequent years, this information shall also include the yearly range and yearly average discharged by the project.

WATER CONSERVATION PLAN

SOIL&WATER-10: If reclaimed water is not available and potable water will be used at plant start-up for cooling and process water, the project owner shall make a one-time pre-payment of $425,000 for implementation of a Water Conservation Plan (WCP). The WCP shall propose one or more recipients of the funds to be used to conserve potable water in the region. At the time of submission of the WCP, the project owner shall identify whether reclaimed water has been made available and will be used for power plant cooling and process water needs.

The project owner shall provide a WCP to the CPM for review and approval and shall include the following at a minimum:

- Identity of the entities proposed to accept conservation funds and information on each entity's programs and successes;
- Description of the type of entity or entities proposed to accept conservation funds (governmental, not for or non-profit organization, etc)
- Contact information for the entity or entities;
- A statement from an authorized representative of each entity that is willing to accept the funds and use them for funding water conservation programs;
- A description of the current status of reclaimed water availability for the project;
- A statement that water meters have been or will be installed prior to plant start up and used to monitor actual amounts of potable water used; and
- A description supporting the general benefits and effects of the payments specified above as to water conservation resulting from the use of the funds.

If, at the time of submitting the WCP, reclaimed water is available to the project, then the project owner shall so state in the WCP and not be required to make any payment. Project owner shall then use reclaimed water for all process and cooling needs with potable only acting as an

emergency, limited-time use for process and cooling needs should reclaimed water be temporarily unavailable as specified in **SOIL&WATER-5**.

Verification: The project owner shall submit the Water Conservation Plan to the CPM for review and approval 90 days before the commencement of commissioning activities. The one-time payment of $425,000 shall be made to the designated recipient entity for water conservation programs within 30 days of the CPM's approval of the Water Conservation Plan. Proof of such payment shall be provided to the CPM within 15 days of the date of payment.

C. CULTURAL RESOURCES

The potential for impacts to cultural resources depends upon whether such resources are present and whether they would actually be encountered during project development and construction activities. Cultural resource materials such as artifacts, structures, or land modifications reflect the history of human development. Certain places that are important to Native Americans or local national/ethnic groups are also considered valuable cultural resources. Analysis in this topic area pertains to the structural and cultural evidence of human development in the project vicinity, as well as the implementation of appropriate mitigation measures, should cultural resources be disturbed by project excavation and construction. Potential impacts to these resources from the proposed project may include, but are not limited to, destruction of resources; alteration of a historical feature and diminishment of the significance of a cultural resource caused by construction and operation of the facility. These impacts and the thresholds for determining the significance of these impacts are discussed in this section.

When a cultural resource is determined to be significant, it is eligible for inclusion in the California Register of Historic Resources (CRHR). (Pub. Resource Code, § 5024.1; Cal. Code Regs., tit. 14, § 4850 et seq.) An archaeological resource that does not qualify as an historic resource may be considered a “unique” archaeological resource under CEQA. (See Pub. Resource Code, § 21083.2.) In addition, structures older than 50 years (or less if the resource is deemed exceptional) can be considered for listing as significant historic structures. The Office of Historic Preservation’s Instructions for Recording Historical Resources (1995) endorses recording and evaluating resources over 45 years of age to accommodate a five-year lag in the planning process.

The CEQA Guidelines define historical resources to include:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR;

(2) A resource included in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code; or

(3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. (Cal. Code Regs., tit. 14, § 15064.5(a).)

CULTURAL RESOURCES TABLE 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	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 Native American Heritage Commission-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.
California Health and Safety Code, section 7050.5	This code makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the county coroner.
Local: **San Diego County**	
Land Use Element of the San Diego County General Plan	http://www.sdcounty.ca.gov/dplu/docs/existgp/landuse.pdf Goal 3.1 establishes the need to "protect lands needed for preservation of natural and cultural resources; managed production of resources; and recreation, educational, and scientific activities" (County of San Diego 2003, p. II-3).
Conservation Element (Part X) of the San Diego County General Plan	http://www.sdcounty.ca.gov/dplu/docs/existgp/conservation.pdf Provides policies for the protection and treatment of cultural sites (County of San Diego 2002, pp. X-88 – X-94).
Resource Protection Ordinance (RPO)	http://www.sdcounty.ca.gov/dplu/docs/res_prot_ord.pdf Ordinance 9842, County Administrative Code 86.601 – 86.608 An ordinance codifying and amending the resource protection ordinance relating to wetlands, prehistoric, and historic sites, agricultural operations, enforcement, and other matters (County of San Diego 2007, p. 1 – 19).
San Diego County Historic Site Board, 2000	http://www.sdcounty.ca.gov/dplu/4Historic/main.html Ordinance 9139, County Administrative Code 396.5 Establishes the County Historic Site Board and its various duties (County of San Diego 2000).

Summary and Discussion of the Evidence

1. Project Setting

Existing land uses adjacent to the site include disturbed, undeveloped, industrially-zoned land to the immediate north and west, and similar land zoned for technology-business park purposes to the south. Two correctional facilities (state and county) are also located north of the project site (PPEC 2011a, vol. 1, p. 5.9-4). The Calpine Otay Mesa Generating Plant, which was licensed by the Energy Commission in 2001, lies directly adjacent and to the east of the proposed PPEC plant site. The project site itself is currently vacant and disturbed.

The proposed project includes the plant site, which is situated on 9.99 acres of land, and a laydown area that includes an additional 6.0 acres of land on an adjacent parcel that is contiguous with the proposed plant site. The project would also require the construction of new linear facilities, including approximately 8,000 – 10,300 feet of natural gas pipeline and approximately 2,100 – 2,650 feet of electrical transmission line, depending on which of the alternatives are selected. (Ex. 1, Vol. I, pp. 3-1 – 3-4.) The maximum area of construction disturbance (i.e., if the longest natural gas pipeline and transmission line routes are installed) would be approximately 32.68 acres. (*Id*., p. 3-7.)

2. Project Area of Analysis

The project area of analysis is defined as a specific area within and surrounding the project site and associated linear facility corridors. The term "project areas" means the footprints of all project components, including the plant site itself, the laydown area(s), all linear facility corridors, and all additional areas beyond that footprint that would be necessary to construct the project, including but not limited to parking areas, driving, equipment/materials staging, access roads and borrow, and disposal sites. For this project, we have defined a project area of analysis as follows:

- For archaeological resources, the project area of analysis for the PPEC project is defined as the project site footprint, plus a buffer of 200 feet out from the perimeter boundary, and the project linear facilities corridors, plus 50 feet to either side of the corridor. It also extends subsurface to the maximum depth of construction activities for all plant site and/or laydown area excavations and pipeline installation trenches.
- For ethnographic resources regarding the PPEC project, the evidence has identified no ethnographic resources, and therefore, no separate ethnographic area of analysis is defined for this project.
- For built-environment resources, the project area of analysis for the PPEC project includes a 0.5-mile radius from the project site, and from any above-ground linear facilities, to encompass resources whose setting could be adversely affected by industrial development.
- For a historic district or a cultural landscape, the area of analysis is defined based on the particulars of each siting case. No historic district or cultural landscape has been identified for the PPEC project; therefore, no area of analysis for such resources has been defined.

3. Environmental Setting

a. Geology and Geomorphology

The PPEC project area is situated on the relatively flat to gently sloping terrace of Otay Mesa, which is one of the highest and oldest marine terraces in the San Diego area. The archaeological record also appears to be consistent with the findings that Otay Mesa has remained largely stable and/or erosional throughout the period of known human occupation. The results of numerous archaeological excavations on Otay Mesa, in the vicinity of the PPEC project support the assumed lack of paleosols[1] and buried landforms based on geologic and soils mapping. (Ex. 1, p. 3.)

In terms of climate change in the region during the course of human prehistory, studies indicate that, during the final period of glaciation (approximately 11,000 to 10,000 years Before Present [BP]), the sea level was considerably lower than it is currently; the coastline at that time would have been two to two and one-half miles west of its present location. (Ex. 200, p. 4.3-9.)

b. Prehistoric Background

There is currently no widely accepted evidence to substantiate the argument for human occupation in San Diego County prior to 12,000 BP, and evidence for Paleo-Indian (12,000 to 8,000 BP) occupation of southern California, particularly in the coastal areas, remains minimal (Ex.1, p. 4-2). Archaic/Early Period sites from 10,000 to 1,300 years ago within San Diego County comprise a range of sites that include coastal and inland valley habitation sites, inland hunting and milling camps, and quarry sites, usually in association with fine-grained metavolcanic material. Artifact assemblages from this long period are similar in many respects, and while various cultural traits developed or disappeared during this span of time, Staff cites a clear pattern of cultural continuity during the Archaic/Early Period. (Ex. 200, p.4.3-10.)

Prehistoric peoples, to whom the San Dieguito Complex is attributed, are best characterized as hunters and gatherers possessing a relatively diverse and non-specialized economy in which relatively mobile bands accessed and used a wide range of plant, animal, and lithic resources. (*Id.*) However, artifact assemblages and sites associated with the Late Period (ca. 1,300 BP), include small projectile

[1] In soil science, paleosols are soils formed long periods ago that have no relationship in their chemical and physical characteristics to the present-day climate or vegetation.

points, pottery, the presence of obsidian from the Imperial Valley source, Obsidian Butte, a proliferation of acorn processing sites in the uplands, and permanent or semi-permanent seasonal habitation sites. (*Id.*)

c. Ethnographic Background

The PPEC project is located within the ethnographic territory historically attributed to the Tipai, which is the southern division of a group of Yuman-speaking peoples who occupied the southern extreme of California and adjoining portions of northern Baja California at the time of first contact with Europeans. The Tipai, together with the Ipai (the northern division of the group), were referred to as the Diegueño by the Spaniards and later referred to as the Kumeyaay, a linguistic term given to the specific Hokan language of the region.

Applicant's analysis of the ethnographic literature describes the Kumeyaay (Ipai and Tipai) as hunter-gatherers, organized by patrilineal, patrilocal residential groups who claimed prescribed territories. Settlement patterns are best characterized as central-based nomadism, dependent upon seasonality, band territory, and the availability of resources within a territory. (Exs.1, p. 4-3; 200, p. 4.3-11.)

d. Historic Background

During the Spanish Period, (1769-1821), Otay Mesa was placed under the jurisdiction of the Mission San Diego de Alcala, at which time the dominant land uses consisted of agriculture and livestock grazing. While the surrounding areas began to be settled during this time, Otay Mesa itself remained relatively undeveloped in its natural state. The Mexican period of 1821-1848, saw the establishment of Rancho Otay, which encompassed 6,657 acres. The grant area extended along the Otay River, just west of Lower Otay Reservoir. The PPEC project area lies south of the rancho boundary. Later, Otay Mesa was promoted as a rich agricultural resource, and promoters announced plans to establish irrigation districts and construct reservoirs and pipelines, none of which would begin to occur until the 1950s and 1960s. The first non-native settlers arrived on Otay Mesa in 1870 and began to cultivate a variety of crops, including wheat, barley, corn, tomatoes, and beans, relying on wells and rainwater storage as the main source of water. Between 1885 and 1890, the rural farming community of Otay Mesa became an established community with a school, a post office, a store, a blacksmith shop, and a church; however, between 1900 and 1920, a

drought brought a decline in the number of residents living on Otay Mesa. (Ex. 200, p. 4.3-12.)

The history of aviation is closely tied to the Otay Mesa. In 1883, John Joseph Montgomery made the world's first controlled flight with a fixed curve-wing glider from the top of a hill on Otay Mesa. In 1918, the Army Air Corps established an airfield along Otay Mesa Road known as East Field to provide advanced training for pilots during World War I. The area continued in military use throughout World Wars I and II, and the Korean War. In 1962 the city of San Diego took possession of the air field, by then known as Brown Field. The city's conversion of Brown Field to a general aviation airport brought various small businesses, flying schools, aircraft maintenance shops, and a commercial pilot's school. In addition, some federal agencies, such as the Border Patrol and US Customs Service also became associated with the airport, due to its proximity to the US border with Mexico. (Ex. 200, p. 4.3-13.)

Otay Mesa was annexed to the city of San Diego in 1956. By the 1980s, the city rezoned most of Otay Mesa from agriculture to commercial-industrial, and a variety of industrial/manufacturing uses moved to Otay Mesa, including business parks, auto wrecking yards, warehouses, US Customs offices and Border Control facilities, and energy facilities. (*Id.*)

4. Cultural Resources Inventory

The evidence explains that development of a cultural resources inventory entails working through a sequence of investigatory phases that involves: 1.) conducting background research to identify known cultural resources; 2.) conducting fieldwork to collect requisite primary data on not-yet-identified cultural resources; 3.) assessing the results of any geotechnical studies or environmental assessments completed for the proposed project site; and, 4.) making recommendations or determinations of historical significance for any identified cultural resources. (Ex. 200, p. 4.3-14.) The Applicant's and Staff's research methods and results for each investigatory phase were detailed in the record. Their collective findings are summarized below and in Table 2.

CULTURAL RESOURCES TABLE 2
Previously Identified Cultural Resources within the PPEC Project Area

Resource Identifier	Description	Location within PPEC Project
P-37-031491	Historic Otay Mesa Road	Natural Gas Line Route B
CA-SDI-7215	Prehistoric Archaeological Site	Project Site, Laydown Area, and Portions of Transmission Line Routes A & B
CA-SDI-10067	Prehistoric Archaeological Site	Modified Natural Gas Line Route A
CA-SDI-10297/H	Prehistoric Archaeological Site with historic-era component	Transmission Line Route B
CA-SDI-10298	Prehistoric Archaeological Site	Transmission Line Route A
CA-SDI-12337	Prehistoric Archaeological Site	Natural Gas Line Route B
CA-SDI-12872	Prehistoric Archaeological Site	Natural Gas Line Route B
CA-SDI-12879	Prehistoric Archaeological Site	Modified Natural Gas Line Route A
CA-SDI-12881	Prehistoric Archaeological Site	Modified Natural Gas Line Route A

(Ex. 200, p. 4.3-17.)

As used in the evidentiary record, the term “project areas” means the footprints of all project components, including the plant site itself, the laydown area(s), all linear facility corridors, and all additional areas beyond that footprint that would be necessary to construct the project, including but not limited to parking areas, driving, equipment/materials staging, access roads and borrow, and disposal.

The Energy Commission’s application data regulations require applicants to acquire information from repositories specific to the vicinity of their project and provide it to the Commission. Additionally, the Applicant is required to make inquiries of knowledgeable individuals in local agencies and organizations and of Native Americans with traditional ties to the project area.

<u>CHRIS Literature Search Results.</u> The California Historical Resources Information System (CHRIS) is a federation of 11 independent cultural resources data repositories overseen by the California State Office of Historic Preservation. These centers are located around the state, and each holds information about the cultural resources of several surrounding counties. Qualified cultural resources professionals obtain data on known resources from these centers and in turn submit to the centers new data from their ongoing research.

The records search, which the Applicant conducted on November 16, 2010, encompassed the project site, laydown area, and all linear facility alternatives, as well as a one-mile radius around the project site and laydown area and a one-quarter mile radius on either side of the various proposed linear facility corridors. The literature and records search revealed that 105 previous cultural resources investigations have occurred within the records search radius of the project area between 1974 and 2010. Of these previous investigations, 44 were found to have been conducted wholly or partially within the PPEC project site, laydown area, and/or linear facility corridors (eight within the project area and 36 within the linear facility corridors). Based on a Geographic Information System (GIS) analysis of the extent of previous cultural resources investigations, it was determined that 100 percent of the PPEC project area had been previously surveyed for cultural resources as a cumulative result of these past investigations. (Ex. 200, p. 4.3-16.)

The Applicant commissioned a second records and literature search in response to a change in the location of the proposed Gas Line Alternative Route A (now referred to as "Modified Gas Line Route A") for the project. The search revealed one additional previous cultural resources investigation and one additional previously recorded site within the one-quarter-mile radius of the new Modified Gas Line Route A. (*Id.*) the results of the records searches are summarized in Table 2, above.

Archival and Library Research. Site-specific and general primary and secondary research was conducted by the Applicant at the San Diego History Center; the San Diego State University Library; University of California, San Diego Geisel Library and Mandeville Special Collections; the San Diego Public Library; and numerous online resources, including *Calisphere – A World of Digital Resources* and *California Historic Topographic Map Collection.* As a part of this research, the Applicant reviewed historic maps, photographs, newspaper articles, general histories, and journal articles. (Ex. 1, p. 7-4.)

Inquiries and Consultations. The record shows that Applicant has consulted with representatives of the County of San Diego Department of Planning and Land Use, the San Diego History Center, the Chula Vista Heritage Museum and the "Save Our Heritage Organization" (SOHO). None of the consultations revealed cultural resources near the PPEC project. (Ex. 200, p. 4.3-27.)

Native American Consultations. Both the Applicant and Energy Commission staff requested information from the Native American Heritage Commission (NAHC) regarding the presence of Native American cultural resources in the vicinity of the proposed project, as well as a list of Native American representatives to whom inquiries may be made to identify any additional cultural resources and/or any concerns the Native Americans may have about a proposed project.

On November 23, 2010 NAHC informed Applicant that a search of the Sacred Lands File had failed to identify the presence of Native American cultural resources in the immediate project area. The NAHC also provided a list of 19 local Native American representatives whom the Applicant could contact to seek input regarding the project. Applicant's attempts to contact all 19 representatives resulted in two responses, neither offering specific information regarding the existence or location of sacred sites for Native American cultural resources related to the project area. Follow up efforts related to a changed location of Gas Line Route A ("Modified Gas Line Route A") also yielded no responses from the Native American community.

On August 4, 2011, Energy Commission cultural resources staff sent letters via certified mail to all 21 Native American representatives on the list provided by the NAHC informing them about the project and requesting any knowledge of or concerns they may have for Native American cultural resources that may be affected by the project. As of May 2012, Staff reports it has received no response from the local Native American representatives regarding the Energy Commission's requests for input. (Ex. 200, p. 27-29.)

Pedestrian Archaeology Survey. On December 1, 2010, the Applicant conducted a pedestrian survey of the project site, laydown area, transmission line alternatives, and the underground portion of the gas line corridor, as well as a 200-foot buffer around the project site and laydown areas and a 50-foot buffer on either side of the linear facilities. The Applicant noted evidence of disturbances both within and surrounding the project area of analysis, including grading; paving; road and building construction; upturned and redeposited boulders and cobbles; and rodent burrowing activity. Applicant performed a subsequent pedestrian survey on June 21, 2011. The Applicant identified no new historic or prehistoric cultural resources during the pedestrian surveys. (Ex. 200, p. 4.3-30, also see pp. 4.3-30 - 4.3-33.)

Geoarchaeology Investigations. The relationship between archaeological sites and their environmental context is an important factor in understanding and interpreting the archaeological record. At the request of Energy Commission staff, the Applicant conducted a geoarchaeological analysis of the PPEC project area in June 2011. The purpose of the geoarchaeological investigation was to identify those portions of the proposed PPEC project area that may have the potential to contain buried archaeological deposits with no surface manifestations.

The conclusions of the Applicant's geoarchaeological investigation indicate that the PPEC project area is located on a very old, high-elevation portion of the Otay Mesa. Based on existing geologic mapping and soils mapping, this landform has been non-depositional, or stable, for the entire course of human occupation in the region. Thus, there is no potential for buried land surfaces and associated paleosols of appropriate age to contain buried archaeological resources. Based on the geoarchaeological analysis and the results of previous archaeological investigations in the Otay Mesa, Commission staff concurred with the Applicant's conclusions that there is a low potential for deeply buried archaeological deposits with no surface manifestations within the PPEC project area. (Ex. 200, p. 4.3-35.)

Built-Environment Survey. The Applicant conducted an intensive historic-era built-environment survey of the project area of analysis in December 2010, in an effort to identify any historical structures, buildings, or other architectural elements, which meet the criteria for consideration as a historical resource for the purposes of CEQA. The built-environment survey area included the project site, laydown area, and all linear facilities, as well as an additional half-mile radius beyond these project features.

The Applicant identified no historic-era built-environment properties within the limits of the project site, laydown area, or transmission line corridors. Energy Commission cultural resources staff confirmed that no such built-environment resources occur within these areas during the June 2011 project site visit. However, one previously recorded built-environment property was identified along the natural gas line corridor (Historic Otay Mesa Road, P-37-031491). In addition, two newly identified properties were discovered within the half-mile built-environment study radius surrounding the plant site, laydown area, and linear facilities. They are: Historic Otay Mesa Road, Kuebler Ranch Complex, and Residence and Outbuildings at 6940 Otay Mesa Road. Cultural Resource Table 3, below, summarizes the cultural resources identified as currently existing within the project limits.

CULTURAL RESOURCES TABLE 3
Cultural Resources Located Within the Proposed PPEC Project

Resource Type/ Designation	Resource Description	Previously Known/New	Information Source
Prehistoric Archaeological Resources	**CA-SDI-10297/H** Prehistoric Archaeological Site	Previously known	CHRIS Records
Historical Archaeological Resources	**None**	N/A	N/A
Ethnographic Resources	**None**	None	None
Built-Environment Resources	**P-31-031491** Otay Mesa Road	Previously known	CHRIS Records
	PPEC-1 Kuebler Ranch Complex	New	Applicant's built-environment survey
	PPEC-2 Residential Property at 6940 Otay Mesa Road.	New	Applicant's built-environment survey

(Ex. 200, p. 4.3-38.)

5. CRHR Eligibility Evaluations

Under CEQA, only historically significant cultural resources that the proposed project could potentially impact need to be considered in Commission staff's recommendations for mitigation measures for project impacts. As a result of the cultural resources investigation for the PPEC project, one resource (prehistoric archaeological site CA-SDI-10297/H), has been identified as a CRHR-eligible cultural resource for the purposes of CEQA. The remaining three historic-era built-environment properties identified within the project area of analysis are not CRHR-eligible cultural resources and, therefore, any project impacts to them would not be significant and would require no mitigation. Cultural Resources Table 4, below, summarizes the resources identified within the PPEC project area of analysis and their corresponding eligibility for the CRHR.

CULTURAL RESOURCES TABLE 4
CRHR-Eligible Cultural Resources Potentially Subject to Impacts from the Proposed Project

Resource Type, Designation	Resource Description	CRHR-Eligible? Recommended By:
Prehistoric Archaeological Resources	**CA-SDI-10297/H** Prehistoric Archaeological Site	**Yes**; previously determined significant by Brian Smith and Associates (2005)
Historical Archaeological Resources	**None** identified within the PPEC project	**N/A**
Ethnographic Resources	**None** identified within the PPEC project	**N/A**
Built-Environment Resource	**P-37-031-491** Historic Otay Mesa Road	**No**; recommended *not* CRHR-eligible by the Applicant. Staff concurs.
Built-Environment Resource	**PPEC-1** Kuebler Ranch Complex	**No**; recommended *not* CRHR-eligible by the Applicant. Staff concurs.
Built-Environment Resource	**PPEC-2** Residence at 6940 Otay Mesa Road	**No**; recommended *not* CRHR-eligible by the Applicant. Staff concurs.

(Ex. 200, p. 4.3-43.)

6. Potential Direct and Indirect Impacts

a. Construction

To identify project-related impacts to cultural resources that would need to be mitigated, we must first identify all CRHR-eligible cultural resources (Table 4 above). Next we must evaluate the potential project impacts to the identified CRHR-eligible cultural resources to determine if these impacts would be substantial and adverse. If so, the impacts would be significant under CEQA. Where significant, we recommend mitigation measures to avoid or reduce any significant impacts to CRHR-eligible resources to the extent feasible. In addition, we must assess whether the proposed project has the potential to impact as-yet-unknown buried archaeological resources during construction activities.

Prehistoric archaeological site, CA-SDI-10297/H, is the only CRHR-eligible cultural resource identified within the PPEC project area of analysis. Site CA-SDI-10297/H lies within a portion of the proposed Transmission Line Alternative

Route B. In the event Transmission Line Alternative Route B is selected for the PPEC project, the Applicant has indicated that the construction, operation, and maintenance of the line would not disturb the archaeological easement area and has stated that it will design, construct, operate, and maintain the transmission line in a manner that will not result in any encroachment or disturbance to site. As any project-related impacts to CRHR-eligible site CA-SDI-10297/H would be considered significant under CEQA, Condition of Certification, **CUL-9**, would require the project owner to completely avoid any encroachment upon or ground disturbance within the boundaries of the designated archaeological conservation easement and abide by all restrictions identified in said archaeological easement. We find that implementation of Condition of Certification, **CUL-9**, would result in complete avoidance of any project-related impacts to known historical resources within the archaeological easement.

In addition to mitigating project impacts to known cultural resources, CEQA advises a lead agency to make provisions for archaeological resources unexpectedly and inadvertently encountered during construction. Further, a project owner may be required to train workers to recognize cultural resources, fund mitigation, and delay construction in the area of the find (Pub. Resources Code, § 21083.2; Cal. Code Regs., tit. 14, §§ 15064.5(f) and 15126.4(b)). Accordingly, we recommend implementation of Conditions of Certification **CUL-1** through **CUL-8** to provide for the contingency of discovering archaeological resources during construction of the PPEC project and related activities.

7. Operation Impacts

The evidence does not identify any activities that would require significant ground disturbance during the operational and maintenance phases of the PPEC project. Consequently, there are unlikely to be any potential impacts once construction is completed; therefore, no additional mitigation or conditions of certification are required. However, should activities require ground disturbance in previously undisturbed soils and sediments, implementation of the applicable Conditions of Certification **CUL-1** through **CUL-9** shall be required, as identified during the review of any Petition to Amend, to reduce any potential impacts to a less than significant level.

8. Cumulative Impacts

The evidence establishes that the PPEC will have no impacts to known cultural resources and therefore will not contribute to cumulative impacts. Conditions of

Certification **CUL-1** through **CUL-9** would reduce any potential impacts to unanticipated discoveries found to be historically significant.

9. Compliance with LORS

Cultural Resources Table 1 above identifies the applicable state and local LORS. With implementation of the conditions of certification which follow, the proposed PPEC project would result in no impacts to known cultural resources, and any impacts to historically significant archaeological resources discovered during construction would be mitigated to a less-than-significant level. The project would therefore be in compliance with the applicable state laws, ordinances, regulations, and standards.

FINDINGS OF FACT

1. The record establishes that 100 percent of the PPEC project area had been previously surveyed for cultural resources as a cumulative result of past investigations.

2. The evidence identifies nine previously identified cultural resources within the PPEC project area.

3. Although archaeological resources have been previously recorded in the project area, the Applicant identified no new historic or prehistoric cultural resources during the pedestrian surveys conducted in December 2010 and June 2011 in the project area of analysis.

4. Prehistoric archaeological site, CA-SDI-10297/H, is the only CRHR-eligible cultural resource identified within the PPEC project area of analysis.

5. We find that implementation of Condition of Certification, **CUL-9**, would result in complete avoidance of any project-related impacts to site CA-SDI-10297/H.

6. No historical archaeological resources were identified within the PPEC project limits.

7. The Sacred Lands file did not indicate the presence of Native American traditional cultural properties or cultural resources within the project area.

8. Contacts with the NAHC and the local Native American representatives in the project vicinity have identified no ethnographic resources within the PPEC project area of analysis.

9. Three built-environment resources which meet the age criterion for consideration as historical resources for the purposes of CEQA, were identified within the PPEC project area of analysis but were found to be otherwise not CRHR-eligible cultural resources. Therefore, any project impacts to them would not be significant and would require no mitigation.

10. Conditions of Certification **CUL-1** through **CUL-9** will mitigate potential impacts to buried archaeological resources that could be discovered during the construction of the proposed PPEC. The conditions also provide for identification of and appropriate treatment for as-yet-unidentified CRHR-eligible archaeological resources encountered during construction.

11. The incremental effects on cultural resources of the PPEC project will not be cumulatively considerable when viewed in conjunction with other projects.

CONCLUSIONS OF LAW

1. With implementation of the conditions of certification below, the PPEC 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. Through implementation of the conditions of certification below, the project will have no significant environmental impacts.

PROPOSED CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of construction-related ground disturbance or grading, boring, and trenching, as defined in the **General Conditions** for this project; surface grading or subsurface soil work during pre-construction activities or site mobilization; or mowing activities and heavy equipment use in loose or sandy soils, at the site and for access roads and linear facilities, the project owner shall obtain the services of a Cultural Resources Specialist (CRS) and one or more Alternate CRS(s). The project owner shall submit the resumes and qualifications for the CRS, CRS alternates, and all technical specialists to the CPM for review and approval. None of the above activities may commence prior to CPM approval of the CRS and alternates.

The CRS shall manage all cultural resources monitoring, mitigation, curation, and reporting activities, and any pre-construction cultural resources activities (e.g., geoarchaeology or data recovery), unless management of these is otherwise provided for in accordance with the **Cultural Resources** 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.

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 and concurrent service as CRS on an unmanageable number of Energy Commission projects, as determined by the CPM. After all construction-related ground disturbances are completed and the CRS has fulfilled all responsibilities specified in these cultural resources conditions, the project owner may discharge the CRS. With the discharge of the CRS, these **Cultural Resources** Conditions no longer apply to the construction activities of this power plant.

If, during operation of the proposed power plant, circumstances develop that would require ground disturbance in soils or sediments previously undisturbed during project construction, no surface grading or subsurface soil work shall occur prior to CPM review and approval of project-specific protocol for addressing unanticipated discoveries, consistent with the approved Cultural Resources Mitigation and Monitoring Plan (CRMMP).

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 the 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 and alternate(s) shall have the following qualifications:

1. Qualifications appropriate to the needs of the project, including 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), resources 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. B.S. or B.A. degree in anthropology, archaeology, historical archaeology, or a related field, and one year experience monitoring in California; or
2. 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 ground disturbance, the project owner shall submit the resume for the CRS, and alternate(s) if desired, to the CPM for review and approval.

Within 10 days after the termination, release, or resignation of a CRS, the project owner shall submit the resume of the proposed new CRS, if different from the alternate 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 no alternate CRS is available to assume the duties of the CRS, the project owner shall designate a CRM to serve in place of a CRS for a maximum of three days. If cultural resources are discovered, 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 ground disturbance, the CRS shall provide a letter naming CRMs and attesting that the identified CRMs meet the minimum qualifications for cultural resources monitoring required by this condition.

At least five days prior to additional CRMs beginning on-site duties during the project, the CRS shall provide letters to the CPM identifying the new 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 ground disturbance, the project owner shall confirm in writing to the CPM that the approved CRS will be available for on-site work and is prepared to implement the cultural resources conditions.

CUL-2 Prior to the start of construction-related ground disturbance or grading, boring, and trenching, as defined in the General Conditions for this project; surface grading or subsurface soil work during pre-construction activities or site mobilization; or mowing activities and heavy equipment use in loose or sandy soils, at the site and for access roads and linear facilities, if the CRS has not previously worked on the project, the project owner shall provide the CRS with copies of the AFC, data responses, confidential cultural resources reports, all supplements, the Energy Commission cultural resources Final Staff Assessment (FSA), and the **Cultural Resources** Conditions of Certification from the Final Decision, 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., 1:24,000 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 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 notice identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

Weekly, until 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 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 ground disturbance, the project owner shall provide the AFC, data responses, confidential cultural resources documents, all supplements, and the FSA 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 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 ground disturbance, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax.

Within five days of 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 or grading, boring, and trenching, as defined in the **General Conditions** for this project; surface grading or subsurface soil work during pre-construction activities or site mobilization; or mowing activities and heavy equipment use in loose or sandy soils, at the site and for access roads and linear facilities,, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by, or under, the direction of the CRS to the CPM for review and approval. The CRMMP shall follow the content and organization of the draft model CRMMP, provided by the CPM, and the authors' name(s) shall appear on the title page of the CRMMP. The CRMMP shall identify measures to minimize potential impacts to sensitive cultural resources. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, each CRM, and the project owner's on-site construction manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless such activities are specifically approved by the CPM.

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

1. 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. The research design will specify that the preferred treatment strategy for any buried archaeological deposits is avoidance. A specific mitigation plan shall be prepared for any unavoidable impacts to any CRHR-eligible (as determined by the CPM) resources. A prescriptive treatment plan may be included in the CRMMP for limited data types.
3. Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the ground-disturbance and post-ground–disturbance analysis phases of the project.
4. Identification of the person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team.
5. A description of the manner in which Native American observers or monitors will be included, the procedures to be used to select them, and their role and responsibilities.
6. A description of all impact-avoidance measures (such as flagging or fencing) to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during ground disturbance, construction, and/or operation, and identification of areas where these measures are to be implemented. The description shall address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from project-related effects.
7. 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.
8. A statement that the project owner will pay all curation fees for artifacts recovered and for related documentation produced during

cultural resources investigations conducted for the project. The project owner shall identify three possible curation facilities that could accept cultural resources materials resulting from project activities.

9. A statement demonstrating when and how the project owner will comply with Health and Human Safety Code 7050.5(b) and Public Resources Code 5097.98(b) and (e), including the statement that the project owner will notify the CPM and the Native American Heritage Commission (NAHC) of the discovery of human remains.

10. A statement that the CRS has access to equipment and supplies necessary for site mapping, photography, and recovery of any cultural resource materials that are encountered during ground disturbance and cannot be treated prescriptively.

11. A description of the contents, format, and review and approval process of the final Cultural Resource Report (CRR), which shall be prepared according to ARMR guidelines.

Verification: After approval of the CRS proposed by the project owner, the CPM will provide to the project owner an electronic copy of the draft model CRMMP for the CRS.

At least 30 days prior to the start of 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 ground disturbance, in a letter to the CPM, the project owner shall agree to pay curation fees for any materials generated or collected as a result of the archaeological investigations (survey, testing, data recovery).

Within 90 days after completion of ground disturbance (including landscaping), if cultural materials requiring curation were generated or 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 the cultural materials from this project. Any agreements concerning curation will be retained and available for audit for the life of the project.

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, 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 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. The draft CRR shall be retained at the project site in a secure facility until 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 that covers all cultural resource activities associated with the project to the CPM for review and approval.

Within 90 days after completion of 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 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, the curating institution, if archaeological materials were collected, and to the Tribal Chairpersons of any Native American groups requesting copies of project-related reports.

CUL-5 Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment at the project site, along the linear facilities routes, and at laydown areas, roads, and other ancillary areas. The cultural resources part of this 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. During the training and during construction, the CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must be resumed when ground disturbance, such as landscaping, resumes.

The training shall include:

1. A discussion of applicable laws and penalties under 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 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, if the CRS, alternate CRS, or CRMs are not present, 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 ground disturbance shall occur prior to implementation of the WEAP program, unless such activities are specifically approved by the CPM.

Verification: At least 30 days prior to the beginning of ground disturbance, the CRS shall provide the cultural resources WEAP training program draft text, including Native American participation, graphics, and the informational brochure to the CPM for review and approval.

At least 15 days prior to the beginning of ground disturbance, the CPM will provide to the project owner a WEAP Training Acknowledgement form for each WEAP-trained worker to sign.

Monthly, until 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 Prior to the start of site mobilization along the linear facilities route(s), the project owner shall notify the CPM of the date(s) that ground disturbance will begin. The project owner shall ensure that full-time monitoring of all ground disturbing activities (as identified in **CUL-1**) by the CRS, alternate CRS, or CRMs shall occur throughout the construction process. No monitoring within the plant site or laydown area is required.

Where excavation equipment is actively removing dirt and hauling the excavated material farther than 50 feet from the location of active excavation, full-time archaeological monitoring shall require at least

two monitors per excavation area. In this circumstance, one monitor shall observe the location of active excavation and a second monitor shall inspect the dumped material. For excavation areas where the excavated material is dumped no farther than 50 feet from the location of active excavation, one monitor shall both observe the location of active excavation and inspect the dumped material.

At the request of a Native American tribal representative with ancestral ties to the project area, the project owner shall be required to obtain the services of one or more Native American representatives to monitor ground disturbance in the locations of all project linear facilities. Contact lists of interested Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area where the project is located, but the project owner shall make a reasonable and good faith effort to accommodate equally all groups expressing the desire to monitor. If efforts to obtain the services of at least one qualified Native American monitor, acceptable to all groups that want monitoring, are unsuccessful, the project owner shall immediately inform the CPM. The CPM may either identify potential monitors or allow ground disturbance to proceed without a Native American monitor.

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 the project's cultural resources-related activities, 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 ground disturbance, the CPM will notify all Native Americans with whom the Energy Commission communicated during the project review of the date on which the project's ground disturbance will begin.

At least 30 days prior to the start of ground disturbance, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log.

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 ground disturbance to the CRS, alternate CRS, and the CRMs in the event of a cultural resources discovery. Redirection of 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, 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. If the discovery includes human remains, the project owner shall comply with the requirements of Health and Human Safety Code § 7050.5(b) and shall notify the CPM and the NAHC of the discovery of human remains. No action shall be initiated without direction from the CPM. Monitoring and daily reporting, as provided in other conditions, shall continue during the project's ground-disturbing activities elsewhere. After the discovery of human remains, cultural resources monitoring of ground disturbance shall continue or be initiated, and shall include a Native American monitor pursuant to requirements in these conditions of certification. The halting or redirection of 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 that have requested to be notified in the event of such a discovery within 24 hours of the 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. Ground disturbance may resume only with the approval of the CPM.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt 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.

Unless the discovery can be treated prescriptively, as specified in the CRMMP, completed DPR 523 forms for resources newly discovered during 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.

Within 48 hours of the discovery of a resource of interest to Native Americans, the project owner shall ensure that the CRS notifies all Native American groups who have requested to be notified in the event of such a discovery, and the CRS must inform the CPM when the notifications are complete.

No later than 30 days following the discovery of any Native American cultural materials, the project owner shall submit to the CPM copies of the information transmittal letters sent to the Chairpersons of the Native American tribes or groups who requested the information. Additionally, the project owner shall submit to the CPM copies of letters of transmittal for all subsequent responses to Native American requests for notification, consultation, and reports and records.

Within 15 days of receiving them, the project owner shall submit to the CPM copies of any comments or information provided by Native Americans in response to the project owner's transmittals of information.

CUL-8 If fill soils must be acquired from a non-commercial borrow site or disposed of to a non-commercial disposal site, unless less-than-five-year-old surveys of these sites for archaeological resources are documented to and approved by the CPM, the CRS shall survey the borrow and/or disposal site/s for cultural resources and record on DPR 523 forms any that are identified. When the survey is completed, the CRS shall convey the results and recommendations for further action to the project owner and the CPM, who will determine what, if any, further action is required. If the CPM determines that significant archaeological resources that cannot be avoided are present at the borrow site, other conditions shall apply. The CRS shall report on the methods and results of these surveys in the final CRR.

Verification: As soon as the project owner knows that a non-commercial borrow site and/or disposal site will be used, he/she shall notify the CRS and CPM and provide documentation of previous archaeological survey, if any, dating within the past five years, for CPM approval.

In the absence of documentation of a recent archaeological survey, at least 30 days prior to any soil borrow or disposal activities on the non-commercial borrow and/or disposal sites, the CRS shall survey the site/s for archaeological

resources. The CRS shall notify the project owner and the CPM of the results of the cultural resources survey, with recommendations, if any, for further action.

CUL-9 In the event that Transmission Line Alternative Route B is selected for the PPEC project, the project owner shall design, construct, operate, and maintain the transmission line in a manner that avoids any and all encroachments and/or disturbances to the Open Space Easement area (Easement in Favor of the County of San Diego for Archaeological Conservation, recorded September 13, 2001 as File No. 2001-0657833, O.R.), which protects CRHR-eligible site CA-SDI-10297/H, as depicted on Parcel Map 20473, Easement Area "C". The CRS or alternate CRS shall monitor all construction activities during the construction of Transmission Line Alternative Route B, consistent with Conditions of Certification **CUL-1** through **CUL-8**.

Verification: At least 30 days prior to the initiation of PPEC project construction, the Applicant shall submit to the CPM for review and approval, a map figure, based on Parcel Map 20473, that depicts the final design plans for the construction of Transmission Line Alternative Route B (including the precise power pole locations, transmission line rights-of-way, construction staging areas, and all points of access for construction and maintenance activities, relative to the Open Space Easement area.

At least 30 days prior to the initiation of construction, the Applicant shall prepare and submit a written plan to the CPM for review and approval that describes in detail how the construction, operation, and maintenance of Transmission Line Alternative Route B will occur and will not encroach upon or disturb the Open Space Easement area that contains site CA-SDI-10297/H.

At least two weeks prior to the initiation of construction of Transmission Line Alternative Route B, the project owner shall notify both the CPM and the CRS, in writing (via letter or email), describing the schedule for transmission line construction.

D. GEOLOGICAL AND PALEONTOLOGICAL RESOURCES

This section of the Decision summarizes the record concerning the project's potential effects relating to geological and paleontological resources. Our evaluation in this subject area is guided by California Environmental Quality Act (CEQA) Guidelines, Appendix G.

The evidence evaluates whether project-related activities could result in exposure to geological hazards, as well as whether the facility can be designed and constructed to avoid any such hazard which could impair its proper functioning. These include faulting and seismicity, liquefaction, dynamic compaction, hydrocompaction, subsidence, expansive soils, landslides, tsunamis, and seiches. Next, the evidence assesses whether the project will impact any geologic or mineralogical resources. Finally, the evidence examines whether fossilized remains or trace remnants of prehistoric plants or animals are likely to be present at the site and, if so, whether the project's potential impacts to these resources are adequately mitigated.

Our evaluation of the project also includes an assessment of the project's compliance with the applicable laws, ordinances, regulations, and standards (LORS). The LORS are identified in **Appendix A** to this Decision.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Site Description

The proposed PPEC would be constructed on a previously graded, flat 10 acre site located in the unincorporated Otay Mesa area of San Diego County. An existing natural gas fired power plant (the 510 MW Otay Mesa Generating Project (OMGP)) is located adjacent to and east of the eastern PPEC property boundary. (Ex. 200, p. 5.2-3.)

The PPEC site has been extensively graded and is entirely within a cut pad consisting of in-place Otay Formation sediments. The Otay Formation sediments consist of poorly indurated massive light-colored sandstone, siltstone and claystone interbedded with bentonite lenses. In the immediate PPEC area, the formation trends in a northwest to southeast direction and dips gently (about five degrees) toward the southwest. (Ex. 200, p. 5.2-5.)

A geotechnical investigation has not yet been conducted for PPEC and a definitive depth to groundwater has not yet been determined. As part of the construction of the adjacent OMGP, soil borings were drilled in 1997 to a depth of 81.5 feet bgs and groundwater was not encountered in any of the OMGP borings (CEC 2000). Therefore, given the difference in elevation between the two sites, it is expected that groundwater occurs at a depth greater than 55 feet beneath the PPEC site. (Ex. 200, p. 5.2-5.)

The evidence shows that there are no valuable mineral or geologic resources at the site. Therefore the potential for significant impacts to geologic or mineralogic resources is low.

No important paleontological resources were observed on the proposed PPEC site or at the off-site lay down area during the paleontological field survey conducted for the AFC. However, during construction of the Rowland-Otay Mesa Transfer project site, located approximately 1,300 feet to the southwest of the PPEC site, three general fossil localities were discovered in Otay Formation sediments during mass grading operations. Mammal bones and teeth, reptile remains, terrestrial invertebrates, algal cysts and freshwater snails were discovered. (Ex. 200, p. 5.2-8.)

Since the proposed PPEC site has already been graded, subsurface construction would be limited to foundation excavation and utility trenching. Based on the discoveries made at the nearby Auto Transfer facility, we find the probability of encountering paleontological resources is high on the proposed plant site and within soils excavated for buried pipelines connecting to the plant. No further potential for impacts would occur after the project is constructed and begins operation.

If implemented, Conditions of Certification **PAL-1** to **PAL-7** would mitigate any potential paleontological resource impacts to a less than significant level. Essentially, these conditions would require a worker education program in conjunction with monitoring of proposed earthwork activities by qualified professional paleontologists (paleontologic resource specialist; PRS). Earthwork would be halted any time potential fossils are recognized by either the paleontologist or the worker. When properly implemented, the conditions of certification would yield a net gain to the science of paleontology since fossils that would not otherwise have been discovered can be collected, identified, studied, and properly curated. A paleontological resource specialist would be retained for the proposed project by the Applicant to produce a monitoring and

mitigation plan, conduct the worker training, and provide the on-site monitoring. During the monitoring, the PRS can petition the CEC for a change in the monitoring protocol. Most commonly, this would be a request for lesser monitoring after sufficient monitoring has been performed to ascertain that there is little chance of finding significant fossils. In other cases, the PRS can propose increased monitoring due to unexpected fossil discoveries or in response to repeated out-of-compliance incidents by the earthwork contractor. (*Id.*)

2. Geologic Hazards

The evidentiary record contains analysis of potential geologic hazards at the proposed PPEC site.

a. Faulting and Seismicity

No faults were identified within two miles of the project site. San Diego County has a number of sources of seismicity. Since 1984 earthquake activity in San Diego County has doubled over that of the preceding 50 years. The strongest recorded quake in coastal San Diego County was the M5.3 temblor that occurred on July 13, 1986 on the Coronado Bank Fault, 25 miles offshore of Solana Beach.

Seismically induced ground shaking is the most substantial geologic hazard for PPEC. All of San Diego County is within Seismic Zone 4 (considered to be the highest seismic hazard) and, like most of Southern California, is subject to strong ground shaking. The potential for and mitigation of the effects of strong seismic shaking during an earthquake should be addressed in a project-specific geotechnical report, per CBC 2010 requirements, and proposed **Facility Design** Conditions of Certification **GEN-1**, **GEN-5** and **CIVIL-1**. Compliance with these conditions of certification would ensure the project is built to current seismic standards and potential impacts would be mitigated in accordance with current standards of engineering practice. (Ex. 200, p. 5.2-13.)

b. Liquefaction

Liquefaction is a phenomenon whereby loose, saturated, granular soils lose their inherent shear strength because of excess pore water pressure build-up, such as that generated during repeated cyclic loading from an earthquake. A low relative density of the granular materials, shallow groundwater table, long

duration, and high acceleration of seismic shaking are some of the factors favorable to cause liquefaction.

The presence of predominantly cohesive or fine-grained materials and/or absence of saturated conditions can preclude liquefaction. Liquefaction hazards are usually manifested in the form of buoyancy forces during liquefaction, increase in lateral earth pressures due to liquefaction, horizontal and vertical movements resulting from lateral spreading, and post-earthquake settlement of the liquefied materials.

The depth to groundwater on the proposed PPEC site is not known. Based on borings drilled on an adjacent property, groundwater is expected to be encountered at a depth greater than 55 feet below ground surface.

Based on site observations and review of information obtained from studies conducted on neighboring property, subsurface conditions at the site are not likely to be conducive to liquefaction. However, groundwater levels should be confirmed, and the liquefaction potential on the proposed PPEC site should be addressed in a project-specific geotechnical report, per CBC 2010 requirements and proposed **Facility Design** Conditions of Certification **GEN-1, GEN-5** and **CIVIL-1**. (Ex. 200, p. 5.2-14.)

c. Other Geologic Hazards

The evidence also contains analyses of risk to the project from lateral spreading, dynamic compaction, hydrocompaction, subsidence, expansive soils, landslide, flooding tsunamis, and volcanic hazards. As explained by the evidence, none of these geologic phenomena pose a significant risk to the PPEC. (Ex. 200, p. 5.2-15.)

For instance, lateral spreading of the ground surface can occur within liquefiable beds during seismic events. Because the project site is relatively flat, the potential for lateral spreading is negligible. The potential for hydrocompaction is also negligible given the density of the site soils, the site's agricultural history, and historic groundwater elevations. (*Id.*)

Although the site could be subject to dynamic compaction during a large earthquake, the project owner's preparation of the California Building Code-required project-specific geotechnical report and implementation of **Facility Design** Conditions of Certification **GEN-1, GEN-5** and **CIVIL-1**, will ensure that

dynamic compaction conditions are reduced to a less than significant level. Compliance with the recommendations and above-listed **Facility Design** Conditions of Certification will ensure mitigation for possible subsidence and expansive soils impacts.

3. Compliance with LORS

Both Staff and the Applicant identified the applicable LORS that guided the Applicant's and Staff's evaluation of geologic and paleontologic resources and that impose requirements for project construction. The former include the Alquist-Priolo Earthquake Faulting Zone Act and the Seismic Hazards Mapping Act. As explained by the evidence, the project is not located within any known active fault zone. As required by the Seismic Hazards Mapping Act, the evidence identifies and discusses the project area in the context of their susceptibility to the effects of strong ground shaking such as liquefaction, landslides, tsunamis, and seiches.

Regarding design and construction requirements, both state and local LORS were identified - all of which must be complied with as specified in **Facility Design** Conditions of Certification **GEN-1**, **GEN-5**, and **CIV-1**.

4. Cumulative Impacts

No geological and mineralogical resources (sand and gravel) have been identified in the project area. The site has not been identified as a significant mineral deposit that should be protected and is three miles from the closest identified mineral resource. Development of this 10 acre parcel is not expected to lead to a significantly cumulative effect on geologic and mineralogical resources within the project area.

Paleontological resources have been documented in the general area of the proposed project and in sediments similar to those that are present on the site. However, to date, none have been found on the plant site or along project linear routes during cursory field studies of the PPEC. If significant paleontological resources are uncovered during construction they would be protected and preserved in accordance with Conditions of Certification **PAL-1** to **PAL-7**. These conditions would also mitigate any potential cumulative impacts.

The proposed PPEC would be situated in an active geologic environment. Strong ground shaking potential must be mitigated through foundation and structural design as required by the CBC 2010. Expansive materials, as well as compressible soils and soils that may be subject to subsidence due to dynamic

compaction, must be mitigated in accordance with a design-level geotechnical investigation as required by the CBC 2010, and proposed Conditions of Certification **GEN-1, GEN-5, and CIVIL-1** under **Facility Design**.

Based on the above discussion, we find that the potential for significant adverse cumulative impacts to the proposed project from geologic hazards during its design life is low and the potential for project impacts to geologic, mineralogic, and paleontologic resources is also low.

The proposed Conditions of Certification allow the Energy Commission Compliance Project Manager (CPM) and the Applicant to adopt a compliance monitoring scheme ensuring compliance with applicable LORS for geologic hazards and geologic, mineralogic, and paleontologic resources to reduce any potential project-related cumulative impacts to less than significant levels.

5. Agency and Public Comments

There were no comments received from agencies or the public.

FINDINGS OF FACT

1. The project is located in San Diego County, California, approximately 17 miles southeast of the city of San Diego and 1.5 miles north of the Mexican border.

2. Seismic ground shaking due to earthquakes is the primary geologic hazard which could affect the PPEC project.

3. The required geotechnical investigation for the PPEC will present standard engineering design recommendations for mitigation of seismic shaking and site soil conditions applicable to the project site. A project-specific report is required by the California Building Code.

4. Potential geologic hazards to the project are effectively mitigated by standard engineering design measures as specified in Conditions **GEN-1, GEN-5,** and **CIVIL-1** of the **Facility Design** section of this Decision.

5. Lateral spreading, dynamic compaction, hydrocompaction, landslides, flooding, tsunamis, and seiches pose low or negligible project risks.

6. The PPEC site is located within an established Mineral Resource Zone (MRZ), but no economically viable mineral deposits are known to be present at the site.

7. There is no evidence of existing or potential geological or mineralogical resources at the project site or along the linear alignments.

8. There are no known paleontological resources on the project site.

9. Because the upper six or more feet of the surface of the proposed PPEC site is disturbed, the material within that depth is unlikely to contain significant paleontological resources within their natural context and is assigned a negligible paleontological sensitivity rating.

10. However, fossils have been discovered in the site vicinity. There is potential to encounter paleontological resources during construction of the project.

11. The project owner will implement several mitigation measures to avoid impacts to any paleontological resources discovered, including worker education, preparing a Paleontological Monitoring and Mitigation Plan, and having a Paleontologic Resource Specialist and/or Paleontologic Resources Monitor on-site. These mitigation measures are found in Conditions of Certification **PAL-1** through **PAL-7,** below.

12. The facility could be designed and constructed to minimize the effect of geologic hazards and impacts to potential paleontological resources at the site during project design life.

13. No geologic hazards which would arise due to cumulative effects during operation of the proposed facility were identified.

CONCLUSIONS OF LAW

1. The conditions listed below ensure that project activities will not cause significant adverse direct, indirect, or cumulative impacts to geological, mineralogical, or paleontological resources.

2. Compliance with the conditions of certification specified below and the **Facility Design** Conditions of Certification **GEN-1**, **GEN-5**, and **CIVIL-1** will ensure that the PPEC conforms to all applicable laws, ordinances, regulations, and standards related to geological, mineralogical, and paleontological resources as identified in **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

PAL-1 The project owner shall provide the compliance project manager (CPM) with the resume and qualifications of its Paleontological Resource Specialist (PRS) for review and approval. If the approved

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

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

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

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

The project owner shall ensure that the PRS obtains qualified paleontological resource monitors to monitor as he or she deems necessary on the project. Paleontologic Resource Monitors (PRMs) shall have the equivalent of the following qualifications:

- BS or BA degree in geology or paleontology and one year of experience monitoring in California; or
- AS or AA in geology, paleontology, or biology and four years' experience monitoring in California; or
- Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.

Verification: At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work.

At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project, stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during 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.

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

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

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

PAL-3 Prior to ground disturbance, 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. 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 for review and approval. 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, the project owner shall prepare and submit a Worker Environmental Awareness Program (WEAP) to the CPM for review and approval. 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.

For the duration of construction activities involving ground disturbance, the project owner and the PRS shall 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.

Worker training shall consist of an initial in-person PRS training during the project kick-off, for those mentioned above. Following initial training, a CPM-approved video or in-person training may be used for new employees. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or other areas of interest or concern. 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 paleontological 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.

As part of this condition, workers shall not excavate in sensitive units prior to receiving CPM-approved worker training.

Verification: At least 30 days prior to ground disturbance, the project owner shall submit the proposed WEAP, including the brochure, with the set of reporting procedures for workers to follow to the CPM for review and approval.

At least 30 days prior to ground disturbance, the project owner shall submit the script and final video to the CPM for review and approval if the project owner is planning to use a video for interim training. No ground disturbance shall occur prior to CPM approval of the WEAP, unless specifically approved by the CPM.

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

In the monthly compliance report (MCR), the project owner shall provide copies of the WEAP certification of completion forms with the names of those trained and the trainer or type of training (in-person or video) offered that month. The MCR shall also include a running total of all persons who have completed the training to date.

PAL-5 The project owner shall ensure that the PRS and PRM(s) monitor consistent with the PRMMP all construction-related grading, excavation, trenching, and augering in areas where potential 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 paleontological 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.

The PRS shall evaluate whether the information being submitted in a compliance report should be considered confidential. If so, the PRS shall submit the information under confidential cover to the CPM.

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. If required by the PRS, the compliance reports shall be submitted under confidential cover to the CPM.

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. The PRS shall evaluate whether the information being submitted in the PRR should be considered confidential. If so, the PRS shall submit the information under confidential cover to the CPM.

Verification: Within 90 days after completion of ground-disturbing activities, including landscaping, the project owner shall submit the PRR. If required by the PRS, the PRR shall be provided under confidential cover to the CPM.

Certification of Completion
Worker Environmental Awareness Program
PIO PICO Energy Center Project (11-AFC-01)

This is to certify these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on cultural, paleontological, and biological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

No.	Employee Name	Title/Company	Signature
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Cultural Trainer: _____ Signature:_____ Date: ___/___/____

PaleoTrainer: _____ Signature:_____ Date: ___/___/____

Biological Trainer: _____Signature:_____ Date:___/___/____

VIII. `LOCAL IMPACT ASSESSMENT

The effect of a power plant project on the local area depends upon the nature of the community and the extent of the associated impacts. Technical topics discussed in this portion of the Decision consider issues of local concern including **Land Use, Noise, Socioeconomics, Traffic and Transportation, and Visual Resources.**

A. LAND USE

The land use analysis focuses on two main issues: (1) whether the project is consistent with local land use plans, ordinances, and policies; and (2) whether the project is compatible with existing and planned uses.

In accordance with the CEQA Guidelines, we evaluate whether the project might result in significant impacts by:

- Converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non-agricultural use;
- Conflicting with existing zoning for agricultural use or a Williamson Act contract;
- Involving other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural uses;
- Physically disrupting or dividing an established community;
- Conflicting with any applicable habitat conservation plan or natural community conservation plan;
- Conflicting 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 plan, local coastal program, airport land use compatibility plan, or zoning ordinance; or
- Creating 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. (Cal. Code Regs., tit. 14, §§ 15000 et seq., Appen. G, §§ II, IX, XVII.)

We also evaluate whether the project complies with the laws, ordinances, regulations, and standards (LORS) identified in **Land Use Table 1** below.

Land Use Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable LORS	Description
Federal	
	None
State	
	None
Local	
County of San Diego General Plan	The County of San Diego General Plan, adopted August 3, 2011, consists of six elements: Land Use Element, Mobility Element, Conservation and Open Space Element, Housing Element, Safety Element and Noise Element. The General Plan also includes community plans and specific plans. The proposed project site is located within the East Otay Mesa Business Park Specific Plan which implements the policies and regulations of the County of San Diego General Plan and the Otay Subregional Plan.
Otay Subregional Plan	The Otay Subregional Plan, adopted August 3, 2011, is intended to promote orderly development, protect environmental and manmade resources, and implement the County of San Diego's objectives for growth management and the structure of government for the Otay Subregion.
East Otay Mesa Business Park Specific Plan	The East Otay Mesa Business Park Specific Plan (as amended by SPA 10-001, September 15, 2010) sets forth a comprehensive vision for the Specific Planning Area in the unincorporated areas of the County of San Diego. The Specific Plan is a regulatory document that establishes standards for development, environmental conservation, and public facilities and implements the objectives, goals and policies of the County of San Diego General Plan and the Otay Mesa Subregional Plan.
Heavy Industrial Designation	The Heavy Industrial land use designation within the East Otay Mesa Business Park Specific Plan, allows for most uses in the Technology Business Park designation and the Light Industrial designation. In addition, recycling plants, salvage yards and outdoor storage are also permitted.
County of San Diego Zoning Ordinance	The Zoning Ordinance establishes zones in the unincorporated areas of the County of San Diego regulating the use of land, height of buildings, area of lots, building site and providing for maps showing the zoning classification boundaries.
Specific Planning Zoning (S88)	The Specific Planning Area Use Regulations are intended to accommodate Specific Plan areas shown on the County of San Diego General Plan or on those lands for which a Specific Plan has been adopted by the Board of Supervisors. The application of the S88 Use Regulations can create an unlimited variety of land uses in conformance with the General Plan.
Major Impact Services and Utilities Use, Section 1350	The Major Impact Services and Utilities use type refers to public or private services and utilities which have substantial impact. Such uses may be conditionally permitted in any zone when the public interest supersedes the usual limitations placed on land use and transcends the usual restraints of zoning for reasons of necessary location and community wide interest. Major Impact Services and Utilities uses are permitted in the Heavy Industrial land use designation of the East Otay Mesa Business Park Specific Plan upon the issuance of a Major Use Permit from the County of San Diego.

The project site does not involve federally managed lands, therefore, there are no identified applicable federal land use related LORS and no applicable state land use LORS have been identified. In addition, the project site is located approximately three miles east of Brown Field Municipal Airport and outside of the Airport Influence Area Review Area 2.[1] Therefore, the Brown Field Municipal Airport Land Use Compatibility Plan does not apply to the project. (Ex. 200, pp. 4.5-1 – 4.5-3.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. The Project Site and Vicinity

The PPEC is proposed to be located in an unincorporated area of southwestern County of San Diego, known as Otay Mesa. The PPEC is located approximately one mile north of the future State Route 11, two miles east of Highway 125, approximately two miles southeast of the city of Chula Vista and one and one-half mile north of the United States/Mexican border.

The project site is located immediately adjacent to and west of the existing Otay Mesa Generating Project (OMGP) a natural gas-fired power plant.[2] The PPEC would be located on a vacant, disturbed 9.99-acre parcel (Assessor Parcel Number 648-040-45) at the southeast corner of Alta Road and Calzada de la Fuente intersection, within an industrial park. The 9.9 acre generating facility would be fenced and would include an administration and control area, a warehouse, a water treatment building, a firewater pump modular enclosure, switchgear modules, and gas compressor modulars. The construction laydown area, 6 acres of a 9.68-acre parcel (Assessor Parcel Number 648-040-46), would be located immediately south and adjacent of the proposed project site. Both the proposed project site and the adjacent construction laydown area have been cleared and graded for project development. The project site is served by paved streets, water and other utilities. The property address is 7363 Calzada de la

[1] Airport Influence Area is defined as "The area which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses." Review Area 2 consists of locations beyond Review Area 1 but within the airspace protection and/or overflight notification areas depicted on Exhibits III-3 and III-4 in the Brown Field Municipal Airport Land Use Compatibility Plan. Limits on the heights of structures, particularly in areas of high terrain, are the only restrictions on land uses within Review Area 2. The recordation of overflight notification documents is also required in locations within Review Area 2.

[2] The OMGP is a 590 MW natural gas-fired power facility that began operation in 2009. The plant includes two combustion generators, heat recovery steam generators, air cooled condensers and steam turbine generators. In addition, the plant includes a 230-kV switchyard with a 0.1-mile connection to the existing 230-kV Miguel-Tijuana line located to the east.

Fuente. (Ex. 200, p. 4.5-4.)
The access to the PPEC site would be from Calzada de la Fuente, west of the OMGP. An emergency entrance would be accessible via a separate access point from Alta Road before the intersection of Alta Road and Calzada De La Fuente. The construction laydown area would also be accessed from either Alta Road or Paseo de la Fuente. (*Id*.)

Under the East Otay Business Park Specific Plan, land in the vicinity of the proposed project is designated for heavy industrial, mixed industrial, light industrial, district commercial, technology business park, conservation, and rural residential uses. The industrial designations represent the majority of acreage within the project area. (*Id.*)

An outgoing 230-kV generation tie line would be constructed using either the Applicant-proposed Transmission Line Route A or Transmission Line Route B to connect the plant to the existing San Diego Gas and Electric (SDG&E) Otay Mesa switchyard located approximately 1,800 feet east of the plant site. The power line would be owned and maintained by the Applicant. Both routes are located within the East Otay Mesa Business Park Specific Plan and would be adjacent to the heavy industrial land use designation. (*Id.*)

Transmission Line Route A would begin as an overhead power line along the north side of Calzada de la Fuente, extend approximately 1,700 feet east where it would then be routed underground for approximately 400 feet into the Otay Mesa switchyard (total length of Route A would be approximately 2,100 feet). (*Id.*)

Transmission Line Route B would begin as an overhead power line from the eastern edge of the proposed project site, would then run south for approximately 550 feet, then turn east along the northern border of two parcels directly south of the OMGP site for approximately 1,400 feet, and then turn north for approximately 700 feet into the Otay Mesa switchyard (total length of Route B would be approximately 2,650 feet). (*Id.*)

There are two possible routes for the gas supply pipeline. Both routes would connect to an existing SDG&E natural gas pipeline, but at different locations. As currently proposed, Route A extends approximately 2,375 feet south along Alta Road then turns west on Otay Mesa Road for approximately 2,700 feet, and then turns south on Enrico Fermi Drive for approximately 2,700 feet to Airway Road, at which point it would connect to an existing SDG&E natural gas pipeline. The

gas line Route A would be within the East Otay Mesa Business Park Specific Plan, adjacent to heavy industrial, technology business park, light industrial, district commercial and state route right-of-way (for the future State Route 11) land use designations. (Ex. 200, p. 4.5-5.)

Route B would extend approximately 2,375 feet south along Alta Road, turn west on Otay Mesa Road, and continue approximately 7,920 feet to Harvest Road at which point it would connect to the existing SDG&E natural gas pipeline for a total of approximately 10,300 feet. The pipeline would be constructed, owned, and operated by SDG&E. The natural gas pipeline would be installed within the right-of-way of the local roadways. The gas line Route B would be located within the East Otay Mesa Business Park Specific Plan and would be adjacent to heavy industrial, district commercial, technology business park and commercial overlay land use designations. In addition, approximately 2,400 feet of the route would be adjacent to land within the city of San Diego designated as industrial employment. *(Id.)*

The East Otay Mesa Business Park Specific Plan contains approximately 3,013 acres of land with the industrial land use designations representing the majority of the acreage surrounding the project area. Existing land uses immediately adjacent to, and nearby, the proposed PPEC project site include:

- North: The Richard J. Donovan Correctional Facility is located approximately 4,000 feet northwest and a County of San Diego Correctional Facility that includes the George F. Bailey Detention Facility, the Federal Immigration Detention Facility, and the County of San Diego Juvenile Detention Facility is located approximately 4,800 feet north; the San Diego National Wildlife Refuge; a single residence converted to a restaurant (Kuebler Ranch) known as Alta Café or Alta Latin Grille; and an unpermitted community of mobile homes located approximately 1.5 miles northwest.
- South: United States/Mexico border; vacant land; auto auction at the southwest corner of Otay Mesa Road and Alta Road; three single-family residences located approximately 4,700 feet southwest of PPEC along Otay Mesa Road; Tijuana's Rodriguez International Airport.
- East: Otay Mesa Generating Project; San Diego National Wildlife Refuge; vacant land.
- West: Brown Field, a general aviation airport, approximately three miles; San Diego National Wildlife Refuge.

(Ex. 200, p. 4.5-5.)

2. Land Use and Zoning Designations.

Zoning for the project site is Specific Plan (S88), which is intended to accommodate Specific Plan areas as provided in the County of San Diego General Plan. The Specific Plan zoning designation allows for an unlimited variety of land uses, as further established through an adopted Specific Plan document. As established by the County of San Diego Zoning Ordinance (§ 2888(c), all uses established pursuant to an applicable Specific Plan shall be subject to all of the conditions and restrictions set forth in the Specific Plan, and these Specific Plan conditions and restrictions concerning uses shall prevail over the Zoning Ordinance regulations to the extent of any conflict between them. (Ex. 200, p. 4.5-7.)

In the case of PPEC, the applicable specific plan is the East Otay Mesa Business Park Specific Plan (SP). The SP has adopted development standards that would apply to the proposed PPEC.

The County of San Diego Zoning Ordinance, Manufacturing and Industrial Use Regulations (§ 2500) contains five classifications: M50 Basic Industrial; M52 Limited Impact Industrial; M54 General Impact Industrial; M56 Mixed Industrial; and M58 High Impact Industrial. The M56 Mixed Industrial Use Regulations (§2560) are generally applied to large areas of 100 acres or more such as areas designated as "specific plans" where a unified appearance can be created through the implementation of development standards adopted for the particular specific plan. The types of uses in the M56 Use Regulations would include industrial plants that are primarily engaged in the manufacturing, compounding, processing, assembling, packaging, treatment, warehousing or fabrication of materials or products, and commercial types necessary to support those uses. (Ex. 200, p. 4.5-12.)

Major Impact Services and Utilities uses, such as PPEC, are permitted in the M56 Use Regulations in the industrially designated areas upon the issuance of a Major Use Permit[3]. Because the issuance of a certificate by the Energy

[3] The County of San Diego defines Use Permit as " A permit which may be granted by the appropriate San Diego County authority (Major Use Permit under the original jurisdiction of the Planning Commission) to provide for the accommodation of land uses with special site or design requirements, operation characteristics, or potential adverse effects on surroundings, which are not permitted as of right but which may be approved upon completion of a review process and, where necessary, the imposition of special conditions of approval by the permit granting authority."

Commission is in lieu of any local permit (Pub. Resources Code § 25500) the proposed PPEC would not require the county to issue a Major Use Permit. However, to determine LORS conformance, Energy Commission staff reviewed the project for consistency with the following six findings for a Major Use Permit as required by County of San Diego Zoning Ordinance Section 7358:

a. That the location, size, design, and operating characteristics of the proposed use will be compatible with adjacent uses, residents, buildings, or structures, with consideration given to:

i. Harmony in scale, bulk, coverage and density

The industrial appearance of the project would fit the character of the surrounding industrial uses. The PPEC would be located entirely within an area both designated for heavy industrial development and located adjacent to an existing industrial use, the Otay Mesa Generating Project. The proposed PPEC meets the SP development standards for coverage and density.

ii. The availability of public facilities, services and utilities

Public facilities, services and utilities would be available to the project. The PPEC would make a connection to the Otay Water District potable water system, either at an existing 12-inch main along Calzada de la Fuente, or at an existing 24-inch main along Alta Road. This connection would supply facility drinking water, showers, sinks, toilets, eye wash stations, and safety showers and the primary source of fire protection water.

For sewer services, a connection would be made to an existing 12-inch sewer main along Calzada de la Fuente along the north project site boundary or to an existing 15-inch sewer main along Alta Road, along the west side of the boundary.

An outgoing 230-kV generation tie line would be constructed using either the Applicant-proposed Transmission Line Route A or Transmission Line Route B to connect the plant to the existing San Diego Gas and Electric (SDG&E) Otay Mesa switchyard located approximately 1,800 feet east of the plant site. The power line would be owned and maintained by the Applicant.

There are two possible routes for the gas supply pipeline. Both routes would connect to an existing SDG&E natural gas pipeline, but at different locations. Route A extends approximately 2,375 feet south along Alta Road, then turns

west on Otay Mesa Road for approximately 2,700 feet, and then turns south on Enrico Fermi Drive for approximately 2,700 feet to Airway Road, at which point it would connect to an existing SDG&E natural gas pipeline.

Route B would extend approximately 2,375 feet south along Alta Road, turn west on Otay Mesa Road, and continue approximately 7,920 feet to Harvest Road at which point it would connect to the existing SDG&E natural gas pipeline for a total of approximately 10,300 feet. The pipeline would be constructed, owned, and operated by SDG&E. The natural gas pipeline would be installed within the right-of-way of the local roadways.

iii. The harmful effect, if any, upon desirable neighborhood character

The proposed PPEC and laydown area would be located in an industrial area of unincorporated San Diego County. The nearest dwellings in the vicinity of PPEC include three single-family residences located approximately 4,700 feet southwest on Otay Mesa Road and a mobile-home community located approximately 7,900 feet northwest. Based on the limited development and the project's consistency with the SP Site Planning Standards there would not be a harmful effect upon the desirable neighborhood character given the industrial nature and designation of the area.

Although there is not an existing or planned neighborhood located near the PPEC, the construction and operation of any power plant creates noise or unwanted sound that must be mitigated. With the implementation of Condition of Certification **NOISE-6** (Construction Restrictions), which restricts the construction actives from 7:00 a.m. – 7:00 p.m., Monday through Saturday, the project would produce no significant adverse noise impacts on the three-single family residences and the EMDF within the affected area, directly, indirectly, or cumulatively.

In addition, Condition of Certification **NOISE-4** (Noise Restrictions) would require implementation of noise mitigation measures to ensure that the operation of the PPEC would not cause the noise levels (during the four quietest consecutive hours of the nighttime) to exceed an acceptable average decibel for the single family dwellings and the mobile home park. Refer to the **Noise and Vibration** section for a detailed discussion of noise impacts and additional conditions of certification.

Further, we conclude in the **Public Health** section of this Decision that there would not be significant adverse cancer or short- or long-term noncancer health effects from the project's toxic emissions.

iv. The generation of traffic and the capacity and physical character of surrounding streets

The **Traffic and Transportation** section of this Decision provides a detailed discussion of all project-related traffic issues. We conclude that with the implementation of the proposed Conditions of Certification **TRANS-1** through **TRANS-9** the project would not result in significant traffic and transportation impacts. The project would generate minimal traffic during operation.

v. The suitability of the site for the type and intensity of use or development which is proposed

The intent of the East Otay Mesa Business Park Specific Plan is to promote development of the area into a comprehensive industrial and business district. The project site is designated for Heavy Industrial uses and is adjacent to an existing power plant, the Otay Mesa Generating Project.

vi. Any other relevant impact of the proposed use

b. That the impacts, as described in paragraph "A" of this section, and the location of the proposed use will be consistent with the County of San Diego General Plan.

The location, size, design, and operating characteristics of the proposed PPEC use would be compatible with adjacent uses, residences, buildings, or structures. The proposed PPEC project and laydown area would be located in an area designated for and adjacent to industrial development. The proposed PPEC meets the SP development standards and would be compatible with the adjacent uses.

c. That the requirements of the California Environmental Quality Act have been complied with.

The Applicant is seeking approval through the California Energy Commission's Application for Certification (AFC) process to construct and operate a power plant. The California Energy Commission's power plant licensing process is certified by the California Resources Agency as "functionally-equivalent" to

preparing an Environmental Impact Report under the California Environmental Quality Act (CEQA)(§15251(j)). Therefore, if the PPEC project is certified by the Energy Commission, the requirements of the California Environmental Quality Act would have been complied with and the PPEC would be consistent with Section 7358 of the County of San Diego Zoning Ordinance.

Electric transmission lines and gas pipelines are classified as "Essential Services" by the County of San Diego Zoning Ordinance (§1335). The Essential Service type is defined as "services which are necessary to support principal development and involve only minor structures, such as utility lines and/or poles, which are necessary to support principal development. Essential Services also includes a public passive park/recreational area."

The "Essential Services" are permitted in the heavy industrial, light industrial, technology business park, district commercial and commercial overlay land use designations of the SP.

The city of San Diego Zoning Ordinance does not classify gas lines as a use, rather they are considered as a public facility, are not restricted to a specific zone and are an allowed outright use throughout the city.

The proposed construction laydown area is a permitted use under the County of San Diego Zoning Ordinance, Temporary Use Regulations (§§ 6100- 6149). Section 6102 (d) permits the construction of temporary buildings and structures supporting residential development and major construction. (Ex. 200, pp. 4.5-12 – 4.5-18.)

We therefore conclude that the proposed project does not conflict with the city's General Plan land use designations, zoning, and applicable land use policies.

3. Potential Direct and Indirect Impacts

a. Conversion of Farmland

The proposed PPEC project does not contain and would therefore not convert any farmland with FMMP designations of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance to non-agricultural use. Neither the transmission line nor the gas pipeline would affect farmland. Therefore, the proposed PPEC project would have no impact with respect to farmland conversion. (Ex. 200, p. 4.5-9.)

b. Land Subject to Williamson Act Contracts

The California Land Conservation Act, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses. (Ch. 7, Agricultural Land, Gov. Code, § 51200-51297.4) There are no existing agricultural uses present on the proposed project site or laydown area. The proposed PPEC project is not located within an area that is under a Williamson Act Contract and as a result would not conflict with any Williamson Act Contracts. *(Id.)*

c. Division of Existing Community

The proposed PPEC project and laydown area would be located in an industrial area of unincorporated San Diego County. The power plant and laydown area would be located entirely on private property, on a 9.99-acre site. The nearest dwellings in the vicinity of PPEC include three single-family residences located approximately 4,700 feet southwest on Otay Mesa Road and a mobile-home community located approximately 7,900 feet northwest.

The three single-family residences are not located within any established residential community or development, and there would be no relocation of these residences as a result of PPEC. The PPEC would be located entirely within an area designated for industrial development and would be located adjacent to an industrial use. Therefore, the PPEC project would not physically divide or disrupt any community within the East Otay Mesa area. In addition, the proposed project would not involve the displacement of any existing development or result in new development that would physically divide an existing community.

The project's linear facilities would not present new physical barriers. The two proposed transmission lines would originate from the PPEC property. Route A would traverse across the northern boundary of the OMGP site and Route B would traverse across the northern border of two parcels directly south of the OMGP site and would be both overhead and underground power lines. (Ex. 200, p. 4.5-10.)

We therefore find that the PPEC would not result in the division of an existing community.

d. Conflict with Habitat or Natural Community Conservation Plan

The PPEC falls within a Minor Amendment Area. Processing a Minor Amendment to allow development within areas identified on the MSCP requires preparation of a CEQA document, a biological resources report, identification of any mitigation required by the Biological Mitigation Ordinance (BMO), and concurrence by the local offices of the United States Fish and Wildlife Service and California Department of Fish and Game. In the **Biological Resources** section of this Decision we conclude that the Minor Amendment was completed, discuss project impacts to biological resources and conclude that with implementation of the conditions of certification no significant impacts would occur. (Ex. 200, p. 4.5-11.)

e. Consistency with Local Land Use LORS.

Land Use Table 2 summarizes the PPEC's conformance with these LORS.

Land Use Table 2
Project Compliance with Adopted and Applicable LORS

Applicable LORS	Description	Consistency Determination	Basis for Consistency
Federal			
None			
State			
None			
Local			
Otay Subregional Plan - Volume 1 – Land Use Policy #3 (Adopted August 3, 2011) Develop Industrial Design Criteria.	Requires all proposed industrial development comply with the design criteria in the M56 Mixed Industrial use regulations.	Yes, as conditioned.	The project would be consistent with this policy with the inclusion of Conditions of Certification **LAND-1, LAND-2 VIS-2, VIS-3** and **VIS-5**.
East Otay Mesa Business Park Specific Plan (As Amended by SPA 10-001 - September 15, 2010) Chapter 3, Table 3.2.1 Regulatory Provisions: Building Type.	Requires a "W" Building Type for the Heavy Industrial Designation.	Yes	The project meets the requirement for the Building Type.
East Otay Mesa Business Park Specific Plan (As Amended by SPA 10-001 - September 15, 2010) Chapter 3, Table 3.2.1 Regulatory Provisions: Minimum Lot Size.	Requires a minimum of 30,000- square feet lot size for the Heavy Industrial Designation.	Yes	The project meets the requirement for the Minimum Lot Size.

Applicable LORS	Description	Consistency Determination	Basis for Consistency
East Otay Mesa Business Park Specific Plan (As Amended by SPA 10-001 - September 15, 2010) Chapter 3, Table 3.2.1 Regulatory Provisions: Floor Area Ratio.	Requires a Floor Area Ratio 0.5	Yes	The project meets the requirement for the Floor Area Ratio.
East Otay Mesa Business Park Specific Plan (As Amended by SPA 10-001 - September 15, 2010) Chapter 3, Table 3.2.1 Regulatory Provisions: Maximum Building Height.	Requires a Maximum Building Height of 60 feet.	Yes	The project meets the requirement for the Maximum Building Height.
East Otay Mesa Business Park Specific Plan (As Amended by SPA 10-001 - September 15, 2010) Chapter 3, Table 3.2.1 Regulatory Provisions:Maximum Building Coverage.	Requires a Maximum Building Coverage of 0.5	Yes	The project meets the requirement for the Maximum Building Coverage.
East Otay Mesa Business Park Specific Plan (As Amended by SPA 10-001 - September 15, 2010) Chapter 3, Table 3.2.1 Regulatory Provisions: Setbacks.	Requires Minimum Building Setbacks.	Yes	The project meets the requirement for the Minimum Building Setbacks.
East Otay Mesa Business Park Specific Plan (As Amended by SPA 10-001 - September 15, 2010) Chapter 3, Table 3.2.1 Regulatory Provisions: Parking.	Requires parking spaces based on the Gross Square Feet.	Yes, as conditioned.	The project would be consistent with this policy with the inclusion of Condition of Certification **LAND-1.**
East Otay Mesa Business Park Specific Plan Fencing; Chapter 3, Table 3.2-1 Service Areas.	Requires utility screening.	Yes, as conditioned.	The project would be consistent with this policy with the inclusion of Condition of Certification **VIS-2**.
East Otay Mesa Business Park Specific Plan Fencing; Chapter 3, Table 3.2-1, Fences, Walls and Hedges.	Requires a view-obscuring fence.	Yes, as conditioned.	This project would be consistent with this policy with the inclusion of Condition of Certification **VIS-2**.
East Otay Mesa Business Park Specific Plan Fencing; Chapter 3, Table 3.2-1-Lighting.	Requires compliance with the County Light Pollution Code.	Yes, as conditioned.	The project would be consistent with this policy with the inclusion of Conditions of Certification **VIS-3** and **VIS-5.**
East Otay Mesa Business Park Specific Plan Fencing; Chapter 3, Table 3.2-1-Signage.	Requires compliance with On-Premise Sign Regulations Section 6250.	Yes, as conditioned.	The project would be consistent with this policy with the inclusion of Condition of Certification **LAND-2.**

Applicable LORS	Description	Consistency Determination	Basis for Consistency
County Of San Diego-Zoning Ordinance Section 7358.	The County of San Diego Zoning Ordinance Section 7358 - Major Use Permit findings.	Yes	The project is considered a Major Impact Services and Utilities Use and meets all finding requirements and is consistent with Section 7358 of the zoning code for a Major Use Permit.

(Ex. 200, pp. 4.5-18 – 4.5-20.)

Based on the analysis set forth in **Land Use Table 2**, we conclude that the PPEC would comply with all applicable LORS.

4. Land Use Compatibility

When a jurisdictional authority, such as the County of San Diego, establishes zoning designations to implement its general plan, it is that agency's responsibility to ensure the compatibility of adjacent zoning and permitted uses and incorporate conditions and restrictions that ensure those uses will not result in a significant adverse impact to surrounding properties. As noted in the discussion above under the section titled **Physical Disruption or Division of an Established Community** and in **Land Use Table 2,** development of the proposed project and its associated facilities would be compatible with existing surrounding land uses because the proposed project site is within an industrial park and adjacent to an existing power plant. In addition, Staff's analysis shows that the proposed PPEC would be consistent with applicable LORS in the Otay Subregional Plan, the East Otay Mesa Business Park Specific Plan and County of San Diego Zoning Ordinance. (Ex. 200, p. 4.5-21.)

A proposed siting location may be considered inappropriate if a new source of pollution or hazard is located within proximity to a sensitive receptor. From a land use perspective, sensitive receptor sites are those locations where people who would be more adversely affected by pollutants, toxins, noise, dust, or other project-related consequence or activity are likely to live or gather. Children, those who are ill or immune-compromised, and the elderly are generally considered more at risk from environmental pollutants. Therefore, schools, along with day-care facilities, hospitals, nursing homes, and residential areas are considered to be sensitive receptor sites for the purposes of determining a potentially significant environmental impact.

Depending on the applicable code, proximity is defined as “within 1,000 feet” of a school (Health & Safety Code, §§42301.6–9) or within 0.25 mile of a sensitive receptor, under CEQA (CCR 2006). Proximity is not necessarily a determining factor for a potentially significant impact, but is the threshold generally used to require further evaluation.

The proposed PPEC project would be within approximately 0.8 mile of the three single-family residences located on Alta Road. The Richard J. Donovan Correctional Facility is located approximately 4,000 feet northwest and a County of San Diego Correctional Facility that includes the George F. Bailey Detention Facility, the Federal Immigration Detention Facility, and the County of San Diego Juvenile Detention Facility is located approximately 4,800 feet north. (Ex. 200, p. 4.5-5.)

From a land use perspective, the siting of the proposed project at the existing location would be compatible with surrounding sensitive receptors. The focus of the East Otay Mesa Business Park Specific Plan is to designate areas for industrial development. The **Air Quality, Hazardous Materials Management, Noise and Vibration, Public Health, Traffic and Transportation,** and **Visual Resources** sections in this Decision discuss the dust, noise, public health hazards or nuisance, and adverse traffic or visual impacts on surrounding sensitive receptors. (Ex. 200, p. 4.5-21.)

With respect to noise and vibration, we conclude in this Decision that if the project were built and operated in accordance with the proposed Conditions of Certification **NOISE-1** through **NOISE-6,** the project would produce no significant adverse noise impacts on people within the affected area, directly, indirectly, or cumulatively.

With respect to public health, we conclude in this Decision that if the project were built and operated in accordance with the proposed Condition of Certification **PUBLIC HEALTH-1,** (Cooling Water Management Plan) to ensure that the potential for bacterial growth in cooling water is kept to a minimum, no significant adverse public health impacts will occur on people within the affected area, directly, indirectly, or cumulatively.

The analyses for these sections conclude that, with implementation of the proposed conditions of certification, there would be no unmitigated adverse impacts at any sensitive receptor location. In addition, based on the land use designation, zoning, and surrounding industrial developments, the proposed

project would not result in a significant project-related impact to any sensitive receptor location.

Therefore, the proposed project would not result in any physical land use incompatibilities with the existing surrounding land uses.

5. Cumulative Impacts

A project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (Cal. Code Regs., tit. 14, § 15065(a)(3).)

Impacts involving land use plans or policies and zoning generally will not combine to result in cumulative impacts. The determination of significance for impacts relating to these issues, as considered in Appendix G of the State CEQA Guidelines, is whether a project will conflict with any applicable land use plan or policy adopted for the purpose of reducing or avoiding environmental impacts. Such a conflict is site-specific and would be addressed on a project-by-project basis. As discussed in this land use analysis, PPEC would not result in significant land use planning impacts, and the project's ultimate consistency with applicable LORS would be ensured through implementation of Conditions of Certification **LAND-1** and **LAND-2**.

The evidence contains a list of projects to be located within the East Otay Mesa Business Park Specific Plan. (see Ex. 200, **Land Use Table 3**) That Plan is designed to promote development of the area into a comprehensive industrial and business district. The PPEC would not result in incremental land use-related impacts that would be cumulatively considerable when viewed in connection with the projects.

FINDINGS OF FACT

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

1. The PPEC will not conflict with existing zoning for agricultural use or a Williamson Act contract.
2. There is no evidence that the project will physically divide or disrupt an established community.
3. The PPEC is consistent with applicable land use LORS. The PPEC is compatible with surrounding land uses and will not result in any unmitigated public health or environmental impacts to sensitive receptors.
4. With implementation of Conditions of Certification **LAND-1 and LAND-2**, the PPEC's contribution to cumulative impacts of existing and proposed projects will not be cumulatively considerable.

CONCLUSIONS OF LAW

1. With implementation of the mitigation measures specified in this Decision, and in the conditions of certification, we conclude that construction and operation of the PPEC will not result in significant adverse direct, indirect, and cumulative land use impacts.
2. The record contains an adequate analysis of the land use laws, ordinances, regulations, and standards that are relevant to the project and establishes that the project will not create any unmitigated, significantly adverse land use effects as defined under the California Environmental Quality Act.
3. The conditions of certification, below, ensures that the PPEC will be designed, constructed, and operated in conformance with the applicable land use laws, ordinances, regulations, and standards identified in the evidentiary record and listed in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

LAND-1 The project owner shall provide eleven on-site parking spaces.

Verification: At least 30 calendar days prior to start of construction of the permanent parking area, the project owner shall submit evidence to the Compliance Project Manager (CPM) for review and approval that the specified number of parking spaces are planned to be constructed.

The project owner shall notify the CPM within seven calendar days after completion of the permanent parking area that the parking area is ready for inspection.

LAND-2 The project owner shall ensure that any proposed signs comply with the On-Premise Sign Regulations Section 6250 through 6299 contained in the County of San Diego Zoning Ordinance.

Verification: At least 30 days prior to the installation of any sign(s), the project owner shall submit evidence to the CPM for review and approval that the proposed signs will conform to the guidelines. The submittal shall show the location of all proposed sign(s). The submittal to the CPM shall include evidence of review and comment by the County of San Diego.

The project owner shall notify the CPM within seven days after installation of the sign(s) that the sign(s) are ready for inspection.

B. TRAFFIC AND TRANSPORTATION

This section addresses the extent to which the project will affect the local area's transportation network. The record contains 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.

Project impacts were evaluated according to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the CEQA Environmental Checklist for Transportation/Traffic, and applicable LORS used by other governmental agencies. As more fully discussed below, we find that the project will not:

1. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections);
2. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
3. Conflict with an applicable congestion management program, including, but not limited to, level of service standards (LOS) and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
5. Result in inadequate emergency access;
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities;
7. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risk;

8. Produce a thermal plume in an area where flight paths are expected to occur below 1,000 feet from the ground[1]; or
9. Have 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.

The evidence includes an evaluation of the project's compliance with the applicable laws, ordinances, regulations, and standards (LORS) set forth below in **Traffic and Transportation Table 1.** The evidence shows that the project will comply with the applicable LORS.

TRAFFIC AND TRANSPORTATION Table 1
Laws, Ordinances, Regulations, and Standards

Applicable Law	***Description***
Federal	
Title 49, Code of Federal Regulations, Parts 171-177	Requires proper handling and storage of hazardous materials during transportation.
Title 14, Code of Federal Regulations, section 77.13 (2)(i)	This regulation requires the project owner to notify the Federal Aviation Administration (FAA) of construction structures with a height greater than 200 feet from grade or greater than an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of an airport with at least one runway more than 3,200 feet in length.
State	
California Vehicle Code, sections 13369, 15275, 15278	Requires licensing of drivers and the classification of license for the operation of particular types of vehicles. A commercial driver's license is required to operate commercial vehicles. An endorsement issued by the Department of Motor Vehicles (DMV) is required to drive any commercial vehicle identified in Section 15278.
California Vehicle Code, sections 31303-31309	Requires transportation of hazardous materials to be on the state or interstate that offers the shortest overall transit time possible.
California Vehicle Code, Sections 31600-31620	Regulates the transportation of explosive materials.
California Vehicle Code, sections 32100-32109	Requires shippers of inhalation hazards in bulk packaging to comply with rigorous equipment standards, inspection requirements, and route restrictions.
California Vehicle Code, sections 34000-34100	Establishes special requirements for vehicles having a cargo tank and for hazardous waste transport vehicles and containers, as defined in Section 25167.4 of the Health and Safety Code.
California Vehicle Code, section 35550-35551	Provides weight guidelines and restrictions vehicles traveling on freeways and highways.
California Vehicle Code, section 35780	Requires a single-trip transportation permit to transport oversized or excessive loads over state highways.

[1] The FAA recommends that pilots avoid overflight of plume-generating industrial sites below 1,000 feet AGL.

Applicable Law	*Description*
State	
California Streets and Highways Code, sections 660, 670, 672, 1450, 1460, 1470, 1480 et seq., 1850-1852	Requires encroachment permits for projects involving excavation in state and county highways and city streets.
California Health and Safety Code, Section 25160	Addresses the safe transport of hazardous materials.
California Department of Transportation CA MUTCD Part 6 (Traffic Manual)	Provides traffic control guidance and standards for continuity of function (movement of traffic, pedestrians, bicyclists, transit operations), and access to property/utilities when the normal function of a roadway is suspended.
Local	
County of San Diego, General Plan, Mobility Element, Goal M-2 Policy M-2.1	Requires development projects to provide associated road improvements necessary to achieve a level of service of "D" or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the criteria specifically identified in the accompanying text box (Criteria for Accepting a Road Classification with Level of Service E/F). When development is proposed on roads where a failing level of service has been accepted, feasible mitigation is required in the form of road improvements or a fair share contribution to a road improvement program, consistent with the Mobility Element road network.
City of San Diego Traffic Impact Study Manual	The level of service standard for freeways, roadways, and intersections in the city of San Diego is LOS D. For undeveloped locations, the goal is to achieve an LOS C.
County of San Diego, General Plan, Mobility Element, Goal M-6, (Policies M-6.1)	Requires designated truck routes and minimization of heavy truck traffic (generally more than 33,000 pounds and mostly used for long-haul purposes) near schools and within villages and residential neighborhoods by designating official truck routes, establishing incompatible weight limits on roads unintended for frequent truck traffic, and carefully locating truck-intensive land uses.
San Diego Transportation Impact Fee (TIF) Program/Ordinance	Enables the County to implement Transportation Impact Fee programs. Requires payment of fees that constitute a proposed project's fair share contribution towards the construction costs of the planned transportation facilities that are affected by the proposed development.
City of San Diego Municipal Code, Chapter 8: Traffic and Vehicles, Article 5: Special Regulations	Requires a permit to transport heavy and oversize loads.
County of San Diego East Otay Mesa Business Park Specific Plan, Appendix 5, A-5.12: Facility Phasing, Financing and Implementation	Requires public facility improvements for East Otay Mesa to be "financed through the equitable participation of all affected property owners and developers". The six categories of public facility improvements include: On-site Roads and Infrastructure, On-site Capital Facilities, On-Site Operation and Maintenance, Off-site Roads, Off-Site Capital Facilities and Public Transit Service.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The proposed 9.99-acre PPEC site is located in an unincorporated area of San Diego County known as Otay Mesa. The proposed project site parcel is located in the southeast quadrant of the Alta Road and Calzada de la Fuente intersection. The site comprises the entire parcel with Assessor's Parcel Number (APN 648-040-45), and the proposed 6-acre laydown area is located on the adjacent parcel to the south (APN 648-040-46). (Ex. 200, p. 4.10-3.)

The key roadways in the area include:

State Route 125

State Route (SR) 125 is a four-lane expressway toll road between SR-905 in Otay Mesa near the U.S.-Mexico border and SR-54 near the city of Chula Vista. Current Average Annual Daily Traffic (AADT) is 30,000 vehicles per day to the north of State Route 905. Future alignment plans in development are a connecting interchange between SR-905 and future SR-11, as well as an interchange at Lonestar Road. These improvements would be accomplished with the coordination and cooperation of the cities and jurisdictions along the proposed route.

State Route 905

State Route (SR) 905 is an east-west six-lane expressway which extends from Interstate 5 and Interstate 805 in the San Ysidro community (located in the southern section of San Diego) to the U.S.-Mexico border at Otay Mesa. Approximately one mile east of Interstate 805, SR-905 becomes Otay Mesa Road. SR-905/Otay Mesa Road at La Media Road is a six-lane Prime Arterial until Piper Ranch Road. East of Piper Ranch Road, SR-905 provides two (2) eastbound lanes and three (3) westbound lanes, until it intersects with SR-125 and becomes four (4) eastbound lanes and three (3) westbound lanes. Shortly after SR-905 intersects SR-125, SR-905 goes south and Otay Mesa Road continues east. At this intersection, SR-905 turns into Otay Mesa Road. Current AADT is 36,000 vehicles per day to the west of State Route 125.

Future Border Crossing and State Route 11

State Route (SR) 11 is a planned freeway/toll facility which would extend easterly of SR-905 and connect with a future border crossing east of Alta Road. It is

scheduled to open in 2015. The extension would revise the SR-905/125 interchange and provide two new interchanges at Enrico Fermi Drive and Siempre Viva Road. The SR-11/Otay Mesa East Port of Entry Environmental Impact Report /Statement was released by Caltrans in November 2010. Development of SR-11 was included in the San Diego Association of Governments (SANDAG) 2030 Revenue Constrained Transportation Plan and the 2008 Regional Transportation Improvement Program. Conceptually, SR-11 has been included in the East Otay Mesa Specific Plan and the City and County of San Diego general plans.

Otay Mesa Road

Otay Mesa Road is an east-west roadway that traverses both city of San Diego and County of San Diego jurisdictions, and links Alta Road to regional transportation facilities with entrance and exit routes to State Route 125. At the intersection where SR-905 goes south and Otay Mesa Road continues east, Otay Mesa is a two-lane roadway until it intersects with Alta Road, approximately 1.5 miles east. Current AADT is 14,000 vehicles per day to the east of State Route 125.

Alta Road

Alta Road is a north-south county roadway and the primary access road to the PPEC project site. Alta Road is a two (2) lane undivided road with the capacity of a Light Collector. The roadway segment between Alta Road and Paseo De La Fuente and Calzada De La Fuente has been widened to provide two (2) northbound travel lanes and one (1) southbound travel lane. This segment capacity is considered a Town Collector. Current AADT is 5,700 vehicles per day to the north of Otay Mesa Road. (Ex. 200, p. 4.10-4.)

There are currently no freight rail lines in the vicinity of the project. The nearest railway is the US-Mexico line that connects San Diego with the Imperial Valley via Mexico. The Metropolitan Transit System (MTS) Trolley System's Green and Orange Lines currently do not serve or reach the East Otay Mesa Area. Transportation Goal C-9 of the East Otay Mesa Specific Plan is to encourage the use of rail and coordination with Caltrans, SANDAG, the city of San Diego and County of San Diego. (Ex. 200, p. 4.10-6.)

The Metropolitan Transit System operates only one bus route within the East Otay Mesa area. MTS Route 905 does not directly serve the project site. The

route originates from the Iris Avenue Trolley Station, with stops at Otay Mesa Road and Heritage Road, Airway Road and Brittannia Boulevard, Siempre Viva Road and Drucker Lane, and at its final destination, the Otay Mesa Border Crossing. (*Id.*)

The County of San Diego General Plan Mobility Element states: "With the exception of State-maintained highways and roads, the County is responsible for the maintenance of the public (Mobility Element and Local Public) road network in the unincorporated areas, including associated bicycle and pedestrian facilities. In addition, the East Otay Mesa Specific Plan Amendment Circulation Element defines the bicycle routes within the specific planning area and states that, "the use of bicycles as a commuting mode of transportation is encouraged as a means to minimize congestion and greenhouse gas emissions." The bicycle network, which is located within the vicinity of the PPEC, is composed of Class II facilities (bike lanes). Bicyclists are permitted to travel on all public roadways within the Specific Plan. (*Id.*)

Two airports are currently operating in the vicinity of the PPEC project site: Brown Field Municipal Airport, located approximately three miles due west, and Tijuana's Rodriguez International Airport, located in Mexico approximately three miles southwest of the PPEC project site. (*Id.*)

Brown Field Municipal Airport is owned and operated by the city of San Diego and is a general aviation airport. It is frequently used by the military and law enforcement agencies; the U.S. Department of Homeland Security, U.S. Customs, San Diego County Fire Department, and Border Protection have aircraft (planes and helicopters) within the project area. Brown Field has two runways: Runway 8L/26R, 7,920 feet long and 150 feet wide with a pattern altitude of 1,000 feet above ground level (AGL); and Runway 8R/26L, 3,180 feet long and 75 feet wide with a pattern altitude of 600 feet AGL. (Ex. 200, p. 4.10-7.)

Rodriguez International Airport handles commercial passenger and freight and general aviation traffic, including large passenger jet service. However, the evidence shows that all activity at this airport takes place within Mexican air space and aircraft using this airport do not overfly the Pio Pico site. (Ex. 205.) Thus, there are no potential safety concerns posed by the PPEC with respect to this airport.

Due to prevailing winds in the area, most aircraft take-off heading west from Brown Field and do not traverse the PPEC site. Most aircraft approaching Brown

Field would not overfly the PPEC site either, as depicted in Traffic and Transportation Figure 2. Approximately 75 percent of aircraft approaching Brown Field enter the traffic pattern from the north and west of Donovan State Prison. (Ex. 200, p. 4.10-7.)

1. Construction Traffic Impacts

a. Project Site

Analysis of PPEC construction impacts focuses on the peak construction period which would generate the most vehicle trips and result in the worst-case scenario for traffic impacts. The peak construction period is expected to last from Month 6 through Month 10 of project construction.

A large regional workforce would commute daily from locations relatively near the project site and would supply the majority of construction labor. To travel to the project site, construction traffic would use I-805, SR-905, SR-125, Otay Mesa Road and Alta Road. The following is a breakdown of the approximate percentage of construction trips by route:

- 20 percent of the project trips would use a route from the north or northwest via SR-125 north of Otay Mesa Road (SR-905), traveling east on Otay Mesa Road, north on Alta Road, and then east to the project site; and
- 80 percent of the project trips would use a route from the west via SR-905, traveling east on Otay Mesa Road, north on Alta Road, and then east to the project site.

(Ex. 200, p. 4.10-9.)

Construction equipment deliveries and construction-related truck traffic would contribute additional trips during the construction period. Trucks would use the same routes as the construction workforce to access the project site: SR-125, SR-905, Otay Mesa Road, and Alta Road. Equipment deliveries and construction truck traffic were estimated using a passenger car equivalent (PCE) factor of three cars per truck. Using this conversion, peak construction of the PPEC would generate approximately 90 daily one-way truck trips, including 54 peak hour one-way truck trips. Of these 54 peak hour trips, 30 trips would occur during the morning peak hour and 24 trips would occur during the evening peak hour. (*Id.*)

To ensure that trucks comply with weight, size, and route limitations set by the city and County of San Diego and Caltrans, and that drivers are properly licensed, we recommend implementation of Condition of Certification **TRANS-1**

to require the project owner to obtain roadway permits for vehicle sizes and weights, driver licensing, and truck routes. However, even properly sized and licensed trucks could damage roadways, creating significant public hazards; we therefore also recommend implementation of Condition of Certification **TRANS-2**, which requires that the project owner repair and restore all roads damaged during construction activities.

The 16-month construction period for the PPEC is proposed to begin in 2013, with estimated completion of construction in 2014. The average construction workforce would be approximately 150 workers over the 16-month time period, with a maximum of approximately 284 workers during peak construction. (Ex. 200, p. 4.10-10.)

The total workforce and truck trips generated during peak construction would be 658 daily one-way trips (568 worker trips added to 42 equipment delivery trips and 48 construction truck trips). Approximately 622 of these one-way trips would occur during peak hours: 314 during the morning peak and 308 during the evening peak. **Traffic and Transportation Table 2** summarizes all peak construction traffic generated by the PPEC.

Traffic and Transportation Table 2
One-Way Trips Generated by Peak Construction

Vehicle Type	Daily Trips	AM Peak Hour[3] Trips		PM Peak Hour[4] Trips	
		In	Out	In	Out
Peak Construction Workers[1]	568	284	0	0	284
Equipment Deliveries[2]	42	9	9	0	12
Construction Trucks[5,6]	48	12	0	0	12
Total	658	305	9	0	308

[1]Worker traffic during the 3-month peak construction period. These figures assume the worst case traffic scenario of one worker per car.
[2] Equipment movement during the 3-month peak construction period
[3] The AM peak hour is 7:00 a.m.-9:00 a.m.
[4] The PM peak hour is 4:00 p.m.-6:00 p.m.
[5] Construction truck traffic during the 3-month peak construction period
[6] Three passenger cars equivalent (PCE) per truck
(Ex. 200, p. 4.10-10.)

For affected state route segments, **Traffic and Transportation Table 3** summarizes existing and peak construction morning and evening peak hour traffic volumes and LOS. As shown in this table, during peak construction of the PPEC, peak hour LOS on affected state route segments would operate at the LOS D standard or better. Therefore, construction of the PPEC would not result in significant impacts to state route LOS. (*Id.*)

Traffic and Transportation Table 3
State Routes: Peak Hour Trips and LOS during Peak Construction

State Route Segment	Boundaries of Segment	Direction	Existing Peak Traffic Volume and LOS (Year 2011)		Peak Construction Volume and LOS (Year 2013)		LOS Standard
			AM	PM	AM	PM	
SR-125	North of SR 905	NB	95 LOS B	439 LOS B	107 LOS B	554 LOS B	LOS D
		SB	695 LOS B	173 LOS B	840 LOS B	194 LOS B	
SR-905	La Media Road and Piper Ranch Road	EB	1435 LOS B	1560 LOS C	1850 LOS C	1747 LOS C	LOS D
		WB	1019 LOS B	1554 LOS B	1147 LOS B	1987 LOS B	

(Ex. 200, p. 4.10-11.)

For affected local road segments, **Traffic and Transportation Table 4** summarizes existing 2011 peak hour traffic volumes and LOS and peak construction peak hour traffic volumes and LOS. As shown in this Table, during construction of the PPEC, all affected local roadway segments would meet the LOS D standard. Therefore, construction of the PPEC would not result in significant impacts to local roadways.

Traffic and Transportation Table 4
Roadways: Traffic Volumes and LOS during Peak Construction

Roadways	Boundaries of Segment	Direction	Existing Peak Traffic Volume and LOS (Year 2011)				Peak Construction Volume and LOS (Year 2013)				LOS Standard
			AM		PM		AM		PM		
Otay Mesa Road	SR-905 and Sanyo Avenue	EB	930	LOS D	233	LOS C	1345	LOS D	261	LOS D	LOS D
		WB	210		840		242		1256		
Otay Mesa Road	Sanyo Avenue and Enrico Fermi Drive	EB	581	LOS C	125	LOS B	953	LOS D	140	LOS D	LOS D
		WB	172	LOS B	558	LOS C	198		934		
Otay Mesa Road	Enrico Fermi Drive and Alta Road	EB	523	LOS C	74	LOS B	889	LOS C	83	LOS B	LOS D
		WB	94	LOS B	407	LOS B	112		765	LOS C	
Alta Road	Otay Mesa Road and Paseo De La Fuente	NB	523	LOS C	74	LOS B	889	LOS C	83	LOS B	LOS D
		SB	105	LOS B	407	LOS B	112		765	LOS C	

(Ex. 200, p. 4.10-12.)

Traffic and Transportation Table 5 compares existing and peak construction delay and LOS at study intersections during the morning and evening peak hours. The LOS standard for all intersections is LOS D. All intersections would operate at or above the LOS standard during peak construction peak hours; therefore, construction of the PPEC would not significantly impact any of the study intersections.

Traffic and Transportation Table 5
Peak Hour Delay and LOS on Study Intersections during Peak Construction

Study Intersection	Year 2011				Peak Construction (Year 2013)				LOS Standard
	AM Peak		PM Peak		AM Peak		PM Peak		
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
La Media Road/SR-905	20.3	**C**	27.0	**C**	21.4	**C**	30.9	**C**	**LOS D**
SR-125 SB Off Ramp/SR-905	18.3	**B**	6.9	**A**	19.4	**B**	6.8	**A**	**LOS D**
SR-125 NB On Ramp/SR-905	2.0	**A**	8.0	**A**	2.0	**A**	12.1	**B**	**LOS D**
SR-905 /Otay Mesa Road	20.0	**C**	24.5	**C**	22.0	**C**	38.4	**D**	**LOS D**
Sanyo Avenue /Otay Mesa Road	3.2	**A**	15.5	**B**	3.2	**A**	22.5	**C**	**LOS D**
Enrico Fermi Drive/Otay Mesa Road	9.4	**A**	12.5	**B**	15.1	**B**	14.5	**B**	**LOS D**
Alta Road/Otay Mesa Road	0.0	**A**	0.0	**A**	0.0	**A**	0.0	**A**	**LOS D**
Alta Road/ Paseo De La Fuente	1.5	**A**	1.2	**A**	6.2	**A**	25.3	**C**	**LOS D**
Alta Road/North Access Road	15.4	**C**	14.8	**B**	17.3	**C**	16.1	**C**	**LOS D**

(Ex. 200, p.4.10-12.)

PPEC construction would require vehicle parking and laydown areas for materials delivery and storage. The proposed temporary laydown and parking area would be 6.0 acres on an adjacent parcel that is contiguous to the project site. Primary access to the construction and laydown area access would be from Alta Road or Paseo De La Fuente. The 6.0 acre temporary laydown area would provide vehicle parking, office trailers and small fabrication areas to accommodate project construction. (Ex. 200, p. 4.10-14.)

On average, for every parked vehicle, a parking lot must have 350 square feet of space, which includes both the actual parking space and room for circulation. During peak construction, approximately 284 construction workers would drive and need parking on-site. Using the standard of 350 square feet of space needed for every parking space, approximately 2.28 acres would be needed to provide a parking space for every construction worker vehicle. The proposed lay-down area is 6.0 acres; therefore, there would be sufficient room remaining for truck deliveries, material storage, office trailers and small fabrication areas to accommodate project construction. (*Id.*)

On October 27, 2011, the project Applicant submitted a modification to the wastewater treatment and disposal method described in the AFC. The proposed modification includes: expansion of the water treatment building by approximately 9,200 feet; addition of a 20,000-gallon wastewater storage tank; and disposal of project operation wastewater approximately 21 miles from the project site at the city of San Diego Pump Station 1. (Ex. 200, p. 4.10-15.)

The enhanced water treatment system would not cause significant impacts to traffic or transportation during its construction. Construction of the system would take place during Months 4-6 of the general project construction period and would not coincide with peak project construction, which is expected to take place from Months 6-10. Construction of the enhanced water treatment system would not generate new construction trips beyond the peak construction trips already proposed in the AFC and analyzed in this Decision as having less than significant impacts to traffic level of service. (*Id.*)

b. Natural Gas Pipeline and Transmission Lines

The proposed PPEC includes construction of a natural gas pipeline. There are two proposed routes for the gas supply pipeline. Route A would extend approximately 2,375 feet south along Alta Road, turn west for approximately 2,700 feet on Otay Mesa Road, and turn south on Enrico Fermi Drive for approximately 2,700 feet to Airway Road, where it would connect to the existing San Diego Gas and Electric (SDG&E) natural gas pipeline. The total length of the Route A pipeline would be 7,775 feet. Route B would extend approximately 2,375 feet south along Alta Road, turn west on Otay Mesa Road, and continue approximately 7,920 feet to Harvest Road at which point it would connect to the existing SDG&E natural gas pipeline. (Ex. 200, p. 4.10-13.)

Because pipeline construction would require open cutting of the roadway along proposed Route A or Route B, Energy Commission staff is proposing Condition of Certification **TRANS-2,** which requires the project owner to restore the roadway to its original condition immediately following construction. Pipeline construction could cause significant traffic impacts with potential temporary road closures and traffic congestion on Alta Road, Otay Mesa Road (Route A) and Harvest Road (Route B). To mitigate these potential traffic impacts, Condition of Certification **TRANS-3** is included to require: a traffic control plan, a heavy hauling plan, and a parking/staging plan. Although Calzada de la Fuente is a dead-end roadway, a traffic control plan would be required. Staff is also proposing Condition of Certification **TRANS-4** to require the project owner to

obtain all the necessary encroachment permits for construction within public rights-of-way. (*Id.*)

Other linear facilities that would be a part of the proposed PPEC include:

- A short connection to an existing sewer main along Calzada de la Fuente along the north project site boundary or to an existing sewer main along Alta Road along the west side of the project;
- Connection of a storm water pipeline located along Calzada de la Fuente, adjacent to the project site, to a detention pond located at the northwest corner of the project site;
- A short connection to potable service either to an existing main along Calzada de la Fuente or to an existing water supply pipeline.

Two alternative transmission routes are proposed to connect the project to the existing Otay Mesa 230-kV switchyard located approximately 2,000 feet east of the proposed project site. Route A is proposed to begin as an overhead power line on the north edge of the project site proceeding in an easterly direction along Calzada de la Fuente. It would extend overhead for approximately 1,700 feet to the east, then be routed underground for approximately 400 feet to the switchyard connection. Route B would begin as an overhead power line from the eastern edge of the project site, run south approximately 550 feet, turn east for approximately 1,400 feet and turn north for the final 700 feet to connect with the existing switchyard. The AFC lists 5 above-ground transmission line steel poles. (Ex. 1, Table 5.13-4.)

Condition of Certification **TRANS-2** would mitigate the potential impacts from the construction within the public right-of-way of the sewer main, storm water pipeline, and Route A or Route B transmission line. Condition of Certification **TRANS-4** would require the project owner to obtain all necessary encroachment permits for the respective construction within public rights-of-way. (Ex. 200, p. 4.10-14.)

c. Transport of hazardous Materials

During construction, no acutely hazardous materials would be used or stored onsite. The low-level hazardous materials planned for use during construction include gasoline, diesel fuel, oil, lubricants, cleaners, solvents, adhesives, and paint materials. Transportation of these materials would pose less than significant hazards to the public.

d. Aviation Impacts during Construction

The cranes that would be used during construction are approximately 200 feet tall. This requires the Applicant to notify the Federal Aviation Administration of construction pursuant to Title 14, Part 77 of the Code of Federal Regulations. These regulations require FAA notification for any proposed structure exceeding 200 feet in height above ground level (AGL), regardless of the distance from an airport. (Ex. 200, p. 4.10-15.)

Brown Field Municipal Airport is approximately three miles west, and Tijuana's Rodriguez International Airport is approximately three miles southwest, of the project site. Both have runways in excess of 7000 feet in length. Title 14, Part 77 of the Code of Federal Regulations also requires FAA notification for any proposed construction feature that would be taller than an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of an airport with at least one runway more than 3,200 feet in length. Based on this regulation, Staff calculated that at the proposed PPEC site, this imaginary surface threshold is at 158 feet AGL (three miles multiplied by 5,280 feet and divided by 100). The 200-foot tall construction cranes would penetrate this surface; therefore, FAA Notification would also be required based on this regulation. (Exs. 200, pp. 4.10-6, 4.10-15; 205.)

To ensure compliance with these FAA regulations, implementation of Condition of Certification **TRANS-7** would require the project owner to submit a Form 7460-1 "Notice of Proposed Construction or Alteration" regarding the construction cranes to the FAA, and to obtain an FAA Determination of No Hazard to Air Navigation. Condition of Certification **TRANS-8** would require the project owner to install obstruction marking and lighting on the construction cranes consistent with FAA requirements. As conditioned, the construction cranes would not significantly impact aviation, especially because most aircraft do not traverse the project site or fly at altitudes as low as 200 feet AGL. (Ex. 200, p. 4.10-16.)

PPEC Construction Impacts Conclusion

With implementation of the conditions of certification discussed in this analysis, construction of the PPEC would result in less than significant impacts to the traffic and transportation system in the vicinity of the project.

2. Operation Impacts and Mitigation

a. Employee and Truck Traffic

If approved, the PPEC is expected to begin commercial operation in May 2014 and employ 12 full-time staff members. The facility would be staffed by four operators, four maintenance technicians, an environmental technician, one administrative staff member, one operations supervisor, and a plant manager. The plant would be operated and staffed 24 hours a day, seven days a week. Trip distribution for operations would be as follows: approximately 20 percent from/to the north of SR-125, north of Otay Mesa Road (SR-905) and approximately 80 percent from/to the west on Otay Mesa Road (SR-905), west of SR-125. (Ex. 200, p. 4.10-16.)

Permanent employees would commute as much as one hour from locations within San Diego County. The operation employees would generate a maximum of 12 new vehicles trips during the morning peak hours and 12 new vehicle trips during the evening peak hours. The total increase in daily one-way vehicle trips, 24, is a minimal increase in traffic and would have a less than significant impact on overall traffic counts, congestion, and LOS along any of the state highways, roadways, and intersections workers would use to access the project site. (*Id.*)

b. Transport of Hazardous Materials and Waste

Operation of the PPEC would generate wastes resulting from processes, routine facility maintenance, and office activities typical of natural gas-fueled power generation. These wastes may include empty hazardous materials containers, used lube oil, spent batteries, waste oil, waste paint, thinners and solvents and oily rags/absorbents. These materials would be hauled away towards waste recycling and disposal facilities via southbound Alta Road, westbound Otay Mesa Road, and northbound SR-125 or westbound SR-905. Transportation of these process-generated wastes would not pose significant hazards to the public, as these wastes are not acutely hazardous. (*Id.*)

During project operation, aqueous ammonia, a regulated substance, would be delivered to the PPEC facility approximately once every 7.5 days and transported in accordance with Vehicle Code Section 32100.5, which addresses the transportation of hazardous materials that pose an inhalation hazard (Ex. 1, p. 5.11-16). The project owner's proposed routes for hazardous material deliveries are generally the same as for regular truck deliveries. The routes used would primarily be I-805, SR-905, Otay Mesa Road and Alta Road. These routes are

not located near any sensitive receptor locations, such as schools, daycare facilities, or large residential areas. (Ex. 200, p. 4.10-17.)

However, delivery of aqueous ammonia could still be hazardous to the public if a spill were to occur. Therefore, we recommend implementation of Condition of Certification **TRANS-5** to ensure that the project owner contracts with licensed hazardous materials and waste hauler companies that comply with all applicable regulations and obtain the proper permits and/or licenses from Caltrans and the County of San Diego.

During PPEC operation, the Enhanced Water Treatment (EWT) System would require a tanker truck to transport wastewater approximately 21 miles to the city of San Diego's industrial wastewater disposal facility, referred to as Pump Station Number 1. From the project site, the tanker truck would use State Route 125 (SR-125), State Route 54 (SR-54) and Interstate 5 (I-5). This truck route is the most efficient route with the least amount of surface street and traffic signal interruption. (Ex. 200, p. 4.10-17.)

Staff analyzed PPEC operation impacts to roadway and intersection levels of service with the addition of the tanker truck trips. During a normal PPEC operation day, three daily truck roundtrips for transporting wastewater would be necessary. In the event that the PPEC were to operate 24 hours a day on an extremely hot day, a maximum of seven daily truck roundtrips would be required. Seven daily truck roundtrips translates to 21 daily passenger car equivalent (PCE) roundtrips and 42 daily PCE one-way trips. With the addition of these trips, all of the previously analyzed roadways would continue to operate at LOS D or better, and all of the previously analyzed intersections would continue to operate at LOS C or better. Therefore, the EWT system would not significantly impact LOS on these previously analyzed roadways and intersections. (*Id.*)

However, State Route 54 and Interstate 5 were not previously analyzed for PPEC operation impacts on level of service. State Route 54 is a 6-lane expressway, and the segment analyzed in this section is between SR-125 and I-5. Current Average Annual Daily Traffic (AADT) on this segment is 126,000 vehicles per day, and it currently operates at LOS F. Interstate 5 provides five mainline lanes in each direction, and the segment analyzed in this section is just north of SR-54. Current AADT on this segment is 178,000 vehicles, and it currently operates at LOS E.

Under Year 2014 project operation conditions, including the tanker truck trips, SR-54 and I-5 would continue to operate at poor levels of service, LOS F and E, respectively. However, the EWT system would have less than significant impacts to LOS because SR-54 and I-5 are already operating at LOS F and E, and the EWT system would only add an additional 42 daily PCE trips, which is less than 0.1 percent of pre-operational baseline traffic. (Ex. 200, p. 4.10-18.)

c. Airport Operations

An object at the PPEC site would need to be at least 158 feet tall to penetrate navigable airspace and require the Applicant to file a Notice of Construction or Alteration with the FAA. (See the Aviation Impacts section for more information.) Once the construction cranes are removed, the tallest structures at the PPEC site would be three 100-foot tall exhaust stacks. These stacks would be shorter than the 158-foot height threshold, meaning that they would not penetrate navigable airspace and require notification of the FAA. (Ex. 200, p. 4.10-18.)

The proposed PPEC would emit high velocity thermal plumes from its three 100-foot tall exhaust stacks during operation. High velocity thermal plumes can pose a threat to aviation safety. The FAA has formally acknowledged plume hazards by amending the Aeronautical Information Publication to establish thermal plumes as flight hazards and recommend that pilots avoid overflight below 1,000 feet AGL and fly upwind of facilities producing thermal plumes. Aircraft flying through plumes may experience significant air disturbances, such as turbulence and vertical shear. (Ex. 200, p. 4.10-19.)

In the vicinity of the PPEC, there is potential for aircraft to overfly the project's thermal plumes. Staff also witnessed Pacific Coast Skydiving (PCS) using the open lot directly south of the PPEC site as a jump site. Andy Rowell, the owner, stated that PCS performs approximately 80-100 jumps a week, but that the jump site would be moved upon completion of the PPEC. The jump site is located within a 10 mile area that is noticed on the San Diego Sectional Chart asking pilots to use "CAUTION: Intensive Parachute Activity, Monitor 121.95 within 10 NM Radius". (*Id.*)

Staff calculated that the average vertical velocity for a single plume would be 4.3 m/s or higher up to a height of 1,080 feet AGL. At this height, two adjacent plumes would be sufficiently large to merge. For the case of two merged plumes under these conditions, average plume vertical velocity would be 4.3 m/s or higher up to a height of approximately 1,720 feet AGL. For the very unlikely event

of all three plumes merging, average plume vertical velocity for the combined plumes would be 4.3 m/s or higher up to a height of approximately 2,280 feet AGL. However, given the very remote possibility of three plumes merging, Staff considered the realistic worst-case scenario as two plumes merging, creating an average plume vertical velocity of 4.3 m/s or higher up to a height of 1,720 feet AGL. (See **Appendix TT-1** for detailed results of the plume velocity analysis for the PPEC.) (Ex. 200, p. 4.10-20.)

High velocity thermal plumes could present a potentially significant hazard to aircraft performing overflights of the PPEC at low altitudes; therefore, we recommend implementation of Conditions of Certification **TRANS-8** and **TRANS-9**. **TRANS-8** would require lighting of the exhaust stacks, consistent with FAA requirements, alerting pilots to the presence of the facility and reducing the potential for inadvertent overflight and exposure to high-velocity thermal plumes. **TRANS-9** would provide a means to advise pilots of the potential hazard to flight associated with the plumes and the need to avoid overflight of the facility below 1,720 feet AGL. These measures would include: issuance of a Notice to Airmen (NOTAM); amendment of the Airport/Facility Directory; revision of the San Diego Sectional Chart; and addition of a new remark to the Automated Surface Observing System (ASOS). (*Id.*)

With these mitigation measures, impacts to aviation would be less than significant. Given the fact that aircraft do not need to fly over the project site to enter or depart the traffic pattern, the small 10-acre footprint of the project, and the wide open airspace in the general area, pilots would have the flexibility to avoid direct overflight of the PPEC while conducting their normal operations.

3. Cumulative Impacts

A project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. *Cumulatively considerable* is interpreted to mean that the incremental effects of an individual project are significant when viewed in connection with the effects of (1) past projects, (2) other current projects and (3) probable future projects (Cal. Code Regs, tit. 14, § 15130).

Cumulative Traffic Impacts

There are five known past, current, and probable future projects in the vicinity of the proposed PPEC project, which Staff defined as the community of Otay Mesa in San Diego County. Access to the development projects located within the

vicinity of the PPEC would be from Interstate 805, State Routes 905 and 125, Otay Mesa Road, and Alta Road. **Traffic and Transportation Table 6** (below) lists these known projects and their locations, descriptions, and statuses.

Traffic and Transportation Table 6
Cumulative Projects

Project	County	Location	Project Permits	Status of Project
Vulcan Batch Plant (COSD 2011)	San Diego	Within 1 mile of the project site. Located at 7522 Paseo de la Fuente.	**Concrete & Asphalt Batch Plant**: The project is a Site Plan to construct and operate concrete and asphalt batch plants.	**Approved and Under Construction** The Site Plan for this project has been approved. Construction is almost complete and is awaiting final inspection
Otay Hills Construction Aggregate Extraction Operation	San Diego	Within 1 mile of the project site. Accessed by Calzada de la Fuente Road, which is located about 0.5 mile north of the intersection of Otay Mesa Road and Alta Road.	**Aggregate Excavation and Processing**: MUP and Reclamation Plan for excavation and processing of construction aggregate, including a concrete batch plant and asphalt batch plant.	**Under Review** The Major Use Permit application for this project is in process. An EIR is currently being prepared for the project and is in the early stages
Corrections Corporation of America Correctional Facility/East Mesa Detention Facility	San Diego	Within 1 mile of the project site. Located at 7488 Calzada de la Fuente.	**Detention Facility**: Second modification of Major Use Permit P06-074 for a secure detention facility to be constructed in two phases. Modification is to increase the total square footage and number of people accommodated in two of the larger buildings on the campus	**Under Review** The County of San Diego Planning Commission will likely review the project by late summer 2012.
Otay Crossings Commerce Park	San Diego	Within 1 mile of the project site. Located southeast of Otay Mesa Road and Alta Road.	**Industrial Subdivision**: Includes Specific Plan Amendment. The Tentative Map will subdivide the parcel into 56 industrial lots.	**Under Review** A Tentative Map was approved in 2011. A revised Tentative Map is currently in process
International Industrial Park	San Diego	Within 1 mile of the project site. Located at Alta Road and Lone Star Road.	**Technology/Business Park**: Tentative Map to subdivide approximately 170 acres of vacant land into 10 parcels for technology/business park use.	**Under Review** The Tentative Map for this project is in process and in the later stages of environmental review.

(Ex. 200, p. 4.10-26.)

Trips generated by the projects listed in **Traffic and Transportation Table 6** share the transportation network with trips generated by the PPEC and may combine with PPEC trips to result in cumulative impacts to the level-of-service

(LOS) of nearby highways, roadways, and intersections. Cumulative impacts would be a concern during construction of the PPEC, but not during operations; PPEC operations would generate a maximum of 24 daily one-way vehicle trips, a minimal increase in traffic that would have a less than significant impact on overall traffic counts.

Vulcan Batch Plant

As of February 10, 2012, construction of the Vulcan Batch Plant was almost complete, and the project was awaiting final inspection. Therefore, construction of the Vulcan Batch Plant would not combine with PPEC construction traffic to cause cumulative traffic impacts. (Ex. 200, pp. 4.10-27 – 4.10-28.)

Otay Hills Construction Aggregate Extraction Operation

As of March 26, 2012, the Otay Hills Construction Aggregate Extraction Operation applicant was still submitting the required studies for the County of San Diego's EIR process, which is still in the early stages. The county's project lead estimates that any project decision would probably occur no earlier than late 2013. According to both the project lead and materials submitted by the Applicant, construction would not begin until at least 2015, at which point the PPEC would be completed and in operation. Therefore, construction of the Otay Hills Construction Aggregate Extraction Operation would not combine with PPEC construction traffic to cause cumulative traffic impacts. (*Id.*)

Corrections Corporation of America Correctional Facility/East Mesa Detention Facility

San Diego County's Planning Commission will likely review the proposed Correctional Facility/East Mesa Detention Facility project by late summer 2012. If approved, the project Applicant would immediately afterward apply for building and grading permits. Construction would probably begin in fall 2012 or early 2013 and would overlap with construction of the PPEC. (*Id.*)

A traffic study for the correctional facility includes estimates for operation-generated trips but not for construction-generated trips, the reason being that operations traffic would be higher than construction traffic. The County of San Diego project transportation specialist estimated that during peak construction of the first phase of the correctional facility, the project may generate approximately 300-400 daily trips. (*Id.*)

While construction of the correctional facility and the PPEC would likely overlap, it is unlikely that peak construction of both projects would overlap. Construction of the PPEC would begin in 2013, with peak construction forecast for Month 6 through Month 10. By the time of peak construction of the PPEC in 2013, peak construction of the corrections facility would probably be over. Therefore, we do not expect significant cumulative traffic impacts resulting from construction of the PPEC and the correctional facility. (*Id.*)

Otay Crossings Commerce Park

The County of San Diego approved the original Tentative Map for the Otay Crossings Commerce Park on October 7, 2011. Since then, the project Applicant has proposed a Tentative Map revision which is currently in process. According to the County planner for this project, the project Applicant hopes to begin construction on Phase 1 sometime in 2013. Phase 1 would include grading for several units of the project, and according to the project's EIR, "…there is no export or import of materials required. Therefore, the construction activities associated with the grading operation will be minimal (i.e., it would only include the construction employees, inspectors, surveyors, and associated deliveries, etc. coming to/from the site)." Because construction traffic impacts would be minimal and far less than traffic impacts from build-out of the project, the EIR did not include estimates for construction traffic trips. (*Id.*)

If grading for Phase 1 of the Otay Crossings Commerce Park begins in 2013 as the project Applicant anticipates, the timing would overlap with peak construction of the PPEC. However, because construction traffic generated by the Otay Crossings Commerce Park would be minimal, cumulative impacts would be less than significant. (*Id.*)

International Industrial Park

The Tentative Map for the International Industrial Park is in the later stages of the environmental review process with the County of San Diego. It is unknown when the project will be scheduled for public hearing. The project involves massive grading for lot preparation. The county transportation specialist provided a rough estimate of 300 to 500 daily trips associated with peak grading activities. It is unlikely that peak grading traffic would coincide with peak construction traffic generated by the PPEC. Therefore, the PPEC and the International Industrial Park are not expected to combine to create cumulative traffic impacts. (*Id.*)

Based on the above evidence, we find that the PPEC would not combine with any past, current, or probable future projects in the community of Otay Mesa to result in significant cumulative impacts to ground traffic on the nearby traffic and transportation system.

Cumulative Aviation Impacts

We also must consider whether the above projects could combine with the proposed PPEC to create cumulative impacts to aviation. The only one which could do so is the Otay Mesa Power Plant, located adjacent to the PPEC, which has 131-foot-tall HRSG stacks, two natural-gas fired combustion turbine generators, four wet surface condensers, and one auxiliary boiler, all of which produce thermal plumes.

The evidence shows that, at 300 feet, the lowest altitude evaluated, the condensers and boiler produce plumes of 3.22 m/s and 1.85 m/s, respectively, which decrease in velocity with increasing altitude. These velocities are below the 4.3 m/s threshold for more than light turbulence, and 300 feet is lower than aircraft would generally fly. (Ex. 200, p. 4.10-29.)

Implementation of Conditions of Certification **TRANS-8** would require lighting of the exhaust stacks, consistent with FAA requirements, alerting pilots to the presence of the facility and reducing the potential for inadvertent overflight and exposure to high-velocity thermal plumes, and **TRANS-9** would provide a means to advise pilots of the potential hazard to flight associated with the plumes and the need to avoid overflight of the facility below 1,720 feet AGL. These measures would include: issuance of a Notice to Airmen (NOTAM); amendment of the Airport/Facility Directory; revision of the San Diego Sectional Chart; and addition of a new remark to the Automated Surface Observing System (ASOS). (*Id.*)

TRANS-8 and **TRANS-9** would discourage pilots from overflying the PPEC site and would likely also indirectly prevent overflight of the adjacent Otay Mesa Power Plant site. Therefore, cumulative impacts to aviation from plumes would be less than significant.

With regard to structure height, the Otay Mesa Power Plant's HRSG stacks are 131 feet tall, less than the 158-foot and 200-foot thresholds for FAA notification discussed earlier. As noted earlier, the PPEC's construction cranes would be approximately 200 feet tall and would require that the FAA be notified; implementation of **TRANS-7** would ensure such notification. All other structure

heights for both power plants would be less than 158 feet tall and therefore would not exceed the FAA's height notification thresholds. Because of this, there would be no cumulative impacts to aviation with regard to obstruction of navigable airspace. (*Id.*)

FINDINGS OF FACT

1. During the construction and operation phases, local roadway and highway demand resulting from the daily movement of workers and materials will be minimal and would have a less than significant impact on overall traffic counts, congestion and levels of service along any of the state highways, roadways and intersections used by construction and operations personnel with implementation of the conditions of certification set forth herein.

2. With implementation of the conditions of certification, the PPEC will comply with all applicable LORS related to traffic and transportation.

3. Brown Field Municipal Airport and Rodriguez International airports are located within three miles of the proposed project site. Neither the project's structures nor its thermal plumes would impact aviation safety with implementation of the applicable conditions of certification. Condition of Certification **TRANS-7** would require the project owner to notify the FAA that the construction cranes would be 200 feet tall, and to obtain an FAA Determination of No Hazard to Air Navigation. Condition of Certification **TRANS-8** would require the project owner to install obstruction marking and lighting on the exhaust stacks and construction cranes. Condition of Certification **TRANS-9** would provide a means to advise pilots of the potential hazard to flight associated with the project-generated exhaust plumes and the need to avoid overflight of the facility below 1,720 feet AGL.

4. The PPEC as proposed with conditions of certification would not result in significant direct, indirect or cumulative traffic and transportation impacts, and therefore, would have no environmental justice issues.

CONCLUSIONS OF LAW

1. The PPEC would be consistent with all applicable laws, ordinances, regulations, and standards.

2. The project will not have a significant adverse impact on the local and regional road/highway network.

CONDITIONS OF CERTIFICATION

TRANS-1 Roadway Use Permits and Regulations

The project owner shall comply with limitations imposed by Caltrans District 11 and other relevant jurisdictions, including the city of San Diego and County of San Diego, on vehicle sizes and weights, driver licensing, and truck routes. In addition, the project owner or its contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: In the Monthly Compliance Reports (MCRs), the project owner shall report permits received during that reporting period. In addition, the project owner shall retain copies of permits and supporting documentation on-site for Compliance Project Manager (CPM) inspection if requested.

TRANS-2 Restoration of All Public Roads, Easements, and Rights-of-Way

The project owner shall restore all public roads, easements, and rights-of-way that have been damaged due to project-related construction activities. Restoration of significant damage which could cause hazards (such as potholes) must take place immediately after the damage has occurred. The restoration shall be completed in a timely manner to the road's original condition or better in compliance with the applicable jurisdiction's (city or county of San Diego) standards.

Verification: Prior to the start of site mobilization, the project owner shall photograph or videotape of all affected public roads, easements, right-of-way segment(s), and/or intersections. The project owner shall provide the photograph or videotape to the CPM and the affected local jurisdiction(s). The purpose of this notification is to request that these jurisdictions consider postponement of any planned public right-of-way repair or improvement **activities** in areas affected by project construction until construction is completed, and to coordinate any concurrent construction-related activities that cannot be postponed.

If damage to public roads, easements, or rights-of-way occurs during construction, the project owner shall notify the CPM and the affected local jurisdiction(s) to identify sections of public right-of-way to be repaired. At that time, the project owner shall establish a schedule for completion and approval of the repairs. Following completion of any public right-of-way repairs, the project owner shall provide to the CPM letters signed by the affected local jurisdiction(s) stating their satisfaction with the repairs.

TRANS-3 Traffic Control Plan, Heavy Hauling Plan, and Parking/Staging Plan

Prior to the start of construction of the PPEC, the project owner shall prepare a Traffic Control Plan (TCP) for the PPEC's construction and operations traffic. The TCP shall address the movement of workers,

vehicles, and materials, including arrival and departure schedules and designated workforce and delivery routes.

The project owner shall consult with the Caltrans District 11 office, the applicable local jurisdictions, and persons anticipated to be constructing other projects during PPEC construction in the vicinity of the PPEC in the preparation and implementation of the Traffic Control Plan (TCP). The project owner shall submit the proposed TCP to Caltrans District 11, applicable local jurisdictions and persons constructing other projects in sufficient time for review and comment, and to the Energy Commission compliance project manager (CPM) for review and approval prior to the proposed start of construction and implementation of the plan.

The Traffic Control Plan (TCP) shall include:

- Provisions for redirection of construction traffic with a flag person as necessary to ensure traffic safety and minimize interruptions to non-construction related traffic flow;
- Placement of necessary signage, lighting, and traffic control devices at the project construction site and lay-down areas;
- A heavy-haul plan addressing the transport and delivery of heavy and oversized loads requiring permits from the California Department of Transportation (Caltrans), other state or federal agencies, and/or the affected local jurisdictions;
- Location and details of construction along affected roadways at night, where permitted;
- Temporary closure of travel lanes or disruptions to street segments and intersections during construction activities;
- Traffic diversion plans (in coordination with the city and county of San Diego) to ensure access during temporary lane/road closures;
- Access to residential and/or commercial property located near construction work and truck traffic routes;
- Insurance of access for emergency vehicles to the project site;
- Advance notification to residents, businesses, emergency providers, and hospitals that would be affected when roads may be partially or completely closed;
- Identification of safety procedures for exiting and entering the site access gate; and
- Parking/Staging Plan (PSP) for all phases of project construction and for project operation;

- Coordination with other projects under construction in the PPEC vicinity that could result in a cumulative traffic impact

Verification: At least 60 calendar days prior to the start of construction, the project owner shall submit the TCP to the applicable agencies 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 agencies requesting review and comment.

At least 30 calendar days prior to the start of construction, the project owner shall provide copies of any comment letters received from the agencies and other projects, along with any changes to the proposed development plan, to the CPM for review and approval.

TRANS-4 Encroachment into Public Rights-of-Way

Prior to any ground disturbance, improvements, or obstruction of traffic within any public road, easement, or right-of-way, the project owner or its contractor(s) shall coordinate with all relevant jurisdictions, including the city and county of San Diego and Caltrans District 11, to obtain all required encroachment permits and comply with all applicable regulations.

Verification: At least 10 days prior to ground disturbance or interruption of traffic in or along any public road, easement, or right-of-way, the project owner shall provide copies of all permit(s), relevant to the affected location(s), received from Caltrans or any other affected jurisdiction/s to the CPM. In addition, the project owner shall retain copies of the issued/approved permit(s) and supporting documentation in its compliance file for a minimum of 180 calendar days after the start of commercial operation.

TRANS-5 Transportation of Hazardous Materials

The project owner shall contract with licensed hazardous material delivery and waste hauler companies in order to obtain the necessary permits and/or licenses from the California Highway Patrol, Caltrans District 11, and any relevant local jurisdictions for the transportation of hazardous materials. The project owner shall ensure compliance with all applicable regulations and implementation of the proper procedures.

Verification: In the Monthly Compliance Reports (MCRs) during construction and the Annual Reports during operation, the owner shall provide copies of all permits/licenses obtained for the transportation of hazardous substances.

TRANS-6 Payment of Transportation Fees

The project owner shall pay traffic and transportation fees to San Diego County for development of the PPEC. These fees may include but not be limited to the County of San Diego Transportation Impact Fee (TIF).

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall submit plans for the proposed PPEC to San Diego County, pay any necessary transportation-related fees, and provide documentation of exemption or payment to the CPM. In addition, the project owner shall retain copies of this documentation in its compliance file for a minimum of 180 calendar days after the start of commercial operation.

TRANS-7 FAA Notification of Construction Cranes

The project owner shall file a Form 7460-1 with the FAA regarding the use of 200 foot-tall construction cranes that will penetrate the navigable airspace for Brown Field and obtain an FAA Determination of No Hazard to Air Navigation.

Verification: At least 90 days prior to ground disturbance, the project owner shall submit a copy of the FAA Determination of No Hazard to Air Navigation regarding the construction cranes to Brown Field, U.S. Department of Homeland Security, U.S. Customs and Border Control, and San Diego County Fire Department for review and comment, and to the CPM for review and approval. The project owner shall also provide copies of any correspondence from the agencies identified above to the CPM for review and approval.

TRANS-8 Obstruction Marking and Lighting

The project owner shall install obstruction marking and lighting on the exhaust stacks and construction cranes, consistent with FAA requirements, as expressed in the following documents:

- FAA Advisory Circular 70/7460-1K
- FAA Safety Alert for Operators (SAFO) 09007.

Permanent lighting consistent with all requirements shall be installed at least 60 days prior to operation of the PPEC. Lighting shall be operational 24 hours a day, 7 days a week for the life of project operation. Upgrades to the required lighting configurations, types, location, or duration shall be implemented consistent with any changes to FAA obstruction marking and lighting requirements.

Verification: At least 60 days prior to the start of construction, the project owner shall submit to the CPM for approval final design plans for the power plant exhaust stacks and construction cranes that depict the required air traffic obstruction marking and lighting.

At least 60 days prior to plant operation, the project owner shall install permanent obstruction marking and lighting consistent with FAA requirements and shall inform the CPM in writing within 10 days of installation. The lighting shall be inspected and approved by the CPM (or designated inspector) within 30 days of installation.

TRANS-9 Pilot Notification and Awareness

The project owner shall initiate the following actions to ensure pilots are aware of the project location and potential hazards to aviation:

- Submit a letter to the FAA requesting a Notice to Airmen (NOTAM) be issued advising pilots of the location of the PPEC and recommending avoidance of overflight of the project site below 1,720 feet AGL. The letter should also request that the NOTAM be maintained in active status until all navigational charts and Airport Facility Directories (AFDs) have been updated.
- Submit a letter to the FAA requesting a power plant depiction symbol be placed at the PPEC site location on the San Diego Sectional Chart with a notice to "avoid overflight below 1,720 feet AGL".
- Submit a request to and coordinate with the Brown Field Airport Manager to add a new remark to the Automated Surface Observing System (ASOS) identifying the location of the PPEC and advising pilots to avoid direct overflight below 1,720 feet AGL as they approach or depart the airport.
- Request that Southern California TRACON and/or the San Diego Air Traffic Control Center submit aerodrome remarks describing the location of the PPEC plant and advising against direct overflight below 1,720 feet AGL to the:
    - FAA AeroNav Services, formerly the FAA National Aeronautical Charting Office (Airport/Facility Directory)
    - Jeppesen Sanderson Inc. (JeppGuide Airport Directory, Western Region)
    - Airguide Publications (Flight Guide, Western States)

Verification: Within 30 days following the start of construction, the project owner shall submit draft language for the letters of request to the FAA (including Southern California TRACON) and Brownfield Airport to the CPM for review and approval.

At least 60 days prior to the start of operations, the project owner shall submit the required letters of request to the FAA and request that Southern California TRACON submit aerodrome remarks to the listed agencies. The project owner shall submit copies of these requests to the CPM. A copy of any resulting correspondence shall be submitted to the CPM within 10 days of receipt.

If the project owner does not receive a response from any of the above agencies within 45 days of the request (or by 15 days prior to the start of operations) the project owner shall follow up with a letter to the respective agency/ies to confirm implementation of the request. A copy of any resulting correspondence shall be submitted to the CPM within 10 days of receipt.

The project owner shall contact the CPM within 72 hours if notified that any or all of the requested notices cannot be implemented. Should this occur, the project owner shall appeal such a determination, consistent with any established appeal process and in consultation with the CPM. A final decision from the jurisdictional agency denying the request, as a result of the appeal process, shall release the project owner from any additional action related to that request and shall be deemed in compliance with that portion of this condition of certification.

APPENDIX TT-1: PLUME VELOCITY ANALYSIS
Prepared by Tao Jiang, Ph.D., P.E.

INTRODUCTION

The following provides the assessment of the Pio Pico Energy Center (PPEC) cooling tower, and gas turbines exhaust stack plume vertical velocities. Staff completed calculations to determine the worst-case vertical plume velocities at different heights above the stacks based on the Applicant's proposed facility design.

PROJECT DESCRIPTION

PPEC is a proposed 300 megawatt (MW) simple-cycle electrical generating facility. The proposed PPEC includes a 12-cell partial dry cooling tower and three LMS100 natural-gas fired combustion turbine generators (CTG). There are no other plume sources at the PPEC site.

PLUME VELOCITY CALCULATION METHOD

Staff has selected a calculation approach from a technical paper (BEST 2003) to estimate the worst-case plume vertical velocities for the PPEC exhausts. The calculation approach, which is also known as the "Spillane approach", used by Staff is limited to calm wind conditions, which are the worst-case wind conditions. The Spillane approach uses the following equations to determine vertical velocity for single stacks during dead calm wind (i.e. wind speed = 0) conditions:

(1) $(V*a)^3 = (V*a)_o^3 + 0.12*F_o*[(z-z_v)^2-(6.25D-z_v)^2]$

(2) $(V*a)_o = V_{exit}*D/2*(T_a/T_s)^{0.5}$

(3) $F_o = g*V_{exit}*D^2*(1-T_a/T_s)/4$

(4) $Z_v = 6.25D*[1-(T_a/T_s)^{0.5}]$

Where: V = vertical velocity (m/s), plume-average velocity
a = plume top-hat radius (m, increases at a linear rate of $a = 0.16*(z- z_v)$
F_o= initial stack buoyancy flux m^4/s^3
z = height above ground (m)
z_v= virtual source height (m)
V_{exit}= initial stack velocity (m/s)
D = stack diameter (m)
T_a= ambient temperature (K)
T_s= stack temperature (K)
g = acceleration of gravity (9.8 m/s^2)

Equation (1) is solved for V at any given height above ground that is above the momentum rise stage for single stacks (where z > 6.25D) and at the end of the plume merged stage for multiple plumes. This solution provides the plume-average velocity for the area of the plume at a given height above ground; the peak plume velocity would be two times higher than the plume-average velocity predicted by this equation. As can be seen the stack buoyancy flux is a prominent part of Equation (1). The calm condition calculation basis clearly represents the worst-case conditions, and the vertical velocity will decrease substantially as wind speed increases.

For multiple stack plumes, where the stacks are equivalent, the multiple stack plume velocity during calm winds was calculated by Staff in a simplified fashion, presented in the Best Paper as follows:

(5) $V_m = V_{sp} * N^{0.25}$

Where: V_m = multiple stack combined plume vertical velocity (m/s)
V_{sp} = single plume vertical velocity (m/s), calculated using Equation (1)
N = number of stacks

Staff notes that this simplified multiple stack plume velocity calculation method predicts somewhat lower velocity values than the full Spillane approach methodology as given in data results presented in the Best paper (BEST 2003). However, the use of this approach on long linear cooling towers such as the cooling tower designed for the PPEC project will likely over predict the combined plume velocities.

VERTICAL PLUME VELOCITY ANALYSIS

COOLING TOWER DESIGN AND OPERATING PARAMETERS

The design and operating parameter data for the project's cooling tower are provided in **Plume Velocity Table 1**.

Plume Velocity Table 1
PPEC Cooling Tower Operating and Exhaust Parameters

Parameter	Cooling Tower Design Parameters
Number of Cells	12 Cells (1 by 12 Linear Design)
Cell Height (feet)	22
Cell Stack Diameter (feet)	13
Stack Velocity (ft/sec)	33.8
Stack Temperature (°F)	86
Ambient Temperature (°F)	63

Ex. 1; Supplemental Air Quality Modeling and Risk Assessment, Docket TN No. 59939

The Applicant provided exhaust data for the average ambient case, which is a reasonable case for a peaker project that is expected to operate mainly during hot summer conditions that correspond to maximum electrical load demand.

GAS TURBINE/HRSG DESIGN AND OPERATING PARAMETERS

The design and operating parameter data for the gas turbines stack exhaust are provided in **Plume Velocity Table 2**.

Plume Velocity Table 2
PPEC Gas Turbine Operating and Exhaust Parameters

Operating Mode	Ambient Temp (°F)	Stack Height (feet)	Stack Diameter (feet)	Stack Vel (ft/sec)	Stack Temp (°F)
Hot Peak	110	100	14.5	88.60	802
Avg Peak	63	100	14.5	92.22	785
Cold Peak	30	100	14.5	91.81	754
Hot Low	122	100	14.5	74.01	825
Avg Low	63	100	14.5	65.24	831
Cold Low	30	100	14.5	65.16	820

Ex. 1; Supplemental Air Quality Modeling and Risk Assessment, Docket TN No. 59939

For the worst-case analysis for this plume source the 63°F ambient condition for CTG at peak load, average temperature case was selected to determine the worst-case velocity conditions. The average ambient case is both a more likely operating scenario for a peaking facility and has calm-wind velocity results that are essentially as conservative as the cold peak case.

PLUME VELOCITY CALCULATION RESULTS

Using the Spillane calculation approach, the plume average vertical velocity at different heights above ground was determined by Staff for calm conditions. Staff's calculated plume average velocity values for the cooling tower are provided in **Plume Velocity Table 3.** The combined cooling tower velocities are calculated by combining all 12 cells by assuming the multiple cooling tower cell plumes have completely merged.

As explained in the Transportation and Traffic section a plume average vertical velocity of 4.3 m/s has been determined by Staff to be the critical velocity of concern to light aircraft. This is based on the Australian Civil Aviation Safety Authority (CASA) advisory circular (CASA 2004). Vertical velocities below this level are not of concern to light aircraft. The cooling tower exhausts were found to have plume average velocities less than 4.3 meters per second at or above 500 feet above ground level.

Plume Velocity Table 3
PPEC Cooling Tower Vertical Plume Velocities (m/s)

Height	12-Cell Cooling Tower
300	3.81
400	3.26
500	2.93
600	2.71
700	2.55
800	2.42
900	2.31
1,000	2.23
1,100	2.15
1,200	2.08
1,300	2.02
1,400	1.97
1,500	1.93
1,600	1.88
1,700	1.84
1,800	1.81
1,900	1.77
2,000	1.74

PPEC has 3 turbines in a linear configuration. When the spacing between the gas turbines is not large enough, the exhaust plumes may spread enough to significantly merge prior to the velocity lowering to vertical velocities below levels of concern. Therefore, the gas turbine plume size and vertical velocities for different plume merging scenarios, where the value N is equal to the number of fully merged plumes, were calculated and are presented in **Plume Velocity Table 4.**

Plume Velocity Table 4
PPEC Turbine Plume Size and Vertical Plume Velocities

Height (ft)		Plume Diameter (m) [a]	Plume Velocity (m/s) [b]		
			N=1	N=2	N=3
300		16.396	7.99	Not Merged	Not Merged
400		26.15	6.66	Not Merged	Not Merged
500		35.904	5.94	Not Merged	Not Merged
600		45.657	5.47	Not Merged	Not Merged
700		55.411	5.11	Not Merged	Not Merged
800		65.165	4.84	Not Merged	Not Merged
900		74.918	4.62	Not Merged	Not Merged
1000		84.672	4.43	Not Merged	Not Merged
1100		94.426	4.27	Not Merged	Not Merged
1200		104.18	4.13	Not Merged	Not Merged
1300		113.933	4.01	4.77	Not Merged
1400		123.687	3.9	4.64	Not Merged
1500		133.441	3.8	4.52	Not Merged
1600		143.194	3.71	4.42	Not Merged
1700		152.948	3.63	4.32	Not Merged
1800		162.702	3.56	4.23	Not Merged
1900		172.456	3.49	4.15	Not Merged
2000		182.209	3.43	4.08	Not Merged
2100		191.963	3.37	4.00	Not Merged
2200		201.717	3.31	3.94	Not Merged
2300		211.471	3.26	3.88	Not Merged
2400		221.224	3.21	3.82	4.23
2500		230.978	3.17	3.76	4.17
2600		240.732	3.12	3.71	4.11
2700		250.485	3.08	3.66	4.06
2800		260.239	3.04	3.62	4.00
2900		269.993	3.01	3.57	3.95
3000		279.747	2.97	3.53	3.91

Notes:
[a] – The separation between stacks is approximately 54 meters for two stacks and 108 meters for all stacks and the plumes will begin to merge when the plume diameter is the same as the separation and is assumed to be fully merged when the plume diameter is twice the stack separation.
[b] – Not Merged means not fully merged.

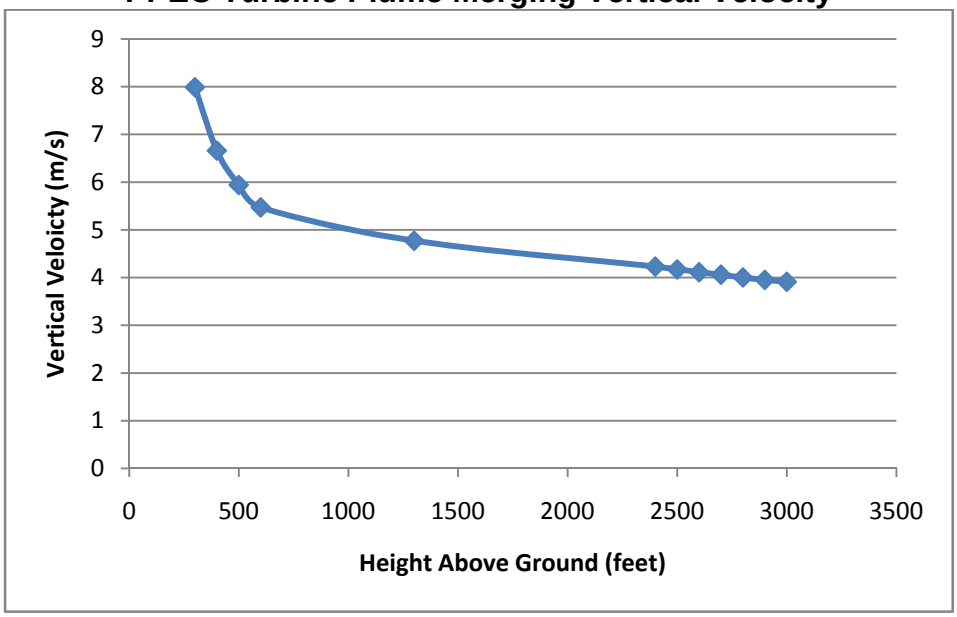
The values shown in **Plume Velocity Table 4** are worst-case values for peak load operation during average ambient temperatures, with dead calm wind conditions from ground level to the height for the 4.3 m/s vertical velocities. For other operating scenarios and ambient temperatures, the top heights for the 4.3 m/s vertical velocities would be somewhat lower than these maximum values and

aircraft flying above these levels should not be affected by vertical velocities that exceed 4.3 m/s.

The gas turbine plume average velocity is calculated to drop below 4.3 m/s at a height of approximately 1,080 feet for the single turbine plume (N=1). The plume diameter at this height is around 92m, which is larger than the distance of two adjacent turbines (54m). Therefore the merging of the two adjacent turbine plumes should be considered. In that case of two plumes fully merging (N=2), the average velocity is calculated to drop below 4.3 m/s at the height of 1,720 feet. The Applicant proposed to use the most conservative scenario assuming all three plumes will fully merge (N=3), where plume average velocity is calculated to drop below 4.3 m/s at a height of approximately 2,280 feet. However, it is very unlikely that all three plumes can merge fully to allow this velocity given the stack separation and the height/atmospheric conditions needed for them to fully merge. Therefore Staff proposes to use the scenario of two plume merging (N=2), which shows that the average velocity drops below 4.3 m/s at the height of 1,720 feet.

Plume Velocity Table 4 is based on a calculation procedure that does not indicate how the plumes begin to merge before they are fully merged. The plume velocity would not actually go up between 1,200 and 1,300 meters or between 2,300 and 2,400 meters, rather the velocity curve would be based on partial merging of the one stack, two fully merged exhaust plumes, and three fully merged exhaust plumes cases. This worst-case plume merging velocities, combining the velocity data from the three exhaust merging cases is shown in **Plume Velocity Figure 1**.

Plume Velocity Figure 1
PPEC Turbine Plume Merging Vertical Velocity



The velocity values listed above in **Plume Velocity Table 3** and **Plume Velocity Table 4** are plume average velocities across the area of the plume. The maximum plume velocity, based on a normal Gaussian distribution, is two times the plume average velocity as shown in the table.

WIND SPEED STATISTICS

Plume Velocity Table 5 provides the calm wind speed statistics for Otay Mesa from meteorological data collected for 2006 through 2008. Calm winds for the purposes of the reported monitoring station statistics are those hours with average wind speeds below 1 knot (equal to 0.5 m/s). Calm or very low wind speeds can also occur for shorter periods of time within each of the monitored average hourly conditions. However, the shortest time resolution for the available meteorological data is one hour.

Plume Velocity Table 5
Calm Wind Statistics for Otay Mesa

Calm Wind Speed Statistics	
2006	20.1%
2007	17.6%
2008	23.6%
Average	20.4%

Source: Ex. 1

Calm/low wind speed conditions averaging an hour or longer appear to be frequent in the site area.

CONCLUSIONS

The calculated worst case calm wind condition vertical plume average velocities from the PPEC cooling towers are not predicted to exceed 4.3 m/s at heights at or above 500 feet above ground level. However, the calculated worst case calm wind condition vertical plume average velocities from the PPEC gas turbines are predicted to exceed 4.3 m/s at heights at or above 500 feet above ground level (1,720 feet). There are no other plume sources at the PPEC site, although the Otay Mesa power plant is immediately east of PPEC.

The vertical velocity from the equipment exhaust at a given height above the stack decreases as wind speed increases. However, the plume average vertical velocities for the gas turbines will remain relatively high, and would exceed 4.3 m/s above 500 feet above ground level, during calm or very low wind speed conditions. These low wind speed conditions lasting an hour or more occur reasonably frequently at the site location. Additionally, shorter periods of dead calm winds, lasting long enough to increase the vertical plume average velocity height up to its peak height, can also occur during hours with low average wind speeds.

PPEC is designed as a simple-cycle, peaking, and intermediate load facility. Each unit is proposed to be limited to operate no more than 4,000 hr/yr. Actual operation is likely to be considerably less, perhaps no more than 1,000 to 2,000 hours per year depending on electrical system load needs. The ambient condition used in this analysis represents the average ambient temperature case at the peak load, which is considered a reasonably conservative worst case for this peaking project that is expected to primarily operate during the summer.

CUMULATIVE PROJECT PLUME ANALYSIS

The plume sources at the existing adjacent Otay Mesa power plant include two natural-gas fired combustion turbine generators (CTG), four wet surface condensers (WSAC) and one auxiliary boiler. Transportation staff requested that air quality staff evaluate the vertical velocities of plumes from Otay Mesa so they could evaluate the cumulative impact on aviation traffic.

VERTICAL PLUME VELOCITY

PLUME SOURCES OPERATING PARAMETERS

The design and operating parameter data for the Otay Mesa power plant's plumes are provided in **Plume Velocity Table 1**.

Plume Velocity Table 1
Plume sources Operating and Exhaust Parameters

Parameter	Turbine	WSAC	Auxiliary Boiler
Number of units	2	4	1
Height (feet)	160	38	85
Stack Diameter (feet)	18.5	16	2.5
Stack Velocity (ft/sec)	63.2	30.8	88.6
Stack Temperature (°F)	177.7	82.5	325
Ambient Temperature (°F)	63	63	63

PLUME VELOCITY CALCULATION RESULTS

The calculated plume average velocity values for various sources are provided in **Plume Velocity Table 2.**

The WSAC velocities are calculated by combining all 4 WSACs by assuming the multiple WSACs plumes have completely merged. The WSAC exhausts were found to have plume average velocities less than 4.3 meters per second at or above 500 feet above ground level.

The auxiliary exhausts were also found to have plume average velocities less than 4.3 meters per second at or above 500 feet above ground level.

Otay Mesa has two (2) turbines spaced at approximately 40 meters apart. The gas turbine plume average velocity is calculated to drop below 4.3 m/s at a height of approximately 560 feet for the single turbine plume. The plume diameter at this height is around 37m, which is less than the distance between the two turbines (40m). Therefore the plumes do not merge.

Plume Velocity Table 2
Plume Sources Vertical Plume Velocities (m/s)

Height	Turbine	WSAC	Auxiliary Boiler
300	8.17	3.22	1.85
400	5.59	2.7	1.6
500	4.64	2.41	1.45
600	4.12	2.21	1.35
700	3.78	2.07	1.27
800	3.54	1.96	1.2
900	3.35	1.87	1.15
1,000	3.20	1.8	1.11
1,100	3.07	1.74	1.07
1,200	2.96	1.68	1.04
1,300	2.87	1.63	1.01
1,400	2.78	1.59	0.98
1,500	2.71	1.55	0.96
1,600	2.64	1.52	0.94
1,700	2.58	1.49	0.92
1,800	2.53	1.46	0.9
1,900	2.48	1.43	0.88
2,000	2.43	1.4	0.86

C. SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

This topic reviews pertinent demographic information within both a one-mile and six-mile radius of the project site and evaluates the effects of project-related population changes on local schools, medical and fire protection services, public utilities and other public services, as well as the fiscal and physical capacities of local government to meet those needs. The public benefits of the project are also reviewed, including both the beneficial impacts on local finances from property and sales taxes as well as the potential adverse impacts upon public services.

In this part of the Decision we determine that the project will not result in a substantial impact under CEQA with respect to population and housing in that the project will not:

- Induce substantial population growth in a new area, either directly or indirectly.
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

Nor will the project result in significant impacts to public services or recreations facilities because it will not:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives.
- Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

(CEQA Guidelines, Appendix G.)

As a result we find that the PPEC will comply with all applicable laws, ordinances, regulations, and standards (LORS) (identified below in **Socioeconomics Table 1**) and will not result in any significant environmental impacts.

SOCIOECONOMICS Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	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.
Local	
San Diego County General Plan (2011), Chapter 7 Safety Element, Policy S-6.3 Funding Fire Protection Services.	Requires development to contribute its fair share towards funding the provision of appropriate fire and emergency medical services as determined necessary to adequately serve the project.
East Otay Mesa Business Park Specific Plan, Public Facilities Element, Policy F-7	Property owners in East Otay Mesa are required to contribute their fair share toward financing a sheriff substation. In 2009, property owners in East Otay Mesa formed a Community Facilities District (Number 09-1) for the purposes of constructing interim and permanent sheriff stations in East Otay Mesa.
San Diego County Code of Regulatory Ordinances, Section 810.311	Fire Mitigation Fee Ordinance. Prior to the issuance of any building permit or other permit for development the Applicant shall pay to the Director the fees prescribed by fire agency resolution, or shall present written evidence that the provisions of this chapter have otherwise been satisfied with respect to the development for which permits are sought.

(Ex. 200, p. 4.8-2.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Setting

The proposed PPEC is located at the southeast quadrant of the intersection of Alta Road and Calzada De La Fuente, in an unincorporated area of southwestern San Diego County. The project site is adjacent to the existing Otay Mesa Generating Project (a natural gas-fired power plant). Land near the proposed project is designated for industrial, commercial, and residential uses, with industrial uses representing the majority.

With a population just over 3 million in 2010 and forecast to grow approximately 28 percent by 2050, San Diego County has a large pool of skilled workers within commuting distance of the project site. Adjacent Riverside, Orange, and Imperial counties are also home to large populations of skilled workforce. (Ex. 200, p. 4.8-3.)

2. Impacts of Construction and Operation Workforce

The 16-month construction phase is the primary focus of this analysis because the potential influx of workers and their dependents into the area could increase demand for community resources.

For the purposes of assessing project impacts, we define the “local workforce” during project construction as residing within a two-hour commute of the project. This includes San Diego-Carlsbad-San Marcos Metropolitan Statistical Area (MSA) and parts of Riverside-San Bernardino-Ontario MSA.

The “local workforce” during project operation is defined as residing within a one-hour commute of the project and would likely come from San Diego County.

The Applicant estimates construction would begin in February 2013, commissioning and initial startup would begin in March, 2014, and commercial operation would begin in May, 2014, if the project is approved. Full-scale commercial operation is contractually obligated to commence by May 27, 2014. (Ex. 1, p. 2-3.) The number of workers would range from a high of 284 workers in the eighth month of construction to a low of 29 in the 16-month. The average number of workers on-site for the 16-month period would be approximately 148.

The project would require 12 full-time employees during project operation. These workers are expected to reside within San Diego County. Given the large San Diego County labor force within a one-hour commute of the project, we do not expect potential employees to relocate to the immediate project area. (Ex, 200, p. 4.8-11.)

We find that the project’s construction and operation workforces would not directly or indirectly induce a substantial population growth in the project area, and therefore, the project would create a less than significant impact.

3. Impacts on Housing

We define the study area related to project impacts on population and housing, as including unincorporated San Diego County and the cities of Chula Vista, Imperial Beach, San Diego, and National City.

As of April 1, 2010, there was a total of 795,849 housing units in the project area (unincorporated San Diego County and the cities of Chula Vista, Imperial Beach, San Diego, and National City), with a combined vacancy of 53,289 units,

representing a 6.70 percent vacancy rate. The housing counts in the project area indicate a greater supply of available housing units than demand. (Ex. 200, p. 4.8-11.)

In 2009, there was a 12,974,655 annual supply of lodging rooms in San Diego County. The average estimated occupancy rate for San Diego County was 66.3 percent in 2009, estimated at 69.6 percent for 2010, and forecasted to be 71.9 percent in 2011. Given the large supply of lodging choices in the project area and San Diego County and the estimated number of non-local project construction workers (peak estimate- 49 workers), Staff expects no new housing would be required as a result of the project. Instead, the evidence indicates that rental income will provide an indirect economic benefit to the community. (Ex. 200, pp. 4.8-11 – 4.8-12.)

We conclude that the project's construction and operation workforce would not have a significant adverse impact on the housing supply in the project area or San Diego County.

4. Impacts to Government Facilities

There is no evidence that the project will adversely impact emergency medical services, police protection, schools, parks, or any other public facilities.

a. Emergency Services

The project site is located within the service territory for the Rural Fire Protection District (RFPD) of San Diego County. RFPD staff operates 14 stations within their service territory with half of the staff paid and the other half voluntary. The district encompasses a 720-square mile area with a population of over 26,500 (RFPD 2011b). RFPD is an "All Risk" agency and works closely with the CALFIRE, the United States Forest Service, United States Fish and Wildlife Service, US Bureau of Land Management, San Diego County Sheriff's Department, and California Department of Fish and Game. (Ex. 200, p. 4.8-12.)

Station 22 (Otay Mesa) would be the first responder for medical emergencies at the project site. The fire station and ambulance are located at the same address, 446 Alta Road, approximately 0.25 mile from the project site. The five-minute estimated response time for an emergency medical incident at the project site meets RFPD's five-minute response service criterion. (Ex. 200, p. 4.8-13.)

The San Diego RFPD requires new developments to be assessed a fire mitigation fee. The fee would generate additional funding required for RFPD fire protection needs, including the development of the planned new joint fire/sheriff facility at the intersection of Enrico Fermi Drive and Lone Star Road. The fee is considered a self-mitigation measure for developers to offset the additional fire service costs new development would pose. A rate of $0.46 per square foot of covered and enclosed, non-residential space is applied. Implementation of Condition of Certification **SOCIO-1** would ensure payment of fees to San Diego County for disbursement to San Diego RFPD. (Ex. 200, p. 4.8-15.)

We conclude the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives with respect to emergency medical service.

b. Law Enforcement

The PPEC proposed project site is located within the jurisdiction of the San Diego County Sheriff's Department Imperial Beach Station, approximately 11.5 miles from the project site. The estimated response time to the project site for priority calls is 15-20 minutes and 20 to 30 minutes for non-priority calls. (Ex. 200, p. 4.8-15.)

The evidence shows that the project by itself would not increase the demand for sheriff services within East Otay Mesa, because Sheriff's Department staff does not foresee the project would create much of an impact and a new joint RFPD/San Diego County Sheriff station would be constructed less than one mile from the project site. The project would not necessitate alterations to the existing sheriff stations that would serve the project or require alterations to the planned joint fire/sheriff station. (Ex. 200, p. 4.8-17.)

We therefore find that the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives with respect to law enforcement services.

c. Education

The PPEC site is located within the San Ysidro Elementary School District (San Ysidro ESD) and the Sweetwater Union High School District (SUHSD). San Ysidro ESD provides pre-kindergarten through eighth grade education to regular

and special education students. The district has a current enrollment of 5,141students for the 2010/2011 school year. (Ex. 200, p. 4.8-17.)

During construction, Staff expects the majority of the labor force would commute daily from the region. Approximately five percent of the workforce would be non-local workers and temporarily relocate closer to the project site. Considering the duration of project construction (16 months), we do not foresee construction workers relocating their families to the project area and therefore no significant adverse impact to the schools from construction of the proposed project. (Ex. 200, p. 4.8-18.)

Twelve workers are needed to operate the PPEC. Assuming all 12 operational employees reside within San Diego County, with the average family size of 2.76 persons per household for San Diego County, there would be an addition of nine to ten children within these two school districts. We do not expect the possible addition of nine to ten school children to have a significant impact upon educational facilities. (*Id*.)

Section 17620 of the Education Code states “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.” The current statutory school fees for the 2011-2012 fiscal year for new commercial or industrial development within the San Ysidro ESD is $0.29 per square foot of covered and enclosed, non-residential space and $0.26 per square foot for new commercial or industrial development within SUHSD. Implementation of Condition of Certification **SOCIO-2** would ensure the payment of fees to these school districts.

d. Recreational Facilities

San Diego County provides parks and recreational opportunities countywide. Pacific Gateway Park, Otay Lake County Park and the Otay County Open Space Preserve are the larger parks within approximately six miles of the project site. Several neighborhood parks are within six miles of the project site. These parks are the Mountain Hawk Park, Chula Vista Community Park, Salt Creek Community Park, and Sunset View Park and are within the city of Chula Vista. (Ex. 200, p. 4.8-19.)

The evidence shows there would not be a large number of workers moving into the project area during project construction or operation and there would be no increase in the usage of or demand for parks or other recreational facilities.

5. Environmental Justice

The study area for environmental justice is within a six-mile radius of the project site. The demographic screening process is based on information contained in two documents: *Environmental Justice: Guidance Under the National Environmental Policy* Act (CEQ 1997) and *Final Guidance for Incorporating Environmental Justice Concerns in EPA's Compliance Analyses* (US EPA 1998). (Ex. 200, p. 4.8-4.)

Section 65040.12 (c) of the Government Code 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." For each power plant proposal, Staff evaluates the project's potential impacts on minority and low-income (below poverty level) populations in the project vicinity.

Minority populations are identified by the U.S. EPA for environmental justice review when:

- The minority population of the affected area is greater than 50 percent of the affected area's general population; or
- One or more census blocks;
- The minority population percentage of the area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis; or
- in the affected area have a minority population greater than 50 percent.

Minority groups include: American Indian or Alaskan Native; Asian or Pacific Islander; African American not of Hispanic origin; or Hispanic. Low-income populations are identified by the annual statistical poverty thresholds from the Bureau of the Census's Current Population Reports on Income and Poverty. (Ex. 200, p. 4.8-5.)

For the PPEC project, the 2010 Census shows the total population within the six-mile radius of the proposed site is 67,796 persons, with a minority population of 54,375 persons, or about 80 percent of the total population. (See **Socioeconomics Figure 1**). The population identified in the six-mile radius lives within unincorporated San Diego County, and the cities of Chula Vista and San Diego. **Socioeconomics Table 2** presents the minority population data for the six-mile radius plus San Diego County, city of Chula Vista, and city of San Diego.

SOCIOECONOMICS Table 2
Minority Populations within the Project Area

	Six-mile Radius of Project Site	San Diego County	Chula Vista city	San Diego city
Total:	67,796	3,095,313	243,916	1,307,402
Not Hispanic or Latino: White alone	13,421	1,500,047	49,641	589,702
Minority	54,375	1,595,266	194,275	717,700
Percent Minority	80	52	80	55

(Ex. 200, p. 4.8-5)

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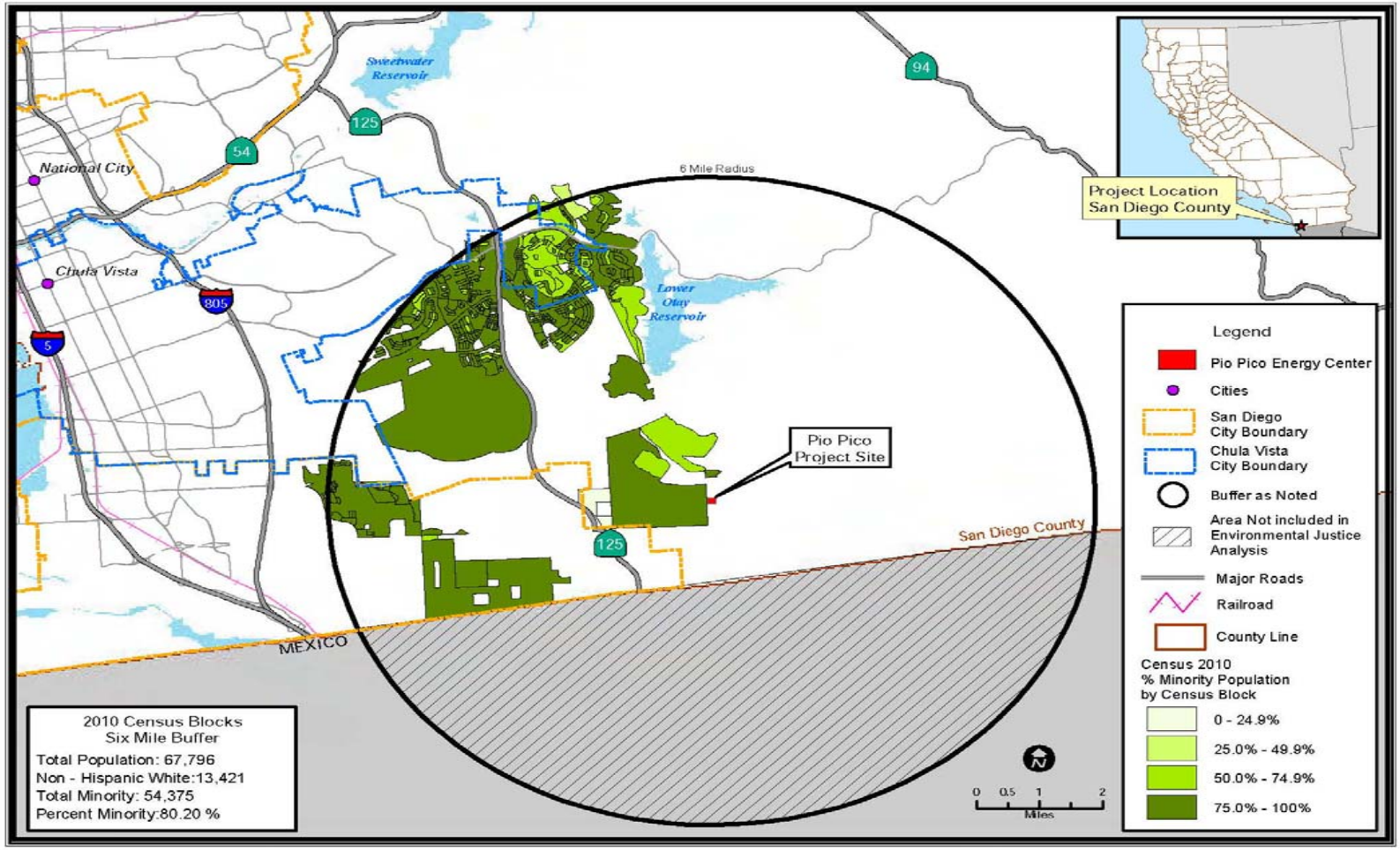
SOCIOECONOMICS - FIGURE 1

Pio Pico Energy Center - Census 2010 Minority Population by Census Block - Six Mile Radius



SOCIOECONOMICS

CALIFORNIA ENERGY COMMISSION, SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: California Energy Commission Statewide Power Plant Maps 2011 - Census 2010 PL 94-171 Data

Staff also identified the below-poverty-level population based on 2006-2010 American Community Survey 5-year Estimates from the U.S. Census for tracts within a six-mile radius of the project site. Poverty status excludes institutionalized people, people in military quarters, people in college dormitories, and unrelated individuals under 15 years old. Within a six-mile radius of the PPEC, approximately six percent, or approximately 5,191 people, live below the poverty threshold. **Socioeconomics Table 3** presents poverty data for the six-mile radius, plus San Diego County and the cities of Chula Vista and San Diego for reference purposes.

SOCIOECONOMICS Table 3
Poverty Data within the Project Area

Area	Total			Income in the past 12 months below poverty level			Percent below poverty level	
	Estimate*	MOE	CV	Estimate	MOE	CV	Estimate	MOE
Six-mile Radius of project Site	91,292	±2,367	1.58	5,191	±1,051	12.31	5.69	±1.1
San Diego County	2,930,875	±4,328	0.09	361,248	±8,531	1.44	12.30	±0.3
Chula Vista City	227,215	±1,161	0.31	21,740	±2,440	6.82	9.60	±1.1
San Diego City	1,239,411	±3,041	0.15	174,763	±4,914	1.71	14.10	±0.4

(Ex. 200, p. 4.8-6)
Notes:* Population for whom poverty status is determined.

Based on this information, we find that the minority population exceeds 50 percent in the project vicinity. However, since the record shows that the project's implementation of the conditions of certification in this Decision will mitigate all potential health and safety and environmental impacts to levels below significance for any affected population, we conclude that there are no disproportionate impacts on environmental justice populations.

6. Cumulative Impacts

A project may result in significant adverse cumulative impacts when its effects are cumulatively considerable; that is, when 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 (*Public Resources Code* Section 21083; *California Code of Regulations*, Title 14, Sections 15064(h); 15065 (c); 15130; and 15355). Mitigation requires taking feasible measures to avoid or substantially reduce the impacts.

In a socioeconomics analysis, cumulative impacts could occur when more than one project in the same area has an overlapping construction schedule, thus

creating a demand for workers that cannot be met locally, or when a project's demand for public services does not match a local jurisdiction's ability to provide such services. An influx of non-local workers and their dependents can strain housing, schools, parks and recreation, law enforcement, and medical services.

The project site is in San Diego County and within one mile of the city of San Diego. Projects within a three-mile radius of the PPEC site plus projects of regional significance were considered part of the cumulative scenario. (Ex. 1, p. 5.18-3.)

The evidence shows that the proposed PPEC would not result in any significant and adverse cumulative impacts on population, housing, schools, parks and recreation, law enforcement, and emergency services. There is a more than sufficient workforce available for the PPEC plus other future planned projects. Therefore, we do not expect the construction or operation of the PPEC to contribute to any significant adverse cumulative socioeconomic impacts.

Thus, the project's impact on socioeconomic factors, when combined with the existing or anticipated impact of other development, is not cumulatively considerable.

7. Public Benefits

Noteworthy public benefits include the direct, indirect, and induced impacts of a proposed power plant. The study area for indirect and induced economic impacts is defined as including San Diego County.

PPEC owners would employ workers and purchase supplies and services for the life of the project. Employees would use salaries and wages to purchase goods and services from other businesses. Those businesses make purchases and hire employees who also spend their salaries and wages throughout the local and regional economy. This effect of indirect (jobs, sales, and income generated) and induced (employees' spending for local goods and services) spending continues with subsequent rounds of additional spending, which is gradually diminished through savings, taxes, and expenditures made outside the area. All construction and operation impacts would take place within San Diego County. An input/output model assessing the economic benefits of the proposed project was created. The results are shown below in **Socioeconomics Table 4**.

SOCIOECONOMICS Table 4
PPEC Economic Benefits (2010) dollars

Fiscal Benefits	
Estimated annual property taxes	$ 3.6 million
State and local sales taxes:	
Construction	$ 625,200
Operation	$ 84,875 annually
School Impact Fees	$ 6,684.50 est. (San Ysidro ESD) $ 5,993 est. (SUHSD) $ 12,677.50 est. total
Non-Fiscal Benefits	
Total capital costs	$ 300 million
Construction payroll	$ 26 million
Operations payroll	$ 1,020,000 annually
Construction materials and supplies	$ 7,163,300
Operations and maintenance supplies	$ 1,056,000 annually
Direct, Indirect, and Induced Benefits	
Estimated Direct Benefits	
Construction Jobs	148 (average)
Operation Jobs	12
Estimated Indirect Benefits	
Construction Jobs	35
Construction Income	$ 2,168,820
Operation Jobs	2
Operation Income	$ 114,904
Estimated Induced Benefits	
Construction Jobs	177
Construction Income	$ 86,407,798
Operation Jobs	7
Operation Income	$ 299,892

(Ex.200, p. 4.8-23.)

The Board of Equalization (BOE) has jurisdiction over the valuation of a power-generating facility for tax purposes, if the power plant produces 50 megawatts (MW) or greater. The property tax rate is set by the San Diego County Auditor's office. The rate for the current property would be 1.2 percent for the most recent fiscal year (FY 2010-11) (SD County 2011b).

Assuming a capital cost of $300 million and a minimum property tax rate similar to that currently prevailing on the property, the PPEC would generate approximately $3.6 million in property taxes annually. The increase in property taxes resulting from the PPEC project would be about 0.09 percent of the County's property tax revenues for FY 2010-11. (Ex. 200, p. 4.8-23.)

8. Agency and Public Comments

No comments were received on the topic of Socioeconomics.

FINDINGS OF FACT

Based on the evidence, we make the following findings:

1. The PPEC will draw primarily upon the local labor force for both the construction and operation of the project.

2. Construction workers and permanent employees who live within a two-hour commute to the site are not likely to relocate to the project area.

3. The project will not cause a significant influx of construction or operation workers into the project area.

4. The project is not likely to have a significant adverse effect upon local employment, housing, schools, utilities, recreational parks, medical resources, or fire and police protection.

5. The project will provide direct, indirect, and induced economic benefits in San Diego County by generating sales taxes, payroll, and other business expenses.

6. Construction and operation of the project will not result in any direct, indirect, or cumulative adverse socioeconomic impacts.

7. Review of the project is consistent with environmental justice principles.

8. Minority populations exist within a six-mile radius of the site.

9. All potential health and safety and environmental impacts from the project will be mitigated to insignificant levels for all affected populations including minority populations.

10. The project will not cause or contribute to disproportionate impacts upon minority populations.

CONCLUSION OF LAW

Project construction and operation will provide economic benefits to the local area and is consistent with principles of environmental justice.

CONDITION OF CERTIFICATION

SOCIO-1 The project owner shall pay the one-time statutory fire mitigation fee as required by San Diego County Code of Regulatory Ordinances, Section 810.311.

Verification: At least 30 days prior to the start of project construction, the project owner shall provide to the Compliance Project Manager (CPM) proof of payment of the fire mitigation fees. The payment shall be provided to San Diego County for disbursement to the San Diego Rural Fire Protection District.

D. NOISE AND VIBRATION

The construction and operation of any power plant creates noise, or unwanted sound. A combination of different factors such as loudness, time of day, and proximity to sensitive receptors determines whether the source of noise will cause significant adverse impacts. In some cases, vibration may be produced as a result of construction activities, such as blasting or pile driving, which may cause structural damage and annoyance.

This topic evaluates whether noise and vibration produced during project construction or operation will be sufficiently mitigated to comply with applicable law. We consider factors such as the character and loudness of the noise, the times of day or night when it is produced, and the proximity to sensitive receptors to determine whether project noise will result in adverse environmental impacts. We also review whether vibration due to construction or operation will cause adverse impacts to adjacent properties.

Our CEQA evaluation recognizes that a significant effect from noise may exist if a project would result in:

- exposure of persons to, or generation of, noise levels in excess of standards established in the local General Plan or noise ordinance or applicable standards of other agencies;
- exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Section XI of Appendix G of CEQA Guidelines.) (Cal. Code Regs., tit. 14, appen. G.)

The discussion below also considers the PPEC's compliance with CEQA and the applicable laws, ordinances, regulations and standards (LORS).

<u>Federal LORS</u>

The federal LORS are encompassed in the the Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 et seq.), which includes regulations designed to protect workers against the effects of occupational noise exposure. (29 C.F.R. § 1910.95.) 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.

The Federal Transit Administration (FTA) provides guidance for assessing the impacts of groundborne vibration associated with construction of rail projects. These guidelines assist in assessing groundborne vibration of 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 groundborne vibration. The FTA measure of the threshold of perception is 65 VdB, which correlates to a peak particle velocity of about 0.002 inches per second (in/sec). The FTA measure of the threshold of architectural damage for conventional sensitive structures is 100 VdB, which correlates to a peak particle velocity of about 0.2 in/sec.

State LORS

Government Code section 65302(f) encourages local governmental entities 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 the federal OSHA standards discussed above.

Local LORS

The project is located in an unincorporated industrial area of San Diego County. The County of San Diego General Plan, Noise Element and Noise Ordinance of San Diego County regulatory ordinances apply to this project. The PPEC site is zoned S-88, Specific Plan. The PPEC site is governed by the East Otay Mesa Specific Plan, which establishes standards for development, environmental conservation, and public facilities to implement the objectives of the County of San Diego General Plan and Otay Mesa Subregional Plan. (Ex. 123, pp. 11-12.) The intent of the Specific Plan is to "provide an area for heavy industrial uses such as auto salvage and recycling that will not interfere with development and operation of more sensitive industrial park development." (Ex. 123, p. 1.) To further the overall goals and objectives of the County, the Specific Plan designated 292 acres, which includes the proposed PPEC site, for Heavy Industrial use. The proposed project is classified as a heavy industrial use, type M-58. (Applicant's Post-Hearing Brief at 3 and Exhibit A thererto.)

The County of San Diego establishes noise compatibility guidelines in the Noise Element of the County of San Diego General Plan. These guidelines are used to evaluate the noise impacts from new projects to determine compliance with local noise LORS. The maximum exterior Community Noise Equivalent Level (CNEL) considered acceptable for single family and mobile residential use, similar to those in the project area, is 60 dBA CNEL (equivalent to 53 dBA L_{eq} for a constant L_{eq} level). In addition, the County's Noise Ordinance, section 36.404, subsection 6, specifies that a dBA level of 75 is allowed in an M-58 Use Classification. These limits apply to the operation of PPEC.

According to the San Diego County Noise Ordinance, construction is allowed between the hours of 7:00 a.m. and 7:00 p.m. Monday through Saturday, and construction noise between these hours is limited to 75 dBA L_{eq} (energy average) at the property line of an occupied property. These requirements apply to the construction of PPEC.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Setting

The proposed PPEC project site is located in an industrial area of San Diego County and is comprised of approximately 10 acres in the southeast quadrant of the Alta Road and Calzada de la Fuente intersection adjacent to Otay Mesa Power Plant project (formally known as Otay Mesa Generating Project). Sources

of noise in the area include aircraft, gunfire from the nearby shooting range, domestic animals, aircraft, occasional distant horns, and distant industrial noise. (Ex. 1, § 5.12.1.3.)

For purposes of evaluating impacts on residential uses, project noise is compared with measured nighttime ambient noise levels, when residents may expect to be able to sleep without disturbance. Existing sensitive noise receptors[1] near the project include three single-family residences located approximately 4,700 feet southwest of the project site (identified as LT-1). The Richard J. Donovan Correctional Facility is located approximately 4,000 feet northwest and a County of San Diego Correctional Facility that includes the George F. Bailey Detention Facility, the Federal Immigration Detention Facility, and the County of San Diego Juvenile Detention Facility is located approximately 4,800 feet north. A mobile home community is located approximately 1.5 miles (7,900 feet) northwest of the project site (identified as LT-2.) (Ex. 200, p. 4.5-5.)

A proposed project, the East Mesa Detention Facility (EMDF) may be built 600 feet northeast of the PPEC site. As of the date of this Decision, it is only planned and has not been built. CEQA requires that for purposes of analyzing environmental impacts, we consider the environmental conditions that exist at the time environmental analysis is commenced. (Cal. Code Regs., tit. 14, § 15125, subd. (a); *Communities for a Better Environment v. South Coast Air Quality Management District*, 48 Cal. App. 4th 310, 232.) With respect to CEQA impacts, therefore, we analyze noise impacts on the sensitive receptors described above.

2. Assumptions and Baseline Conditions

In order to establish a baseline for the comparison of predicted project noise with existing ambient noise, the Applicant has presented the results of an ambient noise survey. (Ex. 1, § 5.12.2.2; Tables 5.12-2, 5.12-4.) This survey was performed using acceptable equipment and techniques. The noise survey monitored existing noise levels at the following two locations, shown in **Noise Table 1**:

1. Location LT-1: Near the closest residences to the project site. This location represents three single-family residences located approximately 4,700 feet southwest of the project site. This location was monitored continuously from 1:00 p.m. on December 9 through 2:00 p.m. on December 10, 2010.

[1] A sensitive noise receptor, also referred to as a noise-sensitive receptor, is a receptor at which there is a reasonable degree of sensitivity to noise (such as residences, schools, hospitals, elder care facilities, libraries, cemeteries, and places of worship).

2. Location LT-2: Near a mobile home community located approximately 7,900 feet northwest of the project site. This location was monitored continuously from 6:00 p.m. on March 16 through 7:00 p.m. on March 17, 2010.

With respect to the proposed EMDF, the evidence shows that the zoning designation is S88 – Specific Plan, with a Heavy Industrial Land Use designation for the proposed EMDF site. (Ex. 123, Fig. 2.1-1, p. 32.) It is undisputed that the PPEC site is in the same S88 zone, with a Heavy Industrial Land Use designation. Furthermore, both the PPEC and the EMDF are designated use type Major Impact Services and Utilities. (Ex. 125, pp. 5, 6, 9; San Diego County Alphabetical List of Individual Uses prepared pursuant to Zoning Ordinance, § 1220.)

The County's Noise Ordinance, Section 36.404 (b), specifies that the sound level limit at a location on a boundary between two zones is the arithmetic mean of the respective limits for the two zones. In this case, since both facilities are in the S88 Specific Plan zone and are designated as Heavy Industrial uses, there is no need to determine the arithmetic mean of the respective limits for two zones. The noise level allowed at the PPEC property line is 75dBA.

Our finding is corroborated by correspondence from the County, submitted after the close of the evidentiary record, dated July 30, 2012. That letter has been docketed in this proceeding (TN 66398) and is also Exhibit A to Applicant's Post-Hearing Brief. We take official notice of this correspondence as permitted by section 1213 of our regulations. In that letter, Jeff Murphy, Deputy Director, Department of Planning and Land Use, confirms that the PPEC is an M-58 Heavy Industrial use classification, which includes power plants, and that the permitted noise level is therefore 75 dBA. While we are free to perform our own analysis and even to reach a different conclusion, we generally give great deference to a local governmental authority's interpretation of its own laws. And as Staff points out in its post-hearing brief, "Comments and recommendations by an interested agency on matters within that agency's jurisdiction shall be given due deference by Energy Commission staff." (Staff's Post-Hearing Brief, p. 3, citing Cal. Code Regs., tit. 20, § 1744, subdiv. (e).)

NOISE Table 1
Summary of Measured Noise Levels

Measurement Sites	Measured Noise Levels, dBA	
	Nighttime Hours[2] L_{90}	Average During Daytime Hours[3] L_{eq}
LT-1, Single-Family Homes 4,700 feet Southwest of Site	41	72
LT-2, Mobile Homes 7,900 feet Northwest of Site	35	51

(Ex. 200, p. 4.6-6.)

[1] Staff calculation of average of the daytime hours (see NOISE APPENDIX A).

[2] Staff calculations of average of four quietest consecutive hours of the nighttime (see NOISE APPENDIX A).

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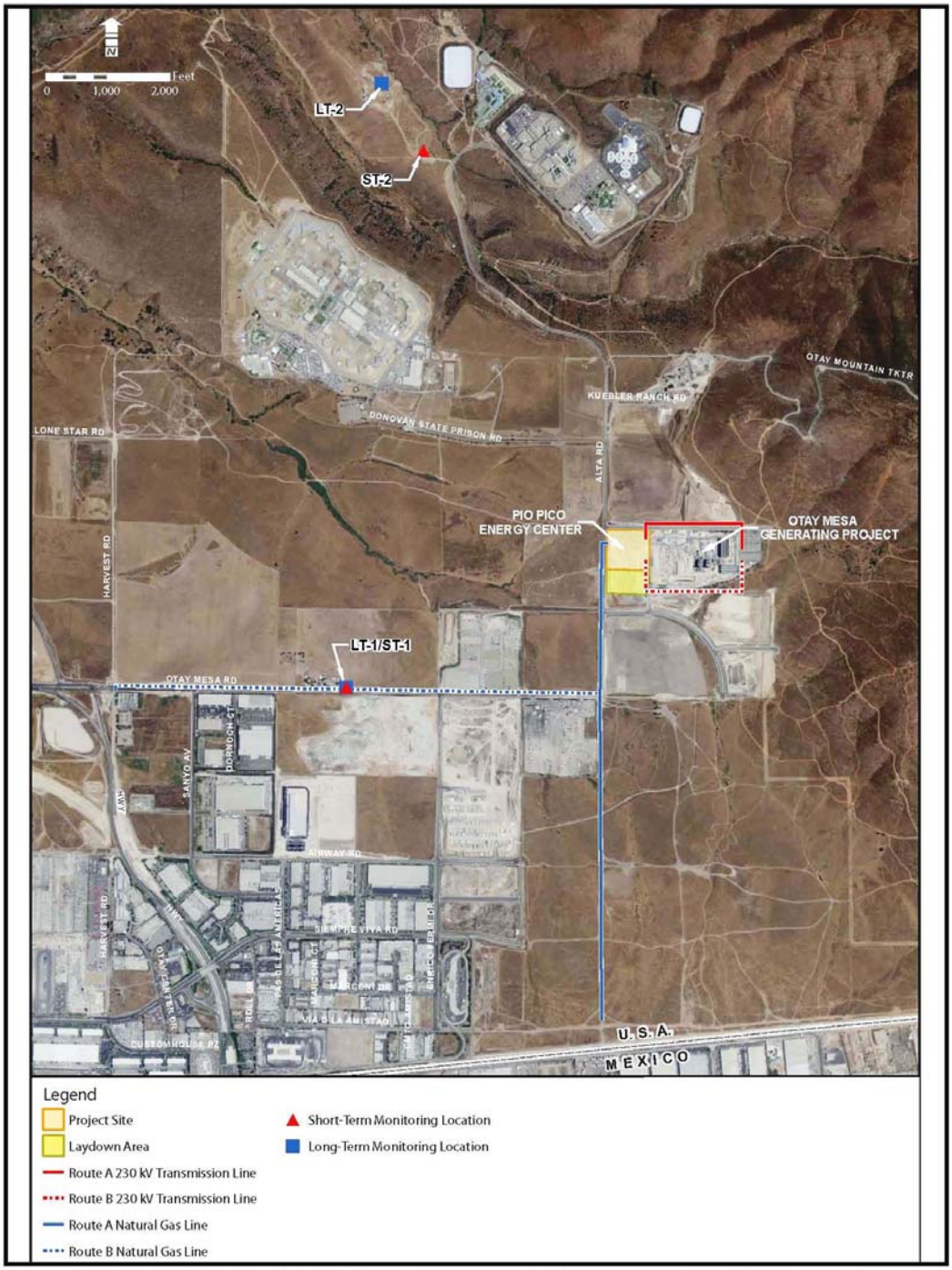
Noise Figure 1 below shows the noise monitoring locations in relation to the PPEC site.

NOISE AND VIBRATION FIGURE 1
Pio Pico Energy Center – Ambient Noise Measurement Locations



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION
SOURCE: AFC Figure 5.12-1

NOISE AND VIBRATION

3. Construction Impacts

The noise generated from PPEC construction will be temporary. The 16-month construction timeframe for the PPEC is typical of similar projects in terms of schedule, equipment used, and construction activities. (Exs. 1, p. 5.7-17; 200, p. 4.6-7.)

The Applicant estimated the noise impacts of project construction on the nearest sensitive receptors as shown in **Noise Table 2** below.

NOISE Table 2
Predicted Construction Noise Levels

Receptor/Distance	Highest Construction Noise Level (dBA)[1]	Measured Existing Ambient, Average Daytime L_{eq} (dBA)[2]	Cumulative, dBA	Change
LT-1 (Single-Family)/4,700 feet	49	72	72	0
LT-2 (Mobile Homes)/7,900 feet	45	51	52	+1

(Ex. 200. p. 4.6-7.)

The Applicant commits to performing noisy construction work during the times specified in the San Diego County Noise Ordinance and the noise levels at the nearest receptors would not exceed 75 dBA as required by this code. (Ex. 1, §§ 5.12.4.1, 5.12.6.1.) Implementation of Condition of Certification **NOISE-6** will ensure that these requirements are met. (Ex. 200, p. 4.6-7.)

Therefore, the noise impacts of the PPEC project construction activities would comply with the noise LORS.

Since construction noise typically varies with time, it is most appropriately measured by, and compared with, the L_{eq} metric. As seen in **NOISE Table 2** above, last column, construction noise would not affect the existing ambient noise level at LT-1, and would increase the existing ambient noise level at LT-2 by only 1 dBA, an unnoticeable increase. Therefore, the noise effects of plant construction are insignificant at the above receptors. (Ex. 200, p. 4.6-8.)

To ensure the project construction would create less than significant adverse impacts at the most noise-sensitive receptors, in addition to Condition of Certification **NOISE-6**, we recommend Conditions of Certification **NOISE-1** and

NOISE-2, implementation of which would establish a public notification and noise complaint process to resolve any complaints regarding construction noise.

With implementation of these conditions of certification, the noise impacts of the PPEC project construction activities would be less than significant.

4. Operation Impacts

A power plant operates as a steady, continuous noise source unlike the intermittent sounds that make up most of the noise environment. As such, power plant noise contributes to, and becomes part of, the background noise level. Where power plant noise is audible, it will tend to define the background noise

The primary noise sources of the PPEC project include engine generators and their exhaust stacks, combustion air inlets, gas compressor, air coolers, electric transformers, and various pumps and fans. Staff compares the expected project noise with applicable LORS, in this case the San Diego County LORS. In addition, Staff evaluates any increase in noise levels at sensitive receptors due to the project in order to identify any significant adverse impacts. (Ex. 200, p. 4.6-8.)

The Applicant performed noise modeling to determine the project's noise impacts on sensitive receptors. **Noise Table 3** below summarizes the results of this modeling.

NOISE Table 3
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)
LT-1/4,700 feet	36	41	42	+1
LT-2/7,900 feet	34	35	38	+3

(Ex. 1, Table 5.12-20.)

Combining the ambient noise level of 41 dBA L_{90} (**NOISE Table 3**, above) with the project noise level of 36 dBA at LT-1 would result in 42 dBA L_{90}, 1 dBA above the ambient. An increase of up to 5 dBA in considered a less-than-significant impact. Therefore, the above noise impact at LT-1 is less than significant. (Ex. 200, p. 4.6-11.)

Combining the ambient noise level of 35 dBA L_{90} (**NOISE Table 3**) with the project noise level of 34 dBA at LT-2 would result in 38 dBA L_{90}, 3 dBA above the ambient. This impact is also less than significant. (*Id*.)

Implementation of Condition of Certification **NOISE-4** would ensure that the noise levels due to project operation would neither exceed the levels in **NOISE Table 3**, second column nor the applicable LORS noise level.

One possible source of annoyance could be strong tonal noises. Tonal noises are individual sounds (such as pure tones) which, while not louder than permissible levels, stand out in sound quality. 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, § 5.12.4.2.) To ensure that tonal noises do not cause public annoyance, we recommend implementation of Condition of Certification **NOISE-4**, which would require mitigation measures, if necessary, to ensure the project would not create tonal noises. (*Id*.)

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 LMS100 machine have not resulted in ground-borne or airborne vibration impacts. We conclude that ground-borne vibration from the PPEC project will be undetectable by any likely receptor. (Ex. 200, p. 4.6-12.)

Airborne vibration (low frequency noise) can rattle windows and objects on shelves, and can rattle the walls of lightweight structures. The PPEC's chief source of airborne vibration would be the gas turbines' exhaust. In a power plant such as the PPEC, 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 PPEC would cause perceptible airborne vibration effects. (*Id*.)

The Applicant acknowledges the need to protect plant operating and maintenance workers from noise hazards and has committed to comply with applicable LORS. To ensure that plant operation and maintenance workers are

adequately protected, we recommend implementation of Condition of Certification **NOISE-5**, which would require the project owner to conduct an occupational noise survey to identify noise hazards and mitigate the hazards as required by federal and state LORS.

5. Cumulative Impacts

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 the impact.

The evidence shows that there is one planned project that could contribute to a cumulative noise impact in the project area, when combined with PPEC. This project is the East Mesa Detention Facility (EMDF), to be located approximately 600 feet northeast of the PPEC site. The County of San Diego Planning Commission recently approved a Major Use Permit (MUP 06-074W1) for EMDF. EMDF's highest noise level from its operations would be 59 dBA L_{eq} at its property line. (Ex. 1, § 5.12.5.) A simple mathematical calculation (based on a 6 dBA decrease per doubling of distance) shows that EMDF would likely contribute to a noise level of no greater than 31 dBA at LT-1 and a noise level of no greater than 27 dBA at LT-2. The 31 dBA contribution at LT-1, when combined with the PPEC's contribution of 36 dBA at LT-1, would result in 37 dBA, less than the existing ambient level at LT-1 (41 dBA). The EDMF's 27 dBA contribution at LT-2, when combined with the PPEC's contribution of 34 dBA at LT-2, would result in 35 dBA, not greater than the existing ambient level at LT-2 (35 dBA). Therefore, the project's cumulative noise impact is considered to be insignificant. (Ex. 200, p. 4.6-12.)

6. Project Closure Impacts

All operational noise from the project would cease when the PPEC project 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.

With the implementation of the conditions of certification described above, we find that noise impacts from operation of the PPEC project will be less than significant.

7. Agency and Public Comments

There were no comments from agencies or the public on the topic of Noise and Vibration.

FINDINGS OF FACT

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

1. Construction and operation of the PPEC will not create noise levels noticeably above existing ambient levels in the surrounding project area.

2. Construction noise levels will be mitigated to the extent feasible by employing measures such as construction notification, limiting construction to daytime hours in accordance with local noise control laws and ordinances, and a noise complaint process.

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 increase noise above existing ambient levels in the surrounding project area.

5. Operational noise levels will be mitigated by employing a noise complaint process and noise restrictions near sensitive receptors.

6. The project owner will implement measures to protect workers from injury due to excessive noise levels.

7. The PPEC will not create ground or airborne vibrations, which cause significant off-site impacts.

8. Implementation of the conditions of certification identified below, ensure that project-related noise emissions will not cause significant adverse impacts to sensitive noise receptors.

CONCLUSION OF LAW

The Commission concludes that implementation of the following conditions of certification will ensure that the PPEC project 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

PUBLIC NOTIFICATION PROCESS

NOISE-1 At least 15 days prior to the start of ground disturbance, the project owner shall notify all residents within one mile of the project site and one-half mile of the linear facilities, by mail or by other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. If the telephone is not staffed 24 hours a day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction where it is visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: Prior to ground disturbance, the project owner shall transmit to the compliance project manager (CPM) a statement, signed by the project owner's project manager, stating that the above notification has been performed, and describing the method of that notification. This communication shall also verify that the telephone number has been established and posted at the site, and shall provide that telephone number.

NOISE COMPLAINT PROCESS

NOISE-2 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

- use the Noise Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- attempt to contact the person(s) making the noise complaint within 24 hours;
- conduct an investigation to determine the source of noise in the complaint;

- if the noise is project related, take all feasible measures to reduce the source of the noise; and
- submit a report documenting the complaint and actions taken. The report shall include: a complaint summary, including the final results of noise reduction efforts and, if obtainable, a signed statement by the complainant stating that the noise problem has been resolved to the complainant's satisfaction.

Verification: Within five days of receiving a noise complaint, the project owner shall file a Noise Complaint Resolution Form, shown below, with both the local jurisdiction and the CPM, that documents the resolution of the complaint. If mitigation is required to resolve the complaint, and the complaint is not resolved within a three-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is performed and complete.

EMPLOYEE NOISE CONTROL PROGRAM

NOISE-3 The project owner shall submit to the CPM for review and approval a noise control program. The noise control program shall be used to reduce employee exposure to high (above permissible) noise levels during construction in accordance to the applicable OSHA and Cal-OSHA standards.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall submit the noise control program to the CPM. The project owner shall make the program available to Cal-OSHA upon request.

NOISE RESTRICTIONS

NOISE-4 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that 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 45 dBA Leq measured at or near monitoring location LT-1 and an average of 39 dBA Leq measured at or near monitoring location LT-2.

The project shall also ensure that it includes any required noise mitigation measures to ensure it does not exceed 75 dBA at the project property line during plant operations.

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 90 percent or greater of rated capacity, the project owner shall conduct a community noise survey at monitoring

location LT-1 or at a closer location acceptable to the CPM. This survey 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 the monitoring location LT-2 or at a closer location acceptable to the CPM. The short-term noise measurements at this location shall be conducted continuously during the nighttime hours of 10:00 p.m. to 7:00 a.m.

The measurement of power plant noise for the purposes of demonstrating compliance with this condition of certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the affected residence. The character of the plant noise shall be evaluated at the affected receptor locations to determine the presence of pure tones or other dominant sources of plant noise.

Also during the period of the above survey, the project owner shall measure project noise levels at several points on its property lines, if the proposed detention facility has been constructed or is under construction, with an emphasis on the northern property line. These measurements shall be taken for a minimum of one hour.

B. If the results from the noise survey indicate that the power plant noise at the affected receptor sites (LT-1 or LT-2) 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 property line noise survey indicate that the power plant noise exceeds 75 dBA during the measurement hours, mitigation measures shall be implemented to reduce noise to a level of compliance with these limit~~s~~.

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 45 days of the project first achieving a sustained output of 90 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.

OCCUPATIONAL NOISE SURVEY

NOISE-5 Following the project's attainment of a sustained output of 90 percent or greater of its rated capacity, the project owner shall conduct an occupational noise survey to identify any noise hazardous areas in the facility.

The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure.

The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures to be employed in order to comply with the applicable California and federal regulations.

Verification: Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

CONSTRUCTION RESTRICTIONS

NOISE-6 Heavy equipment operation and noisy construction work relating to any project features shall be restricted to the times delineated below, unless a special permit has been issued by the CPM:

Mondays through Saturdays: 7:00 a.m. to 7:00 p.m.

Project site's construction noise level shall be no more than 75 dBA L_{eq} measured at the property lines of LT-1 and LT-2.

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

Pio Pico Energy Center
(11-AFC-01)

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).

NOISE APPENDIX A
FUNDAMENTAL CONCEPTS OF COMMUNITY NOISE

To describe noise environments and to assess impacts on noise sensitive areas, a frequency weighting measure, which simulates human perception, is customarily used. It has been found that A-weighting of sound intensities best reflects the human ear's reduced sensitivity to low frequencies and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. Decibels are logarithmic units that conveniently compare the wide range of sound intensities to which the human ear is sensitive. **NOISE Table A1** provides a description of technical terms related to noise.

Noise environments and consequences of human activities are usually well represented by an equivalent A-weighted sound level over a given time period (L_{eq}), or by average day and night A-weighted sound levels with a nighttime weighting of 10 dBA (L_{dn}). Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. Outdoor day-night sound levels vary over 50 dBA depending on the specific type of land use. Typical L_{dn} values might be 35 dBA for a wilderness area, 50 dBA for a small town or wooded residential area, 65 to 75 dBA for a major metropolis downtown (e.g., San Francisco), and 80 to 85 dBA near a freeway or airport. Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered to be levels of noise adverse to public health.

Various environments can be characterized by noise levels that are generally considered acceptable or unacceptable. Lower levels are expected in rural or suburban areas than what would be expected for commercial or industrial zones. Nighttime ambient levels in urban environments are about seven decibels lower than the corresponding average daytime levels. The day-to-night difference in rural areas away from roads and other human activity can be considerably less. Areas with full-time human occupation that are subject to nighttime noise, which does not decrease relative to daytime levels, are often considered objectionable. Noise levels above 45 dBA at night can result in the onset of sleep interference effects. At 70 dBA, sleep interference effects become considerable. (*Effects of Noise on People*, U.S. Environmental Protection Agency, December 31, 1971.)

In order to help the reader understand the concept of noise in decibels (dBA), **NOISE Table A2** has been provided to illustrate common noises and their associated sound levels, in dBA.

NOISE Table A1
Definition of Some Technical Terms Related to Noise

Terms	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a Sound Level Meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this testimony are A-weighted.
L_{10}, L_{50}, & L_{90}	The A-weighted noise levels that are exceeded 10%, 50%, and 90% of the time, respectively, during the measurement period. L_{90} is generally taken as the background noise level.
Equivalent Noise Level, L_{eq}	The energy average A-weighted noise level during the Noise Level measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 4.8 decibels to levels in the evening from 7:00 p.m. to 10:00 p.m., and after addition of 10 decibels to sound levels in the night between 10:00 p.m. and 7:00 a.m.
Day-Night Level, L_{dn} or DNL	The Average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 p.m. and 7:00 a.m.
Ambient Noise Level	The composite of noise from all sources, near and far. The normal or existing level of environmental noise at a given location (often used for an existing or pre-project noise condition for comparison study).
Intrusive Noise	That noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Pure Tone	A pure tone is defined by the Model Community Noise Control Ordinance as existing if the one-third octave band sound pressure level in the band with the tone exceeds the arithmetic average of the two contiguous bands by 5 decibels (dB) for center frequencies of 500 Hz and above, or by 8 dB for center frequencies between 160 Hz and 400 Hz, or by 15 dB for center frequencies less than or equal to 125 Hz.
Guidelines for the Preparation and Content of Noise Elements of the General Plan, Model Community Noise Control Ordinance, California Department of Health Services 1976, 1977.	

NOISE Table A2
Typical Environmental and Industry Sound Levels

Noise Source (at distance)	A-Weighted Sound Level in Decibels (dBA)	Noise Environment	Subjective Impression
Civil Defense Siren (100')	140 - 130		Pain Threshold
Jet Takeoff (200')	120		Very Loud
Very Loud Music	110	Rock Music Concert	
Pile Driver (50')	100		
Ambulance Siren (100')	90	Boiler Room	
Freight Cars (50')	85		
Pneumatic Drill (50')	80	Printing Press Kitchen with Garbage Disposal Running	Loud
Freeway (100')	70		Moderately Loud
Vacuum Cleaner (100')	60	Data Processing Center Department Store/Office	
Light Traffic (100')	50	Private Business Office	
Large Transformer (200')	40		Quiet
Soft Whisper (5')	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing
Handbook of Noise Measurement, Arnold P.G. Peterson, 1980			

Subjective Response to Noise

The adverse effects of noise on people can be classified into three general categories:

- Subjective effects of annoyance, nuisance, dissatisfaction.
- Interference with activities such as speech, sleep, and learning.
- Physiological effects such as anxiety or hearing loss.

The sound levels associated with environmental noise, in almost every case, produce effects only in the first 2 categories. Workers in industrial plants can experience noise effects in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction, primarily because of the wide variation in individual tolerance of noise.

One way to determine a person's subjective reaction to a new noise is to compare the level of the existing (background) noise, to which one has become accustomed, with the level of the new noise. In general, the more the level or the tonal variations of a new noise exceed the previously existing ambient noise level or tonal quality, the less acceptable the new noise will be, as judged by the exposed individual.

With regard to increases in A-weighted noise levels, knowledge of the following relationships can be helpful in understanding the significance of human exposure to noise.

1. Except under special conditions, a change in sound level of one dB cannot be perceived.
2. Outside of the laboratory, a 3 dB change is considered a barely noticeable difference.
3. A change in level of at least 5 dB is required before any noticeable change in community response would be expected.
4. A 10 dB change is subjectively heard as an approximate doubling in loudness and almost always causes an adverse community response. (Kryter, Karl D., *The Effects of Noise on Man*, 1970.)

Combination of Sound Levels

People perceive both the level and frequency of sound in a non-linear way. A doubling of sound energy (for instance, from two identical automobiles passing simultaneously) creates a 3 dB increase (i.e., the resultant sound level is the sound level from a single passing automobile plus 3 dB). The rules for decibel addition used in community noise prediction are:

NOISE Table A3
Addition of Decibel Values

When two decibel values differ by:	Add the following amount to the larger value
0 to 1 dB	3 dB
2 to 3 dB	2 dB
4 to 9 dB	1 dB
10 dB or more	0
Figures in this table are accurate to ± 1 dB.	

Architectural Acoustics, M. David Egan, 1988

Sound and Distance

Doubling the distance from a noise source reduces the sound pressure level by 6 dB.

Increasing the distance from a noise source 10 times reduces the sound pressure level by 20 dB.

Worker Protection

OSHA noise regulations are designed to protect workers against the effects of noise exposure, and list permissible noise level exposure as a function of the amount of time to which the worker is exposed:

NOISE Table A4
OSHA Worker Noise Exposure Standards

Duration of Noise (Hrs/day)	A-Weighted Noise Level (dBA)
8.0	90
6.0	92
4.0	95
3.0	97
2.0	100
1.5	102
1.0	105
0.5	110
0.25	115

(29 C.F.R. § 1910.)

E. VISUAL RESOURCES

Visual resources are the natural and cultural features of the landscape that contribute to the visual character or quality of the environment. CEQA requires an examination of a project's visual impacts to determine whether the project has the potential to cause substantial degradation to existing views of the site and its surroundings. (Cal. Code Regs., tit. 14, § 15382, appen. G, Part I.) More particularly, CEQA requires us to evaluate whether the project would substantially:

- adversely affect a scenic vista;
- damage scenic resources including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;
- degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

We performed this evaluation and also considered the Pio Pico Energy Center's (PPEC) compliance with the applicable laws, ordinances, regulations, and standards (LORS).

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Setting

The project site is located in San Diego County near the western base of the San Ysidro Mountains, approximately 1.5 miles north of the U.S./Mexico border, and approximately 15 miles southeast of the city of San Diego. On the Mexico side of the international border, the city of Tijuana has extensive urban residential and commercial development. A 12- to 15-foot high solid steel fence separates the two countries at the border. Other than three single-family residences on Otay Mesa Road, the nearest residential community to the PPEC site on the U.S. side of the border is within the Otay Ranch area, located within the city limits of Chula Vista and is approximately 4.5 miles northwest of the power plant site. The plant facilities would not be within a line of sight from this subdivision because of intervening hills. The undulating topography within the five-mile radius of the Visual Sphere of Influence (VSOI) generally impedes views of the project site beyond the immediate vicinity. (Ex. 200, p. 4.12-1.)

The existing Otay Mesa Generating Project (OMGP) natural gas-fired power plant is immediately adjacent east of the project site. Overhead transmission lines and streetlights run along the east side of Alta Road past the project site. In addition, streetlights and transmission poles and lines are in place along Calzada de la Fuente. Paseo de la Fuente has complete landscape improvements; some landscape plantings have been installed along a portion of Calzada de la Fuente, including street trees and a recreational trail on the north side of the street. (Ex. 200, p. 4.12-2.)

Prior to site grading permitted by the County of San Diego and completed in 2011, the site consisted of gently rolling terrain, sloping from approximately 660 feet above sea level (ASL) at the eastern property line to 630 feet ASL at the west property line. The site was undeveloped and consisted primarily of fallow agricultural land. Current land uses in the site vicinity include the OMGP power plant, fallow agricultural land, three correctional facilities approximately one mile northwest, and at least one business located at the former Kuebler Ranch, approximately one-half mile northwest of the plant site. An industrialized area is located southwest of the project site following the Otay Mesa Road corridor. (*Id*.)

Visual Resources Figure 1 shows the project in relation to the access roads and key observation points (KOPs) jointly selected by the Applicant and Staff. KOPs are representative viewpoints from sensitive receptor locations. Residents and recreationalists are typically considered sensitive receptors to changes in landscape. (Ex. 200, p. 4.12-11.)

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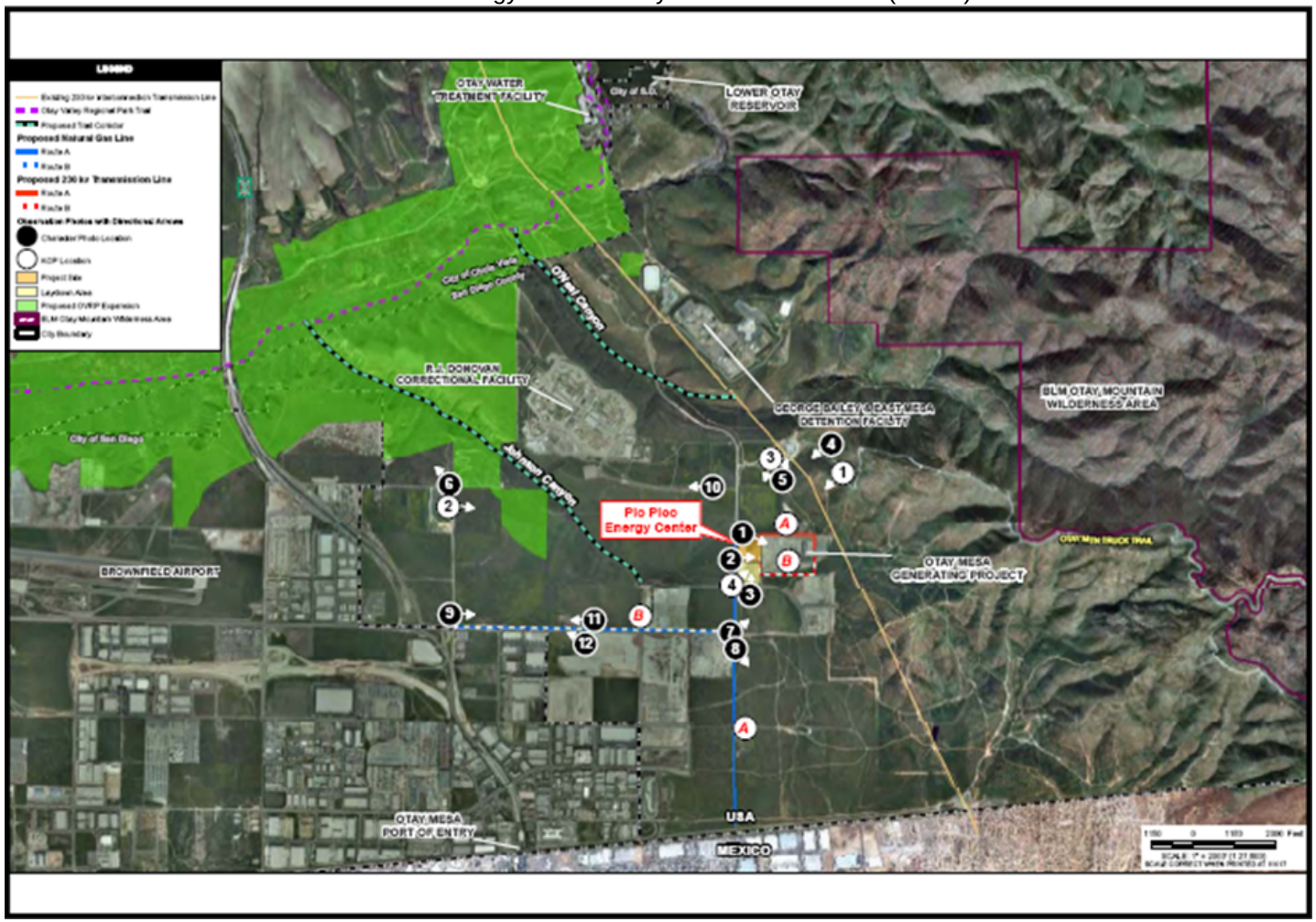
VISUAL RESOURCES FIGURE 1

Pio Pico Energy Center – Key Observation Points (KOPS)



(Ex. 200. p. 4.12-11.)

- KOP 1 – View from Otay Mountain Truck Trail, located in the Otay Mountain Wilderness Area
- KOP 2 – View from Proposed Otay Valley Regional Park Expansion
- KOP 3 – View from Kuebler Ranch and Restaurant
- KOP 4 – View from northbound lanes of Alta Road at Paseo de la Fuente

The four KOPs were selected to represent the overall project viewshed or area of potential visual effect (the area within which the project could potentially be seen).

2. Project Features

The primary project features that will be introduced into the visual landscape include:

- Three 100-foot tall combustion turbine generator stacks
- Three 53-foot tall VBV (variable bleed vent) air outlets
- Three 40-foot tall CTG (combustions turbine generator) inlet air housings
- Three 35-foot tall SCRs (selective catalytic reduction)
- One 30-foot tall wastewater storage tank
- New building expansion continuing a structure height of 18-feet
- Transmission line steel poles (approximately 90 feet tall) and switchyard facilities. (Ex. 200, p. 4.12-4.)

3. Scenic Vistas

For the purposes of this evaluation, a “scenic vista” is defined as a distant view of high pictorial quality perceived through and along a corridor or opening. According to the evidence, No scenic vistas exist in the KOP 1, KOP 2, KOP 3 and KOP 4 viewsheds. Thus, the addition of the PPEC will not result in an impact to scenic vistas. (Ex. 200, p. 4.12-11.)

4. Scenic Resources

For the purposes of this evaluation, “scenic resources” include: a unique water feature such as a waterfall; transitional water such as river mouth ecosystems, lagoons, coastal lakes, and brackish wetlands; or, part of a stream, river, or estuary. Neither the Applicant nor Staff identified scenic resources in the project

vicinity. No scenic resources exist in the KOP 1, KOP 2, KOP 3 and KOP 4 viewsheds. (*Id.*)

5. Project Impacts and Mitigation

a. Construction Impacts

Construction of the power plant would last approximately 16 months. Construction activities at the project site and construction laydown area would not substantially degrade the visual character or quality of the sites and surrounding areas as viewed from KOPs 1-3. Viewers at these KOPs are infrequent, visual sensitivity ranges from low to moderate and the visual impacts from construction activities and lighting would be less than significant, especially considering the location adjacent to the OMGP, with its own nighttime lighting in place and the distance from the KOPs. The construction activity would be highly visible from KOP 4, representative of the motorists travelling northbound on Alta Road. Construction activity, including movement of large vehicles and storage of materials, would be highly visible from Alta Road and therefore a potential distraction for drivers. In addition nighttime construction lighting and security lighting would have the potential to produce glare or off-site light trespass. This has the potential to cause distraction in the form of glare and confusion as to the light source origin for motorists on Alta Road. Without screening and lighting controls, the impact upon motorists on Alta Road would be adverse and significant. Screen fencing and lighting controls, if implemented as described in Conditions of Certification **VIS-4** and **VIS-5,** would limit visibility of the construction site and the potential for glare and light trespass during construction. Visual impacts of construction activity would be less than significant for the motorists on Alta Road, as represented in KOP 4, when conditioned by Conditions of Certification **VIS-4** and **VIS-5**. (Ex. 200, pp. 4.12-12 - 4.12-13.)

b. Operation Impacts

We analyze the impact of operational activities as seen from each KOP. Potential impacts are identified by two fundamental factors for each KOP: *visual sensitivity* (the susceptibility of the setting to impact as a result of its existing characteristics, including current level of visual quality, potential visibility of the project, and sensitivity to scenic values of viewers); and the degree of *visual change* anticipated as a result of the project.

KOP 1. KOP 1 represents the view of the recreationist and the border patrol agents from the Otay Mountain Truck Trail at the western edge of the wilderness. From KOP 1, the project site is viewed from an elevated position. The foreground is composed of the roadway itself, the middle ground features the project site and the background includes the commercial-industrial buildings along Otay Mesa Road, as well as the city of Tijuana and the mountains to the south.

This view from this location is shown below by **Visual Resources Figure 2**.

VISUAL RESOURCES FIGURE 2

Pio Pico Energy Center – Existing and Simulated View of Project from KOP #1

KOP 1 – Existing view from Otay Mountain Truck Trail looking towards project site (approximately 0.6 miles northeast of project)

KOP 1 – Simulated view from Otay Mountain Truck Trail looking southwest towards project site (approximately 0.6 miles northeast of project). This photo is meant to a representative view from the Otay Mountain Wilderness Area.

The view from the Truck Trail is of disturbed lands in the foreground, commercial development in the middle ground and the city of Tijuana and a mountain range in the background. The view is not cohesive and is quite fractured. KOP 1 has low visual quality. This disturbed and fractured view yields a low viewer concern. Based on the low visual quality and concern and the low-moderate overall viewer exposure, visual sensitivity at KOP 1 is low. (Ex. 200, p. 4.12-14.)

While the project structures will differ greatly from the grassy field that existed at the time of the simulation, the visual contrast with the middle ground and background is only low-moderate. The tallest structures, the stacks, do not pierce the horizon line in this view and therefore while the project is centered in the view, the eye travels beyond it easily and it does not dominate the view. View blockage is low. Considering these factors, the overall visual change at KOP 1 is low to moderate. (*Id*.)

Taking into account the low visual sensitivity and the low to moderate overall visual change, visual impacts at KOP 1 would be less than significant. Implementation of Condition of Certification **VIS-1** (proposed below to mitigate significant impacts at KOP 4) will ensure the project does not contrast with the surroundings by requiring neutral tones complimentary to the existing OMGP.

KOP 2. Otay Valley Regional Park (OTRP) is under development in the Otay River Valley. Five geographic segments have been identified as areas to be added to create the park. The park straddles the river valley and portions are in the cities of San Diego and Chula Vista and the County of San Diego.

KOP 2 is representative of the recreationist's view from a potential trail near Johnson Canyon. The KOP is a view to the east taken from the intersection of Harvest Road and Lone Star Road. These are dirt roads leading into the future park areas and used primarily by off-road vehicle drivers. KOP 2 is approximately one mile west of the PPEC project site and adjacent to an off-road vehicle track area. Future use projections are not known but assumed to be low. The foreground and middle ground are made up of undulating, grass-covered hillocks, and the existing Otay Mesa Generating Station is highly visible in the background at the base of the foothills of the San Ysidro Mountains.

This view from this location is shown below by **Visual Resources Figure 3**.

VISUAL RESOURCES FIGURE 3

Pio Pico Energy Center – Existing and Simulated View of Project from KOP #2

KOP 2- Existing view from off-highway vehicle track area at the Proposed Otay Valley Regional Park Expansion looking southeast towards the project site.

KOP 2- Simulated view from off-highway vehicle track area at the Proposed Otay Valley Regional Park Expansion looking southeast toward project site. This photo is meant to represent "worst case" views for recreational park users.

The substantial presence of the existing Otay Mesa Generating Station firmly in the background of KOP 2 lowers the visual quality to low-moderate. As the area is used primarily off-road vehicle users and assumed to be in low numbers, the viewer concern is moderate. The view from the perspective of an off-road vehicle user would be fleeting, as the driver is likely concentrating on the roadbed itself. The view from a vehicle traversing Heritage Road may be longer, but the unpaved surface of the road would likely capture most of the driver's attention. The view duration therefore is low. Taking into account low-moderate visual quality, moderate viewer concern and low-moderate viewer exposure, overall visual sensitivity is low-moderate. (Ex. 200, p. 4.12-15.)

The introduction of the structures for the PPEC facility does not add contrast to the existing view as it is positioned visually immediately in front of the existing OMGP. The addition of the PPEC increases the vertical lines by the repetition of the stacks, but the overall forms, colors and textures are similar to the existing. The contrast is low. The new facility does not change the dominance of the industrial structures in this view. Dominance is low-moderate. The proposed facility does not block any existing views, so view blockage is low. The project as simulated remains subordinate to the San Ysidro Mountains in the background. Considering these factors the overall visual change is low. (Ex. 200, pp. 4.12-15 – 4.12-16.)

Overall visual sensitivity is low to moderate and overall visual change at KOP 2 is low, so visual impacts at KOP 2 would be less than significant. Implementation of Condition of Certification **VIS-1** will ensure the project does not contrast with the surroundings by requiring neutral tones complimentary to the existing OMGP.

<u>KOP 3.</u> The Kuebler Ranch house, located at 511 Alta Road, approximately 0.4 mile north of the project site, was constructed in 1909 in the Spanish Eclectic Style. It has been converted to a restaurant and has potential views from the restaurant to the project site. While the Ranch dates to the early 20th Century and has an interesting local history, house and property have been determined as not eligible for listing on the California Register of Historic Resources by Energy Commission Cultural staff. The foreground of the view consists of a partially vegetated slope leading down to a large, recently graded parcel in development as a water retention basin. The view of the project site is completely unobstructed from this KOP. (Ex. 200, p. 4.12-16.)

The view from this location is shown below by **Visual Resources Figure 4**.

VISUAL RESOURCES FIGURE 4

Pio Pico Energy Center – Existing and Simulated View of Project from KOP #3

KOP 3- Existing view from Kuebler Ranch, looking southwest toward project site.

KOP 3- Simulated view from Kuebler Ranch, looking southwest toward project site. This photo is meant to represent the view for diners at the restaurant.

Due to the lack of uniformity in the view combined with the ground disturbance of the adjacent parcel, the visual quality of KOP 3 is low. Viewer concern is moderate to high as the KOP was chosen because of its potential impact on restaurant diners. Visibility from KOP 3 is high as the view is unobstructed by objects or landforms. It is expected that the number of viewers would be low to

moderate and limited to the patrons of the restaurant and employees at the property. View duration would be limited to one to two hours for patrons of the restaurant and likely less for employees. View duration exceeding two minutes is considered high. Overall viewer exposure is moderate to high. Overall visual sensitivity, comprised of quality, concern and exposure, is moderate. (Ex. 200, pp. 4.12- 16 – 4.12-17.)

The introduction of the industrial structures of the proposed power plant creates strong contrast with the existing view. What reduces that contrast to some degree is the existence of a similar electric power plant immediately to the east of the project (not shown in the KOP photograph but visible from this location). The forms of the structures are bold and the lines include a strong verticality, especially with the three stacks. The terrain slopes away from the KOP toward the project site, providing a three-dimensional view of the proposed project's structures from the elevated position. (Ex. 200, p. 4.12-17.)

The background includes a consistent horizon line of mountains on the Mexican side of the border. The stacks as presented in the simulation do not break the horizontal horizon line of the mountain range, more than nine miles in the distance. This reduces the dominance of the project to low from this perspective. View blockage is low from this KOP, as its elevated position allows the viewer to look over the project to the horizon beyond. The overall visual change, therefore, is low to moderate. (*Id*.)

Overall visual sensitivity is moderate and overall visual change is low-moderate, consequently visual impacts would be less than significant. Implementation of Condition of Certification **VIS-1** will ensure the project does not contrast with the surroundings by requiring neutral tones complimentary to the existing OMGP.

<u>KOP 4.</u> KOP 4 was selected to represent the view of the motorists traveling northbound on Alta Road, approaching the project site at the intersection with Paseo de la Fuente. The project site occupies the middle ground, and is shown in the existing view as a flat, graded site with no vegetation. The background is composed of the terrain sloping up toward the Kuebler Ranch on the right, the R.J. Donovan Correctional Facility on the left and is dominated by the foothills of the San Ysidro Mountains. Transmission poles line Alta Road on the east side of the roadway. (*Id.*)

This view from this location is shown below by **Visual Resources Figure 5**.

VISUAL RESOURCES FIGURE 5

Pio Pico Energy Center – Existing and Simulated View of Project from KOP #4B

KOP 4B: Existing motorists' view for northbound travelers on Alta Road (commuters to Richard J. Donovan Correction Facility and East Mesa Detention Center), approaching the intersection of Alta Road and Paseo de la Fuente, looking northeast toward project site.

KOP 4B: Simulated motorists' view for northbound travelers on Alta Road (commuters to Richard J. Donovan Correction Facility and East Mesa Detention Center), approaching the intersection of Alta Road and Paseo de la Fuente, looking northeast toward project site. This photo is meant to represent the "worst-case" traveler/commuter view from Alta Road.

The view is largely one seen by motorists traveling north on Alta Road. As such, it is of moderate viewer concern as the drivers are most likely focusing on driving and other traffic. The view toward the project site is highly visible to the motorist as it is immediately adjacent to Alta Road. The existing visual quality is low to moderate. Overall viewer exposure is moderate to high. Low to moderate visual quality, moderate viewer concern and moderate to high viewer exposure produces a rating of moderate overall visual sensitivity for KOP 4. (Ex. 200, p. 4.12-18.)

The introduction of the PPEC structures into the KOP 4 view alters the landscape of the project site substantially, as the site is currently vacant. While the lines of the stacks are repetitive, they do not differ greatly from the verticality of the existing transmission poles lining Alta Road or the stacks of the adjacent OMGP, and therefore have a low to moderate degree of change. The project structures are the largest things in the landscape in the simulated view, and therefore the dominance is high. There is a view to the foothills of the San Ysidro Range that is partially blocked by the introduction of the project structures. However, the stacks, which are the tallest elements, do not break the horizon line of the range, and therefore view blockage is moderate. The overall visual change is moderate to high. (*Id.*)

KOP 4 has a moderate overall visual sensitivity and a moderate to high degree of visual change, consequently visual impacts would be significant. Implementation of Conditions of Certification **VIS-1** and **VIS-2** would reduce the impacts to less than significant. Adoption of Condition of Certification **VIS-1** would ensure the project does not contrast with the surroundings by requiring neutral tones complimentary to the existing OMGP. Landscape perimeter plantings and street tree plantings required by **VIS-2** would provide a vibrant screen of vegetation that will mitigate the visual impact of the project structures and conform with the OMSP landscape requirements. These plantings are layered to achieve a dense screen of trees and shrubs, especially along Alta Road frontage. In addition, **VIS-2** would require screening plantings along the property border with APN 648-040-46, the construction laydown area, upon completion of the construction phase. The objective would be to create landscape screening of sufficient density and height to screen the power plant structures to the greatest feasible extent within the shortest feasible time from the adjacent property and from motorists along Alta Road and Paseo de la Fuente. (Ex. 200, p. 4.12-19.)

Operations Impact Summary

Project operation impacts from all identified KOPs on the existing visual character and quality of the setting would be less than significant with implementation of the conditions of certification. Condition of Certification **VIS-1** would ensure the project does not contrast with the surroundings by requiring neutral tones complimentary to the existing OMGP surface treatment; Condition of Certification **VIS-2**, Landscaping, would provide a vibrant screen of vegetation that will mitigate the visual impact of the project structures. With these measures, the impacts from the project during operation would not substantially degrade the existing visual character or quality of the site and its surroundings, as perceived by sensitive receptors in the project viewshed.

Transmission Lines

Two alternative routes are proposed to connect the project to the existing Otay Mesa 230-kV switchyard located approximately 2000 feet east of the proposed project site. Route A is proposed to begin as an overhead power line on the north edge of the project site proceeding in an easterly direction along Calzada de la Fuente. It would extend overhead for approximately 1700 feet to the east, then be routed underground for approximately 400 feet to the switchyard connection. Route B would begin as an overhead powerline from the eastern edge of the project site, run south approximately 550 feet, turn east at De La Fuente Court and run east approximately 2000 feet along the existing OMGP fenceline to connect with the existing switchyard. While both Routes A and B would add transmission poles to the existing landscape, it is in an area of heavy industrial use and an existing power plant. Undergrounding a portion of Route A reduces the visual impacts to low-moderate. Route B travels through a landscaped area and along a riparian swath, and is located away from the roadway of Paseo de la Fuente. Because of the distance from motorists' views, and its location adjacent to an existing power plant, the visual impacts of Route B are low. The KOP 4 simulation includes a transmission pole located on Route B. With implementation of **VIS-1**, specifying non-reflective poles and non-specular conductors and non-reflective and non-refractive insulators, we anticipate no significant adverse visual impacts from the project's proposed transmission lines and poles. (Ex. 200, p. 4.12-22.)

We note that if Route B is chosen, there would exist the potential for disruption of the existing screening landscape trees and plantings within the OMGP property landscape setback and along the existing block wall. Condition of Certification **VIS-2** would remedy this disturbance by requiring the project owner to repair and or replace the existing landscape elements (trees, shrubs, groundcover and other

structures such as fences and walls) in conformance with the OMGP original conditions of certification and the current LORS. (*Id.*)

Neither the gas lines nor the water lines would have a visual impact during plant operation because those lines would be underground.

6. Visible Water Vapor Plumes

The PPEC cooling system is a partial dry-cooling system (PDCS), which uses a hybrid of evaporative (wet-cooling) and dry-cooling technologies to minimize water use. Based on the proposed technology for the PPEC facility, potential visible plumes may occasionally occur from the cooling system and/or exhaust stack. Cooler temperatures are more favorable to formation of visible plumes. As a peaker plant, the PPEC is most likely to be operational during hot weather when electricity demands are higher, reducing the likelihood of visible plume formation. In addition, during lower ambient temperatures, the evaporative system ramps down and most of the process cooling is provided via dry cooling; therefore, the likelihood of a visible moisture plume is greatly reduced. Because of these factors, we find that there will be no significant impact from vapor plumes. (*Id.*)

7. Light or Glare

The PPEC will require lighting during facility construction, operation, and for emergencies.

With the effective implementation of the Applicant's proposed light trespass mitigation measures as described in the AFC and staff-recommended Condition of Certification **VIS-3**, the project's operation-related lighting impacts, in the context of the existing lighting, would be less than significant and are anticipated to meet the county requirements for nighttime lighting. Condition of Certification **VIS-3** would ensure full compliance and verification of night lighting measures. (Ex. 200, p. 4.12-23.)

Surfaces of the facilities of the PPEC have the potential to introduce glare into the visual environment. With the effective implementation of the Applicant's proposed surface treatment measures as described in the AFC and staff-recommended Condition of Certification **VIS-1**, the project would use colors and finishes that do not cause excessive glare and be in harmony with the project's environment. Implementation of Condition of Certification **VIS-1** would ensure full

compliance and verification of surface treatment to reduce daytime glare impacts to less than significant. (*Id.*)

8. Cumulative Impacts

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project. (Cal. Code of Regs., tit. 14, § 15355.) Cumulative impacts occur when more than one project exists or is planned to be completed or constructed in the same area at the same time. That is, any one project may not create a significant visual impact; but the combination of the new project with all existing or planned projects in the area may result in a significant cumulative impact.

A finding of a significant cumulative impact would depend on the degree to which (1) the viewshed is altered; (2) view of a scenic resource is impaired; or (3) visual quality is diminished.

The evidence establishes that the project will not have a significant impact on any of these elements. A correctional facility is being proposed on a parcel across Calzada de la Fuente from PPEC. Other nearby uses that have been approved or are under review by San Diego County include a concrete and asphalt batch plant, a quarry, a business park, an industrial park and the existing OMGP. All of these projects are within Heavy Industrial, Mixed Industrial Technology Business Park or District Commercial Zones. With these zoning designations built into the Specific Plan, the existing landscape is bound to change over time. San Diego County is clustering this kind of development in a location having minimal impacts on sensitive viewing groups (i.e. residential neighborhoods, parks, schools, etc.) and in an area devoid of scenic resources and of moderate visual quality. Therefore, we find that while the viewshed may be significantly altered by these activities, the area is not designated as a scenic corridor nor have any scenic resources been designated [1], and therefore there are no adverse impacts upon the views of a scenic resource or vista. (Ex. 200, pp. 4.12-23 – 4.12-26.)

[1] East Otay Mesa Specific Plan, Draft Environmental Impact Report (DEIR), October, 1993, County of San Diego Department of Planning and Land Use, pp 4.2-14. The DEIR identifies the San Ysidro Mountains as a "major scenic resource" for the area but the County of San Diego has not formally designated any scenic highways or resources in the project vicinity.

As discussed in the **Socioeconomics** section of this Decision, the environmental justice population is greater than 50 percent within a six-mile radius of the proposed PPEC. However, since we have found no significant adverse direct, indirect, or cumulative visual resources impacts resulting from the operation of the project, there are no visual resources environmental justice issues related to the operation of this project and no minority or low-income populations would be significantly or adversely impacted. (Ex. 200, p. 4.12-27.)

9. Compliance with LORS

Visual Resources Table 1 below identifies and summarizes the requirements of the applicable LORS and contains a summary of the proposed project's consistency with them. The evidence establishes that the project will comply with LORS.

VISUAL RESOURCES Table 1
Applicable Laws, Ordinances, Regulations, and Standards (LORS)

LORS			
Source	**Policy and Strategy Description**	**Consistency Determination**	**Basis for Consistency**
County of San Diego General Plan Update August 3, 2011 Chapter 2: Land Use Element Goal LU-11, Policy LU-11.2 Compatibility with Community Character.	Require that commercial, office, and industrial development be located, scaled, and designed to be compatible with, respect and enhance the unique character of the community.	Yes	The project is located in a Heavy Industrial Zone, adjacent to an existing power plant and meets the site design requirements of the OMSP. OMSP informs the development in the project area by providing standards for site planning and landscaping. As proposed, the PPEC meets the standards for street tree placement and selection, planter dimensions, lighting, setback landscaping, slope plantings and plant species.
County of San Diego General Plan Update August 3, 2011 Chapter 2: Land Use Element Goal LU-11,	Require industrial land uses with outdoor activities or storage to provide a buffer from adjacent incompatible land uses (refer to Policy LU-11.9 for examples of buffering).	Yes	The project is not located next to incompatible uses.

LORS			
Source	**Policy and Strategy Description**	**Consistency Determination**	**Basis for Consistency**
LU-11.11 Industrial Compatibility with Adjoining Uses.			
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space Element GOAL COS-4 Water Management, COS-4.2 Drought-Efficient Landscaping.	Require efficient irrigation systems and in new development encourage the use of native plant species and non-invasive drought tolerant/low water use plants in landscaping.	Yes, as conditioned	Condition of Certification **VIS-2** requires conformance with San Diego County's Landscape and Irrigation Plan submittal process. The conceptual landscape plan, (see Visual Resources-Figure 6), uses drought-tolerant plant species identified in OMSP.
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space Element GOAL COS-11, Policy COS-11.1, Protection of Scenic Resources	Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.	Yes	The PPEC is not located within the vicinity of significant scenic resources.
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space Element GOAL COS-11, Policy-11.2 Scenic Resource Connections	Promote the connection of regionally significant natural features, designated historic landmarks, and points of regional historic, visual, and cultural interest via designated scenic corridors, such as scenic highways and regional trails.	Yes	The PPEC is not located near significant natural or cultural resources. A recreational trail is under construction along Calzada de la Fuente, north of the project site but the project would not impede the completion of the trail.
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space	Coordinate with the California Public Utilities Commission, power companies, and other public agencies to avoid siting energy generation, transmission facilities, and other public improvements in locations that impact visually sensitive areas	Yes	PPEC would not be located in a visually sensitive area.

LORS			
Source	**Policy and Strategy Description**	**Consistency Determination**	**Basis for Consistency**
Element GOAL COS-11, Policy-11.5 Collaboration with Private and Public Agencies.	whenever feasible. Require the design of public improvements within visually sensitive areas to blend into the landscape.		
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space Element GOAL COS-11, Policy-11.7 Underground Utilities	Require new development to place utilities underground and encourage "undergrounding" in existing development to maintain viewsheds, reduce hazards associated with hanging lines and utility poles, and to keep pace with current and future technologies.	Undetermined, pending San Diego County Comments	It is not clear that the development of a power plant and ancillary facilities would necessarily need to adhere to the undergrounding of utilities requirement. Electric transmission poles already exist on Alta Road adjacent to the project.
San Diego County Code of Regulatory Ordinances, section 51.201-209, Light Pollution Code (LPC), adopted by Ordinance 9974, 4-3-09 (Dark Sky Ordinance)	LPC regulates outdoor lighting in Zones A and B. The project is located in Zone B, more than 15 miles from Palomar and Mount Laguna Observatories.	Yes, as conditioned	Per Condition of Certification **VIS-3**, Lighting plans would be required to be submitted to determine that the project would comply with the requirements of this code. To comply with this code, the plan must include selection of luminaries that reduce skyglow, light trespass and glare.
San Diego County Zoning Ordinance Performance Standards Part 6 General Regulations 6322 Outdoor Lighting, 6324 Lighting Permitted in Required Yards, 6326 Lighting Not in Required Yards	Regulates lighting types, hours of operation, light trespass and requires compliance with the Dark Skies Ordinance.	Yes, as conditioned	Per Condition of Certification **VIS-3**, Lighting plans would be required to be submitted to determine that the project would comply with the requirements of these regulations. To comply, plans must meet the LPC, illuminate only the site itself, use horizontal cut-off fixtures, minimize light trespass, and meet minimum height and spacing requirements.

LORS			
Source	**Policy and Strategy Description**	**Consistency Determination**	**Basis for Consistency**
County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements, Dark Skies and Glare, Modified January 15, 2009.	Section 4.0 Provides guidelines for determining significance of impacts from a project's proposed lighting. Significance is found if the project proposes: 1.) Outdoor light fixtures that do not conform to the lamp type and shielding requirements in the LPC; 2.) The project would operate Class I or Class III outdoor lighting between 11:00pm and sunrise that is not otherwise exempted by the LPC; 3.) The project will generate light trespass that exceeds 0.2 footcandles measured five feet onto the adjacent property; 4.) the project will install highly reflective building materials; and 5.) the project does not conform to applicable Federal, State or local statute or regulation , including the LPC.	Yes, as conditioned	Per Condition of Certification **VIS-3**, Lighting plans would be required to be submitted to determine that the project would comply with the requirements of the guidelines and the LPC (above).
County of San Diego, Water Conservation in Landscaping Ordinance, Title 8, Division 6, Chapter 7 of the San Diego County Code.	A landscape documentation package must be submitted with a building permit application for an industrial use where the landscaped area is 1000 square feet or more that meets the code's requirements.	Yes, as conditioned	Condition of Certification **VIS-2** requires a complete landscape documentation package to be submitted to the CPM for approval and to San Diego County for review and comment.
San Diego County, East Otay Mesa Specific Plan, Urban Design Element, Chapter Two-Plan Elements, Master Streetscape Plan	Alta Road is identified as a collector road requiring trees planted every 25 feet and 10 feet from the face of the curb. A 2-1/2-foot planter shall separate the roadway from the sidewalks with shrubs spaced every 3 feet on center.	Yes, as conditioned	Condition of Certification **VIS-2** ensures that the landscape documentation package will be in conformance with the Conceptual Landscaping Plan, Figure 6, which meets these requirements.
San Diego County, East Otay Mesa Specific Plan, Regulatory Provisions, Table 3.2-1 Site Planning Standards	• Public Utility Structures: shall be located underground or appropriately screened; • Fences: Within the setback area, a fence, wall, hedge or other barrier shall have a maximum height of 6 feet. Noise walls may be	Yes, as conditioned	Conditions of Certification **VIS-2** and **VIS-3** condition the project to generally adhere to these regulations. Although "chain link fencing is generally excluded," Staff interprets this as providing some

LORS			
Source	**Policy and Strategy Description**	**Consistency Determination**	**Basis for Consistency**
	higher. Beyond the setback area, fences are permitted up to the maximum height applicable to the main building. Goal is to create industrial and business parks with a strong identity and cohesive, visually unified character. The specific plan allows any durable material. Chain link is generally excluded but is permitted in interior lot locations in Heavy Industrial or Mixed Industrial where the fence is located outside the setback from the public right-of-way. • Lighting must comply with Light Pollution Code (51.201-209) and have directional shields; wall-packs are permitted with cut-off luminaries.		flexibility for its use in certain circumstances. Condition of Certification **VIS-2** landscape requirements will generally screen the fencing with plantings and requires a screening material to block views to the interior of the project site, thereby lessening the visual impact of the fence itself.
San Diego County, East Otay Mesa Specific Plan, Regulatory Provisions, Table 3.2-2 Landscaping Standards	Landscape plans for all development in East Otay Mesa shall be submitted and approved pursuant to Sections 86.701-86.729 of the San Diego County Code. Requirements are identified for the following: • General Landscaping Notes • Streetscapes • Building Setback Landscaping • Parking Lot Landscaping • Screening • Minimum Standards (including slopes) • Irrigation	Yes, as conditioned	Condition of Certification **VIS-2** ensures that the landscape documentation package will be in conformance with the Conceptual Landscaping Plan, Visual Resources **Figure 6**, which meets these requirements.

We find that the summary of LORS compliance is supported by the evidence submitted on the topic of Visual Resources.

10. Public and Agency Comments

Comments were received from the U.S. Customs and Border Protection office in Chula Vista, CA. These were docketed on August 8, 2011[2]. Relative to visual resources, preferences were expressed for fencing to have concertina wire and a screened backdrop. Hardscape is preferred by the Border Patrol but if plantings are used, low ground cover is requested and that trees and shrubs be kept to a minimum and that planting lines keep to an east-to-west orientation. The landscape guidelines and standards for the Otay Mesa Specific Plan Area do require denser tree and shrub planting than the expressed Border Patrol preferences.

FINDINGS OF FACT

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

1. The PPEC, a natural gas-fired, simple-cycle, peaking facility will be located next to the existing OMGP.

2. The project assessment evaluated four KOPs and the project's potential to have light or glare impacts. Based on this assessment we find that views of the project will be less than significant.

3. No scenic vistas exist in the viewsheds.

4. No scenic resources were identified in the project area including the location of the transmission lines.

5. Visible vapor plumes will rarely occur and were therefore found to not to be significant.

6. Construction of the project facility and transmission lines and laydown and parking areas will result in temporary visual disturbance but no long-term visual impacts.

7. The project will have lighting for construction and operation of the facility that has the potential to introduce glare. Conditions of Certification **VIS-1, VIS-3** and **VIS-5** would reduce lighting impacts to surrounding uses during construction and operation of the project.

[2] CEC Docket TN 61791. Comments Letter from U.S. Customs and Border Protection, dated August 8, 2011.

8. Conditions of Certification **VIS-2** and **VIS-4** would reduce glare and minimize the visual intrusion of the project during construction and operation.

9. There is no evidence of potential cumulative visual impacts with the addition of the PPEC.

10. Implementation of the conditions of certification will ensure that the project's visual impacts are less than significant.

11. The PPEC will be consistent with all applicable visual laws, ordinances, regulations, and standards relating to visual resources identified in the pertinent portion of **Appendix A** of this Decision.

CONCLUSION OF LAW

With implementation of the following conditions of certification the PPEC's visual impacts will be below the level of significance.

CONDITIONS OF CERTIFICATION

Surface Treatment of Project Structures and Buildings

VIS-1 The project owner shall treat the surfaces of all project structures and buildings visible to the public such that a) their colors minimize visual intrusion by blending with the landscape or by providing architectural interest; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. Surface color treatment shall include painting of turbine generators, stacks, dry and wet cooling structures, tanks and other features in an earth tone color and value to match the surrounding hillsides and complement the existing OMGP. The transmission line poles and 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; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, finish and number; or according to a universal designation system;

c.) one set of 11” x 17” color photo simulations at life size scale of the treatment proposed for use on project structures, including structures treated during manufacture, from a representative point of view (Key Observation Point 4-location shown on Visual Resources Figure 5 of the Staff Assessment) or color-rendered elevation drawings on 18” x 24” minimum sheet size;

d.) color samples on color card or painted steel;

e.) a specific schedule for completion of the treatment; and

f.) a procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.

Verification: At least 90 days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to the County of San Diego or responsible jurisdiction for review and comment. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.

Prior to the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and are ready for inspection and shall submit one set of electronic color photographs from the same key observation point identified in (c) above.

The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a) the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

Landscape Improvements, Permanent Fencing and Screening

VIS-2 The project owner shall provide landscaping that reduces the visibility of the power plant structures and is in accordance with local policies. Trees and other vegetation shall be placed along the facility boundaries, in conformance with the Conceptual Landscape Plan, Figure 6 in the Staff Assessment. In addition, the project owner shall provide screening plantings along the property border with APN 648-040-46, the construction laydown area, upon completion of the

construction phase. The objective shall be to create landscape screening of sufficient density and height to screen the power plant structures to the greatest feasible extent within the shortest feasible time from the adjacent property. Landscape plantings and other elements must meet the requirements of the Otay Mesa Specific Plan.

The landscape plan shall also include the permanent perimeter fencing. The Conceptual Landscape Plan (Figure 6 in the Staff Assessment) includes six-foot chain link fencing. All chain link fencing shall include neutral-colored privacy slats to screen views of the interior. Concertina razor wire or similar security obstacles shall only be installed on the interiors of the fencing and shall not be visible from the exterior.

The project owner shall submit to the CPM for review and approval, and simultaneously to the County of San Diego for review and comment, a Landscape Documentation Package whose proper implementation will satisfy these requirements and the requirements of the Water Conservation in Landscaping Ordinance. The plan shall include:

a.) detailed Landscape Design Plan, at a reasonable scale (1”=40’ maximum). 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. The Landscape Design Plan shall include a Planting Plan with Plant List (prepared by a qualified landscape architect 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; specifications for groundcover, top-dressing of planting areas and weed abatement measures. Existing trees (if any) shall be noted on the Landscape Plan. The Landscape Design Plan shall specify all materials to be used for interior roads, walks, parking areas and hardscape materials (i.e. gravel) to be placed in areas that are not paved or planted, and exterior fencing or walls.

b.) an Irrigation Plan in compliance with the Water Conservation in Landscaping Ordinance. The plan shall include the following: complete Irrigation Design Plan, specifying system components and locations, and shall include the Water Efficient Landscape Worksheet.

c.) maintenance procedures, including any needed temporary irrigation for hydro-seeded areas, and a plan for routine annual or semi-annual debris removal for the life of the project; and

d.) a procedure for monitoring and replacement of unsuccessful plantings for the life of the project.

e.) Construction activities which disturb or remove portions of the OMGP existing landscaping shall require a landscape and irrigation plan package be submitted to specify the repair and or replacement of the existing landscape elements at OMGP (trees, shrubs, groundcover and other structures such as fences and walls) for review by County of San Diego DPLU and the CPM to assure conformance to the current LORS and the OMGP original conditions of certification.

The plan shall not be implemented until the project owner receives final approval from the CPM.

Verification: The landscaping plan shall be submitted to the CPM for review and approval and simultaneously to the County of San Diego for review and comment at least 90 days prior to installation. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM and simultaneously to the County of San Diego a revised plan for review and approval by the CPM. The submittal shall include three printed sets of full-size plans (not to exceed 24” x 36”), three sets of 11” x 17” reductions and a digital copy in PDF format.

Planting must occur during the first optimal planting season following site mobilization. The project owner shall simultaneously notify the CPM and the County of San Diego within seven days after completing installation of the landscape plan that the site is ready for inspection. A report to the CPM, equivalent to the County of San Diego’s Certificate of Completion Package in Title 8, Division 6, Chapter 7, shall be submitted in conjunction with the 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-3 To the extent feasible, consistent with safety and security considerations, the project owner shall design and install all permanent exterior lighting such that:

a.) lamps and reflectors are not visible from beyond the project site, including any off-site security buffer areas;

b.) lighting does not cause excessive reflected glare;

c.) direct lighting does not illuminate the nighttime sky;

d.) illumination of the project and its immediate vicinity is minimized; and

e.) the plan complies with local policies and ordinances.

The project owner shall submit to the CPM for review and approval and simultaneously to County of San Diego for review and comment 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 fixture hoods/shielding, with light directed downward or toward the area to be illuminated;

d.) Light fixtures that are visible from beyond the project boundary shall have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for security;

e.) All lighting shall be of minimum necessary brightness consistent with operational safety and security;

f.) 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 and

g.) Statement of conformance with all federal, state and local statutes and regulations related to dark skies or glare, including, but not limited to, the San Diego County Light Pollution Code.

Verification: At least 90 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to discuss the documentation required in the lighting mitigation plan. At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to the San Diego County for review and comment a lighting mitigation plan. If the CPM determines that the plan requires revision, the project owner shall provide a revised plan for review and approval by the CPM. The submittal shall include three printed sets of full-size plans (not to exceed 24” x 36”), three sets of 11” x 17” reductions and a digital copy in PDF format. The project owner shall not order any exterior lighting until receiving CPM approval of the lighting mitigation plan.

Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the

modifications and notify the CPM that the modifications have been completed and are ready for inspection.

Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General Conditions including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 48 hours after completing implementation of the proposal. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days.

Construction Fencing

VIS-4 The project owner shall install temporary construction fencing on the project site and the construction laydown area in such a way as to screen views of the construction activity and equipment. The construction fencing shall meet the following requirements: chain link fence shall have a neutral-colored privacy screening material applied to the fence to reduce or eliminate views into the project site.

Verification: At least 60 days prior to site mobilization, the project owner shall submit to the CPM a Construction Fencing Plan. The plan shall include the following: written description and photographic images of the proposed construction fencing and privacy screening material.

Construction Lighting

VIS-5 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 or hooded, to the extent feasible given safety and security concerns, and directed downward 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); and

c.) wherever feasible, safe and not needed for security, lighting shall be kept off when not in use.

Verification: Within seven days after the first use of construction lighting, the project owner shall notify 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.

Appendix A: *Laws, Ordinances, Regulations, and Standards*

Appendix B: *Exhibit List*

Appendix C: *Proof of Service List*

APPENDICES

AIR QUALITY

Applicable Law	Description
Federal	**U.S. Environmental Protection Agency**
Federal Clean Air Act Amendments of 1990, Title 40 Code of Federal Regulations (CFR) Part 50	National Ambient Air Quality Standards (NAAQS).
Clean Air Act (CAA) § 160-169A and implementing regulations, Title 42 United State Code (USC) §7470-7491 40 CFR 51 & 52 (Prevention of Significant Deterioration Program)	Requires prevention of significant deterioration (PSD) review and facility permitting for construction of new or modified major stationary sources of pollutants that occur at ambient concentrations that attain the NAAQS. A PSD permit would be required for the NO_X, PM10 and PM2.5 emissions from the proposed PPEC project because it would be a new major stationary source of GHG (exceeding 100,000 tons per year). The PSD program is within the jurisdiction of the U.S. EPA. SDAPCD is in the process of obtaining local authority to implement PSD requirements under Rule 20.3.1 (in process).
CAA §171-193, 42 USC §7501 et seq. (New Source Review)	Requires new source review (NSR) facility permitting for construction or modification of specified stationary sources. NSR applies to sources of designated nonattainment pollutants. This requirement is addressed through SDAPCD Rule 20.3.
40 CFR 60, Subpart KKKK	Standards of Performance for Stationary Combustion Turbines, New Source Performance Standard (NSPS). Requires the proposed simple-cycle system to achieve 2.5 parts per million (ppm) NO_X and 1.9 lbs/hr SO_2.
CAA §401 (Title IV), 42 USC §7651(Acid Rain Program)	Requires reductions in NO_X and SO_2 emissions, implemented through the Title V program. This program is within the jurisdiction of the SDAPCD with U.S. EPA oversight [SDAPCD Rule 1412].
CAA §501 (Title V), 42 USC §7661(Federal Operating Permits Program)	Establishes comprehensive federal operating permit program for major stationary sources that identify all applicable federal performance, operating, monitoring, recordkeeping, and reporting requirements. Application required within one year following start of operation. This program is within the jurisdiction of the SDAPCD with U.S. EPA oversight [SDAPCD Rule 10 and Rule 20.5].
State	**California Air Resources Board and Energy Commission**
California Health & Safety Code (H&SC) §41700 (Nuisance Regulation)	Prohibits discharge of such quantities of air contaminants that cause injury, detriment, nuisance, or annoyance.
H&SC §40910-40930	Permitting of source needs to be consistent with approved clean air plan. The SDAPCD New Source Review program is consistent with regional air quality management plans.
California Public Resources Code §25523(a); 20 CCR §1752, 2300-2309 (CEC & CARB Memorandum of Understanding)	Requires that Energy Commission decision on AFC include requirements to assure protection of environmental quality.
California Code of Regulations for Off-Road Diesel-Fueled Fleets (13 CCR §2449, et seq.)	General Requirements for In-Use Off-Road Diesel-Fueled Fleets – Requires owners and operators of in-use (existing) off-road diesel equipment and vehicles to begin reporting fleet characteristics to CARB in 2009 and meet fleet emissions targets for diesel particulate matter and NO_X in 2010.

Applicable Law	Description
Airborne Toxic Control Measure for Idling (ATCM, 13 CCR §2485)	ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling – Generally prohibits idling longer than five minutes for diesel-fueled commercial motor vehicles.
Local	**San Diego Air Pollution Control District**
Regulation II – Permits	This regulation sets forth the regulatory framework of the application for and issuance of construction and operation permits for new, altered and existing equipment. Included in these requirements are the federally delegated requirements for New Source Review, Title V Permits, the Acid Rain Program, and PSD (under development). Regulation II Rule 20.1 and 20.3 establishes the pre-construction review requirements for new, modified or relocated facilities, in conformance with the federal New Source Review regulation to ensure that these facilities do not interfere with progress in attainment of the national ambient air quality standards and that future economic growth in San Diego County is not unnecessarily restricted. This regulation establishes Best Available Control Technology (BACT) and emission offset requirements. Rule 20.3.1 (under development) implements federal PSD requirements.
Regulation IV – Prohibitions	This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, and fuel contaminants. This regulation also specifies additional performance standards for stationary gas turbines and other internal combustion engines.
Regulation X – National Standards of Performance (NSPS) for New Stationary Sources	Regulation X incorporates provisions of 40 CFR Part 60, Chapter I, and is applicable to all new, modified, or reconstructed sources of air pollution. Sections of this federal regulation apply to stationary gas turbines (40 CFR Part 60 Subpart KKKK) as described above in the Federal LORS description. Subpart KKKK established limits of NO_X and SO_2 emissions from the facility as well as monitoring and test method requirements. SDAPCD is delegated enforcement authority for these NSPS through their authority to issue and enforce the Title V permit for this proposed Title V source.
Regulation XII – Toxic Air Contaminants – New Source Review	Regulation XII, Rule 1200, establishes the pre - construction review requirements for new, modified or relocated sources of toxic air contaminants, including requirements for Toxics Best Available Control Technology (T-BACT) if the incremental project health risk exceeds rule triggers.
Regulation XIV – Title V Operating Permits	Regulation XIV, Rule 1401 defines the permit application and issuance as well as compliance requirements associated with the Title V federal permit program. Any new source which qualifies as a Title V facility must obtain a Title V permit within twelve months of starting operation. Regulation XIV, Rule 1412 defines the requirements for the Acid Rain Program, including the requirement for a subject facility to obtain emission allowances for SO_X emissions as well as monitoring SO_X, NO_X, and carbon dioxide (CO_2) emissions from the facility.

GREENHOUSE GAS

Applicable Law	Description
Federal	
40 Code of Federal Regulations (CFR) Parts 51, 52, 70 and 71	This rule "tailors" GHG emissions to PSD and Title V permitting applicability criteria.
40 Code of Federal Regulations (CFR) Parts 51 and 52	A new stationary source that emits more than 100,000 TPY of greenhouse gases (GHGs) is also considered to be a major stationary source subject to Prevention of Significant Determination (PSD) requirements.
40 Code of Federal Regulations (CFR) Part 98	This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 metric tons of CO_2 equivalent emissions per year.
State	
California Global Warming Solutions Act of 2006, AB 32 (Stats. 2006; Chapter 488; Health and Safety Code sections 38500 et seq.)	This act requires the California Air Resource Board (ARB) to enact standards that will reduce GHG emission to 1990 levels by 2020. Electricity production facilities will be regulated by the ARB. A cap-and-trade program is being developed to achieve approximately 20 percent of the GHG reductions expected by 2020.
California Code of Regulations, Title 17, Subchapter 10, Article 2, sections 95100 et. seq.	These ARB regulations implement mandatory GHG emissions reporting as part of the California Global Warming Solutions Act of 2006 (Stats. 2006; Chapter 488; Health and Safety Code sections 38500 et seq.)
Title 20, California Code of Regulations, section 2900 et seq.; CPUC Decision D0701039 in proceeding R0604009	The regulations prohibit utilities from entering into long-term contracts with any base load facility that does not meet a greenhouse gas emission standard of 0.5 metric tonnes carbon dioxide per megawatt-hour (0.5 $MTCO_2$/MWh) or 1,100 pounds carbon dioxide per megawatt-hour (1,100 lbs CO_2/MWh).
Local	
Rule 20.3.1	This rule, currently under development by San Diego APCD, would implement at the local level Prevention of Significant Deterioration requirements. It was adopted April 4, 2012 but is not yet in effect because it has not yet been approved by ARB or the US EPA. Once these additional steps are completed, PSD review will be conducted at the local level and results will be in the Determination of Compliance.

BIOLOGICAL RESOURCES

Applicable Law	Description
Federal	
Clean Water Act of 1977 (Title 33, United States Code, sections 1251–1376, and Code of Federal Regulations, part 30, Section 330.5(a)(26))	Requires the permitting and monitoring of all discharges to surface water bodies. Section 404 requires a permit from the USACE for a discharge of 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 that 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.
Federal Endangered Species Act (Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq.)	Designates and provides for the protection of threatened and endangered plant and animal species and their critical habitat. The administering agencies are the USFWS and National Marine Fisheries Service.
Eagle Act (Title 50, Code of Federal Regulations, sections 22.26)	Authorizes limited take of bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) where the taking is associated with, but not the purpose of the activity, and cannot practicably be avoided. The administering agency is the USFWS.
Eagle Act (Title 50, Code of Federal Regulations, section 22.27)	Provides for the intentional take of eagle nests where necessary to alleviate a safety hazard to people or eagles; necessary to ensure public health and safety; the nest prevents the use of a human – engineered structure, or; the activity, or mitigation for the activity, will provide a net benefit to eagles. Only inactive nests would be allowed to be taken except in the case of safety emergencies. The administering agency is the USFWS.
Bald and Golden Eagle Protection Act (Title 16, United States Code section 668)	Provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the take, possession, and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. The administering agency is the USFWS.
Migratory Bird Treaty (Title 16, United States Code, sections 703 through 711)	Prohibits the take or possession of any migratory nongame bird (or any part of such migratory nongame bird), including nests with viable eggs. The administering agency is the USFWS.
Migratory Bird Treaty Reform Act (70 F.R. 12710-12716 (March 15, 2005))	Includes a significant change to the Migratory Bird Treaty Act (MBTA). The law now excludes those species considered to be not native to the United States. The Secretary of the Interior published in the Federal Register the final list of bird species to which the MBTA does not apply. The administering agency is the USFWS.
Fish and Wildlife Coordination Act (Title 16, United States Code, section 661 et seq.)	Requires federal agencies to coordinate federal actions with the USFWS to conserve fish and wildlife resources.
State	
California Endangered Species Act of 1984 (Fish and Game Code, sections 2050 through 2098)	Protects California's rare, threatened, and endangered species. The administering agency is CDFG.
California Code of Regulations (Title 14, sections 670.2 and 670.5)	Lists the plants and animals that are classified as rare, threatened, or endangered in California. The administering agency is CDFG.

Applicable Law	Description
State	
California Code of Regulations (Title 20, sections 1702(q) and (v))	Protects “areas of critical concern” and “species of special concern” identified by local, state, or federal resource agencies within the project area, including the California Native Plant Society (CNPS). The administering state agency is CDFG.
Natural Communities Conservation Planning Act (NCCPA) of 2002 (Fish and Game Code, sections 2800 through 2835)	Established the NCCPA program, which is a cooperative effort between public and private partners that uses a broad-based ecosystem approach to protecting multiple habitats and species. The administering agency is CDFG.
Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515)	Designates certain species as fully protected and prohibits take of such species. The administering agency is CDFG.
Native Plant Protection Act (Fish and Game Code, section 1900 et seq.)	Designates rare, threatened, and endangered plants in California and prohibits the taking of listed plants. The administering agency is CDFG.
Nest or Eggs (Fish and Game Code, section 3503)	Prohibits take, possession, or needless destruction of the nest or eggs of any bird. The administering agency is CDFG.
Birds of Prey (Fish and Game Code, section 3503.5)	Specifically protects California’s birds of prey in the orders Falconiformes and Strigiformes by making it unlawful to take, possess, or destroy any such birds of prey or to take, possess, or destroy the nest or eggs of any such bird. The administering agency is CDFG.
Migratory Birds (Fish and Game Code, section 3513)	Prohibits take or possession of any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird. The administering agency is CDFG.
Significant Natural Areas (Fish and Game Code section 1930 et seq.)	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat. The administering agency is CDFG.
Nongame mammals (Fish and Game Code section 4150)	Makes it unlawful to take or possess any non-game mammal or parts thereof except as provided in the Fish and Game Code or in accordance with regulations adopted by the commission.
Public Resources Code, sections 25500 and 25527	Prohibits siting of facilities in certain areas of critical concern for biological resource, such as ecological preserves, refuges, etc. The administering agency is the Energy Commission in coordination with CDFG.
Streambed Alteration Agreement (Fish and Game Code sections 1600 and following)	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 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. The administering agency is CDFG.
Oak Woodlands Conservation Act (Fish and Game Code Section (1360-1372)	Establishes a fund for the conservation of oak woodlands, supports community growth and outreach, purchase and conservation of oak woodlands, and directs future planning and conservation of oak woodlands. The administering agency is California Wildlife Conservation Board.
Local	
San Diego County Ordinance section 86.501-86.509; 8845, 9246, 9632, and 10039	Provides guidelines for mitigation implementation for projects within the San Diego County Subregional Plan.

Applicable Law	Description
Local	
San Diego Multiple Species Conservation Program (MSCP)	Addresses the needs of multiple species and the preservation of natural vegetation communities in San Diego County. The MSCP Subregional Plan was adopted by the city of San Diego and San Diego County in 1997. The Subarea Plan is a policy document through which the MSCP Subregional Plan is implemented within the county's jurisdiction; it provides a blueprint for habitat preservation and forms the basis for federal and state incidental take permits for 86 plant and animal species within the County.
Otay Subregional Plan – Conservation Element	Intended to promote orderly development, protect environmental and manmade resources, and implement the County of San Diego's objectives for growth management and the structure of government for the Otay Subregion. The Subregional Plan supplements all existing elements of the San Diego County General Plan. The Conservation Element outlines goals to protect environmental resources and objectives to protect Resource Conservation Areas and develop adequate preservation methods.

CULTURAL RESOURCES

Applicable Law	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 Native American Heritage Commission-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.
California Health and Safety Code, section 7050.5	This code makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the county coroner.
Local: San Diego County	
Land Use Element of the San Diego County General Plan	http://www.sdcounty.ca.gov/dplu/docs/existgp/landuse.pdf Goal 3.1 establishes the need to "protect lands needed for preservation of natural and cultural resources; managed production of resources; and recreation, educational, and scientific activities" (County of San Diego 2003, p. II-3).
Conservation Element (Part X) of the San Diego County General Plan	http://www.sdcounty.ca.gov/dplu/docs/existgp/conservation.pdf Provides policies for the protection and treatment of cultural sites (County of San Diego 2002, pp. X-88 – X-94).
Resource Protection Ordinance (RPO)	http://www.sdcounty.ca.gov/dplu/docs/res_prot_ord.pdf Ordinance 9842, County Administrative Code 86.601 – 86.608 An ordinance codifying and amending the resource protection ordinance relating to wetlands, prehistoric, and historic sites, agricultural operations, enforcement, and other matters (County of San Diego 2007, p. 1 – 19).
San Diego County Historic Site Board, 2000	http://www.sdcounty.ca.gov/dplu/4Historic/main.html Ordinance 9139, County Administrative Code 396.5 Establishes the County Historic Site Board and its various duties (County of San Diego 2000).

POWER PLANT EFFICIENCY

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

FACILITY DESIGN

Applicable LORS	Description
Federal	
	Title 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health standards
State	
	2010 (or the latest edition in effect) California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations)
Local	
	San Diego County regulations and ordinances
General	
	American National Standards Institute (ANSI) American Society of Mechanical Engineers (ASME) American Welding Society (AWS) American Society for Testing and Materials (ASTM)

GEOLOGY AND PALEONTOLOGY

Applicable Law	Description
Federal	The proposed PPEC is not located on federal land. There are no federal LORS for geologic hazards and resources for this site.
State	
California Building Code (2010)	The California Building Code (CBC 2010) includes a series of standards that are used in project investigation, design, and construction (including seismicity, grading and erosion control). The CBC has adopted provisions in the International Building Code (IBC, 2009).
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 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.
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	
County of San Diego Grading Ordinance, section 87.430	May require paleontological monitor on grading sites located on county land. Discusses suspension of operations, notification of county officials, and recovery of paleontological resources, and resumption of operations.
County of San Diego	The county requires compliance with the seismic design criteria in the CBC (2010) and mitigation of geologic hazards associated with earthquakes according to the Seismic Hazards Mapping Act. Identification of, and setback from, faults that present potential surface rupture hazards are required, as set forth in the Alquist-Priolo Earthquake Zoning Act. The “Conservation Element” of the General Plan and Guidelines for Determining Significance address monitoring and collection of discovered resources on county lands.
San Diego County Draft General Plan, Conservation and Open Spaces elements, Goal COS-9 and Policy COS-0.1	Promotes conservation of paleontological resources within the county for educational and scientific purposes and requires salvage of paleontological resources in county-permitted projects.
County of San Diego General Plan, Part X, Conservation Element	Provides for protection of natural resources on County lands, including Unique Geological Features which includes fossiliferous formations.

HAZARDOUS MATERIALS MANAGEMENT

Applicable Law	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.
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 have undergone background security checks.
The Clean Water Act (CWA) (40 CFR 112)	Aims to prevent the discharge or threat of discharge of oil into navigable waters or adjoining shorelines. Requires a written spill prevention, control, and countermeasures (SPCC) plan to be prepared for facilities that store oil that could leak into navigable waters.
Title 49, Code of Federal Regulations, Part 190	Outlines gas pipeline safety program procedures.
Title 49, Code of Federal Regulations, Part 191	Addresses transportation of natural and other gas by pipeline: annual reports, incident reports, and safety-related condition reports. Requires operators of pipeline systems to notify the DOT of any reportable incident by telephone and then submit a written report within 30 days.
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 Law	Description
State	
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.
Hazardous Substance Information and Training Act, 8 CCR section 339; section 3200 et seq., 5139 et seq., and 5160 et seq.	Requires listing and implementation of specified control measures for management of hazardous substances.
California HSC sections 25270 through 25270.13	Requires the preparation of a Spill Prevention, Control, and Countermeasures (SPCC) Plan if 10,000 gallons or more of petroleum is stored on-site. The above regulations would also require the immediate reporting of a spill or release of 42 gallons or more to the California Office of Emergency Services and the Certified Unified Program Authority (CUPA).
Process Safety Management: Title 8 CCR section 5189	Requires facility owners to develop and implement effective process safety management plans when toxic, reactive, flammable, or explosive chemicals are maintained on site in quantities that exceed regulatory thresholds
Local	
County of San Diego Department of Environmental Health (DEH), Hazardous Materials Division (HMD).	Requires new/modified businesses to complete a Hazardous Materials Business Plan and Chemical Inventory forms when handling hazardous materials in excess of threshold quantities. County of San Diego DEH, HMD is the Certified Unified Program Agency (CUPA)

LAND USE

Applicable LORS	Description
Federal	
	None
State	
	None
Local	
County of San Diego General Plan	The County of San Diego General Plan, adopted August 3, 2011, consists of six elements: Land Use Element, Mobility Element, Conservation and Open Space Element, Housing Element, Safety Element and Noise Element. The General Plan also includes community plans and specific plans. The proposed project site is located within the East Otay Mesa Business Park Specific Plan which implements the policies and regulations of the County of San Diego General Plan and the Otay Subregional Plan.
Otay Subregional Plan	The Otay Subregional Plan, adopted August 3, 2011, is intended to promote orderly development, protect environmental and manmade resources, and implement the County of San Diego's objectives for growth management and the structure of government for the Otay Subregion.
East Otay Mesa Business Park Specific Plan	The East Otay Mesa Business Park Specific Plan (as amended by SPA 10-001, September 15, 2010) sets forth a comprehensive vision for the Specific Planning Area in the unincorporated areas of the County of San Diego. The Specific Plan is a regulatory document that establishes standards for development, environmental conservation, and public facilities and implements the objectives, goals and policies of the County of San Diego General Plan and the Otay Mesa Subregional Plan.
Heavy Industrial Designation	The Heavy Industrial land use designation within the East Otay Mesa Business Park Specific Plan, allows for most uses in the Technology Business Park designation and the Light Industrial designation. In addition, recycling plants, salvage yards and outdoor storage are also permitted.
County of San Diego Zoning Ordinance	The Zoning Ordinance establishes zones in the unincorporated areas of the County of San Diego regulating the use of land, height of buildings, area of lots, building site and providing for maps showing the zoning classification boundaries.
Specific Planning Zoning (S88)	The Specific Planning Area Use Regulations are intended to accommodate Specific Plan areas shown on the County of San Diego General Plan or on those lands for which a Specific Plan has been adopted by the Board of Supervisors. The application of the S88 Use Regulations can create an unlimited variety of land uses in conformance with the General Plan.
Major Impact Services and Utilities Use, section 1350	The Major Impact Services and Utilities use type refers to public or private services and utilities which have substantial impact. Such uses may be conditionally permitted in any zone when the public interest supersedes the usual limitations placed on land use and transcends the usual restraints of zoning for reasons of necessary location and community wide interest. Major Impact Services and Utilities uses are permitted in the Heavy Industrial land use designation of the East Otay Mesa Business Park Specific Plan upon the issuance of a Major Use Permit from the County of San Diego.

NOISE

Applicable Law	Description
Federal	
Occupational Safety & Health Act (OSHA): 29 U.S.C. § 651 et seq U.S. Environmental Protection Agency (USEPA)	Protects workers from the effects of occupational noise exposure. Assists state and local government entities in development of state and local LORS for noise.
State	
California Occupational Safety & Health Act (Cal-OSHA): 29 U.S.C. § 651 et seq., Cal. Code Regs., tit. 8, §§ 5095-5099	Protects workers from the effects of occupational noise exposure.
Local	
County of San Diego General Plan, Noise Element, Chapter 8 County of San Diego Regulatory Ordinances, Noise Ordinance, Chapter 4	Establishes operational noise level limits for noise-sensitive receptors. Limits construction noise level to 75 dBA at the property line of an occupied property and requires noisy[1] construction activities to occur between 7 a.m. and 7 p.m. Monday through Saturday. In an M-58 Use Classification operational noise is limited to 75 dBA measured at the property line.

[1] Noise that draws legitimate complaint (for definition of “legitimate complaint”, see footnote 5).

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 Law	Description
Federal	
Clean Air Act section 112 (Title 42, U.S. Code section 7412)	The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires new sources that emit more than 10 tons per year of any specified Hazardous Air Pollutant (HAP) or more than 25 tons per year of any combination of HAPs to apply Maximum Achievable Control Technology.
State	
California Health and Safety Code section 25249.5 et seq. (Proposition 65)	These sections establish thresholds of exposure to carcinogenic substances above which Proposition 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 re-circulating 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	
San Diego County Air Pollution Control District (SDCAPCD) Rule 51	This rule states that no source shall cause injury, detriment, nuisance or annoyance to the public, which could endanger their comfort, repose, health and safety, or property.
SDCAPCD Rule 1200	This rule requires the use of Best Available Control Technology for Toxics (T-BACT) for major sources of emissions.
SDCAPCD Rule 1210	This rule implements the California Airborne Toxic Control Measures (ATCM).

SOCIOECONOMICS

Applicable Law	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.
Local	
San Diego County General Plan (2011), Chapter 7 Safety Element, Policy S-6.3 Funding Fire Protection Services.	Requires development to contribute its fair share towards funding the provision of appropriate fire and emergency medical services as determined necessary to adequately serve the project.
East Otay Mesa Business Park Specific Plan, Public Facilities Element, Policy F-7	Property owners in East Otay Mesa are required to contribute their fair share toward financing a sheriff substation. In 2009, property owners in East Otay Mesa formed a Community Facilities District (Number 09-1) for the purposes of constructing interim and permanent sheriff stations in East Otay Mesa.
San Diego County Code of Regulatory Ordinances, section 810.311	Fire Mitigation Fee Ordinance. Prior to the issuance of any building permit or other permit for development the applicant shall pay to the Director the fees prescribed by fire agency resolution, or shall present written evidence that the provisions of this chapter have otherwise been satisfied with respect to the development for which permits are sought.

SOIL & WATER

Applicable Law	Description
Federal	
Clean Water Act (33 U.S.C. section 1257 et seq.)	The Clean Water Act (CWA) (33 USC § 1257 et seq.) requires states to set standards to protect water quality, which includes regulation of storm water and wastewater discharges during construction and operation of a facility. California established its regulations to comply with the CWA under the Porter-Cologne Water Quality Control Act.
State	
California Constitution, Article X, section 2	The California Constitution 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.
Senate Bill 610 (Water Code sections 10910-10915)	Signed into law in 2001 amending Sections 10910-10915 of the California Water Code. Requires public water systems to prepare water supply assessments (WSA) for certain defined development projects subject to the California Environmental Quality Act. Lead agencies determine, based on the WSA, whether protected water supplies will be sufficient to meet project demands along with the region's reasonably foreseeable cumulative demand under average-normal-year, single-dry-year, and multiple-dry-year conditions.
The Porter-Cologne Water Quality Control Act of 1967, California Water Code section 13000 et seq.	Requires the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) to adopt water quality criteria to protect state waters. Those regulations require that the RWQCBs issue waste discharge requirements (WDRs) specifying conditions for protection of water quality as applicable. Section 13000 also states that the state must be prepared to exercise its full power and jurisdiction to protect the quality of the waters of the state from degradation. Although Water Code 13000 et seq. is applicable in its entirety, the following specific sections are included as examples of applicable sections.
California Water Code section 13240, 13241, 13242, 13243, & Water Quality Control Plan for the San Diego Basin (Basin Plan)	The Basin Plan establishes water quality objectives that protect the beneficial uses of surface water and groundwater in the Region. The Basin Plan describes implementation measures and other controls designed to ensure compliance with statewide plans and policies and provides comprehensive water quality planning.
California Water Code section 13260	This section requires filing, with the appropriate RWQCB, a report of waste discharge that could affect the water quality of the state unless the requirement is waived pursuant to Water Code section 13269.
California Water Code section 13523	If a RWQCB determines that it is necessary to protect public health, safety, or welfare, the RWQCB may prescribe water reclamation requirements for recycled water after consultation with the California Department of Public Health (CDPH).
California Water Code section 13550	Requires the use of recycled water for industrial purposes when available and when the quality and quantity of the recycled water are suitable for the use, the cost is reasonable, the use is not detrimental to public health, and the use will not impact downstream users or biological resources.

Applicable Law	Description
Water Recycling Act of 1991 (Water Code 13575 et. seq.)	The Water Recycling Act states that retail water suppliers, recycled water producers, and wholesalers should promote the substitution of recycled water for potable and imported water in order to maximize the appropriate cost-effective use of recycled water in California.
Water Conservation Act of 2009 (Water Code 10608 et. seq)	This 2009 legislative package requires a statewide 20 percent reduction in urban per capita water use by 2020. It requires that urban water retail suppliers determine baseline water use and set reduction targets according to specified requirements, and requires agricultural water suppliers prepare plans and implement efficient water management practices.
California Code of Regulations, Title 17	Requires prevention measures for backflow prevention and cross connections of potable and non-potable water lines.
California Code of Regulations, Title 22	Requires CDPH to review and approve new or modified recycled water projects to ensure they meet all recycled water criteria for the protection of public health.
California Code of Regulations, Title 20, Division 2, Chapter 3, Article 1	The regulations under Quarterly Fuel and Energy Reports (QFER) require power plant owners to periodically submit specific data to the California Energy Commission, including water supply and water discharge information.
SWRCB Order 2009-0009-DWQ	The SWRCB regulates storm water discharges associated with construction affecting areas greater than or equal to 1 acre to protect state waters. Under Order 2009-0009-DWQ, the SWRCB has issued a National Pollutant Discharge Elimination System (NPDES) General Permit for storm water discharges associated with construction activity. Projects can qualify under this permit if specific criteria are met and an acceptable Storm Water Pollution Prevention Plan (SWPPP) is prepared and implemented after notifying the SWRCB with a Notice of Intent.
SWRCB Order 97-03-DWQ	The SWRCB regulates storm water discharges associated with several types of facilities, including steam electric generating facilities. Under Order 97-03-DWQ, the SWRCB has issued a NPDES General Permit for storm water discharges associated with industrial activity. Projects can qualify under this permit if specific criteria are met and an acceptable SWPPP is prepared and implemented after notifying the SWRCB with a Notice of Intent.
Local	
San Diego County Title 8, Division 7 Ordinance 9547	Excavation And Grading, Clearing, And Watercourses Ordinance: Combines the regulations affecting the grading and clearing of land, and activities affecting watercourses, within the unincorporated area of San Diego County. It is intended to improve environmental protection, streamline the required procedures and permits for grading and clearing, and to comprehensively clarify the duties and responsibilities of county officials administering the permit and enforcement processes. www.sdcounty.ca.gov/cob/ordinances/ord9547.doc
San Diego County Ordinance No. 10140 (N.S.)	Specifies development fees, agreements, and requirements for the San Diego County Sanitation District, including the East Otay Mesa Sewer Service Area. http://www.sdcounty.ca.gov/cob/ordinances/ord10140.doc

Applicable Law	Description
RWQCB San Diego Region Order No. R9-2007-01	San Diego Municipal Storm Water Permit: Requires implementation of a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force." www.swrcb.ca.gov/rwqcb9/water_issues/programs/stormwater/sd_stormwater.shtml The County has adopted the Standard Urban Stormwater Mitigation Plan (SUSMP) for Land Development and Public Improvement Projects. The SUSMP only addresses land development and capital improvement projects. It is focused on project design requirements and related post-construction requirements, not on the construction process itself. www.sdcounty.ca.gov/dpw/watersheds/susmp/susmp.html
San Diego County Code Sections 67.801 et seq. Ordinances 10096	County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance (WPO): Seeks to protect water resources and to improve water quality. Contains discharge prohibitions and requirements that vary depending on type of land activity and location in the County. www.sdcounty.ca.gov/dpw/watersheds/watershedpdf/watershed_ordinance_signed_dec2010.pdf The Stormwater Standards Manual (SSM) is an appendix of the WPO and sets out in more detail, by project category, what dischargers must do to comply with the WPO and to receive permits for projects and activities that are subject to the WPO. www.sdcounty.ca.gov/dpw/watersheds/watershedpdf/watershed-std-manual.pdf
City of San Diego, Municipal Code 64.0500-64.0520	Any discharger of industrial wastes into the Metropolitan sewerage system is required to obtain a permit from the Industrial Wastewater Control Program to meet federal law (Code of Federal Regulations, Title 40, Effluent Guidelines and Standards). Also requires a Trucker's Discharge Permit for liquid waste transport trucks to discharge into the city's public sewers or facilities. www.sandiego.gov/mwwd/environment/iwcp/docs.shtml
State Policies and Guidance	
Integrated Energy Policy Report (Public Resources Code, Div. 15, section 25300 et seq.)	In the 2003 Integrated Energy Policy Report (IEPR), consistent with SWRCB Policy 75-58 and the Warren-Alquist Act, the Energy Commission clearly outlined the state policy with regards to water use by power plants, stating that the Energy Commission would approve the use of fresh water for cooling purposes only where alternative water supply sources and alternative cooling technologies are shown to be "environmentally undesirable" or "economically unsound."
SWRCB Res. 2009-0011 (Recycled Water Policy)	This policy supports and promotes the use of recycled water as a means to achieve sustainable local water supplies and reduction of greenhouse gases. This policy encourages the beneficial use of recycled water over disposal of recycled water.

Applicable Law	Description
SWRCB Res. 75-58	The principal policy of the SWRCB that addresses siting of energy facilities is the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling, adopted by the Board on June 19, 1976, by Resolution 75-58. This policy states that use of fresh inland waters should only be used for cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound.
SWRCB Res. 77-1	SWRCB Resolution 77-1 encourages and promotes recycled water use for non-potable purposes and use of recycled water to supplement existing surface and groundwater supplies.

TRAFFIC AND TRANSPORTATION

Applicable Law	Description
Federal	
Title 49, Code of Federal Regulations, Parts 171-177	Requires proper handling and storage of hazardous materials during transportation.
Title 14, Code of Federal Regulations, section 77.13 (2)(i)	This regulation requires the project owner to notify the Federal Aviation Administration (FAA) of construction structures with a height greater than 200 feet from grade or greater than an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of an airport with at least one runway more than 3,200 feet in length.
State	
California Vehicle Code, Sections 13369, 15275, 15278	Requires licensing of drivers and the classification of license for the operation of particular types of vehicles. A commercial driver's license is required to operate commercial vehicles. An endorsement issued by the Department of Motor Vehicles (DMV) is required to drive any commercial vehicle identified in Section 15278.
California Vehicle Code, sections 31303-31309	Requires transportation of hazardous materials to be on the state or interstate that offers the shortest overall transit time possible.
California Vehicle Code, sections 31600-31620	Regulates the transportation of explosive materials.
California Vehicle Code, sections 32100-32109	Requires shippers of inhalation hazards in bulk packaging to comply with rigorous equipment standards, inspection requirements, and route restrictions.
California Vehicle Code, sections 34000-34100	Establishes special requirements for vehicles having a cargo tank and for hazardous waste transport vehicles and containers, as defined in Section 25167.4 of the Health and Safety Code.
California Vehicle Code, section 35550-35551	Provides weight guidelines and restrictions vehicles traveling on freeways and highways.
California Vehicle Code, section 35780	Requires a single-trip transportation permit to transport oversized or excessive loads over state highways.
California Streets and Highways Code, sections 660, 670, 672, 1450, 1460, 1470, 1480 et seq., 1850-1852	Requires encroachment permits for projects involving excavation in state and county highways and city streets.
California Health and Safety Code, section 25160	Addresses the safe transport of hazardous materials.
California Department of Transportation CA MUTCD Part 6 (Traffic Manual)	Provides traffic control guidance and standards for continuity of function (movement of traffic, pedestrians, bicyclists, transit operations), and access to property/utilities when the normal function of a roadway is suspended.
Local	
County of San Diego, General Plan, Mobility Element, Goal M-2 Policy M-2.1	Requires development projects to provide associated road improvements necessary to achieve a level of service of "D" or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the criteria specifically identified in the accompanying text box (Criteria for Accepting a Road Classification with Level of Service E/F). When development is proposed on roads where a failing level of service has been accepted, feasible mitigation is required in the form of road improvements or a fair share contribution to a road improvement program, consistent with the Mobility Element road network.

Applicable Law	Description
City of San Diego Traffic Impact Study Manual	The level of service standard for freeways, roadways, and intersections in the city of San Diego is LOS D. For undeveloped locations, the goal is to achieve an LOS C.
County of San Diego, General Plan, Mobility Element, Goal M-6, (Policies M-6.1)	Requires designated truck routes and minimization of heavy truck traffic (generally more than 33,000 pounds and mostly used for long-haul purposes) near schools and within villages and residential neighborhoods by designating official truck routes, establishing incompatible weight limits on roads unintended for frequent truck traffic, and carefully locating truck-intensive land uses.
San Diego Transportation Impact Fee (TIF) Program/Ordinance	Enables the County to implement Transportation Impact Fee programs. Requires payment of fees that constitute a proposed project's fair share contribution towards the construction costs of the planned transportation facilities that are affected by the proposed development.
City of San Diego Municipal Code, Chapter 8: Traffic and Vehicles, Article 5: Special Regulations	Requires a permit to transport heavy and oversize loads.
County of San Diego East Otay Mesa Business Park Specific Plan, Appendix 5, A-5.12: Facility Phasing, Financing and Implementation	Requires public facility improvements for East Otay Mesa to be "financed through the equitable participation of all affected property owners and developers." The six categories of public facility improvements include: On-site Roads and Infrastructure, On-site Capital Facilities, On-Site Operation and Maintenance, Off-site Roads, Off-Site Capital Facilities and Public Transit Service.

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	
County of San Diego Noise Ordinances.	Establishes noise standards for the different land uses in the county.
East Otay Mesa Specific Plan (Chapter 3, Land use Regulations).	Establishes exterior noise standards for receptors in East Otay Mesa.
Hazardous and Nuisance Shocks	
State	
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.
CPUC GO 128. Rules for Construction of Underground Electric Supply and Communications Systems.	Applies to the design construction of underground transmission lines. Specifically establishes requirements and minimum standards to be used for the underground installation AC power and communication circuits.
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	
CPUC GO-131-D, ”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.

TRANSMISSION SYSTEM ENGINEERING

Applicable LORS	Description
Federal	
National Electric Safety Code, 1999	Provides electrical, mechanical, civil and structural requirements for overhead electric line construction and operation.
NERC/WECC Planning Standards	The Western Electricity Coordinating Council (WECC) Planning Standards are merged with the North American Electric Reliability Council (NERC) Planning Standards and provide the system performance standards used in assessing the reliability of the interconnected system. These standards require the continuity of service to loads as the first priority and preservation of interconnected operation as a secondary priority. Certain aspects of the NERC/WECC standards are either more stringent or more specific than the NERC standards alone. These standards provide planning for electric systems so as to withstand the more probable forced and maintenance outage system contingencies at projected customer demand and anticipated electricity transfer levels, while continuing to operate reliably within equipment and electric system thermal, voltage and stability limits. These standards include the reliability criteria for system adequacy and security, system modeling data requirements, system protection and control, and system restoration. Analysis of the WECC system is based to a large degree on Section I.A of the standards, "NERC and WECC Planning Standards with Table I and WECC Disturbance-Performance Table" and on Section I.D, "NERC and WECC Standards for Voltage Support and Reactive Power". These standards require that the results of power flow and stability simulations verify defined performance levels. Performance levels are defined by specifying the allowable variations in thermal loading, voltage and frequency, and loss of load that may occur on systems during various disturbances. Performance levels range from no significant adverse effects inside and outside a system area during a minor disturbance (loss of load or a single transmission element out of service) to a level that seeks to prevent system cascading and the subsequent blackout of islanded areas during a major disturbance (such as loss of multiple 500-kV lines along a common right of way, and/or multiple generators). While controlled loss of generation or load or system separation is permitted in certain circumstances, their uncontrolled loss is not permitted (WECC 2006).
Federal	
NERC Reliability Standards for the Bulk Electric Systems of North America	Provide national policies, standards, principles and guidelines to assure the adequacy and security of the electric transmission system. The NERC Reliability Standards provide for system performance levels under normal and contingency conditions. With regard to power flow and stability simulations, while these Reliability Standards are similar to NERC/WECC Standards, certain aspects of the NERC/WECC Standards are either more stringent or more specific than the NERC Standards for Transmission System Contingency Performance. The NERC Reliability Standards apply not only to interconnected system operation but also to individual service areas (NERC 2006).
State	
California Public Utilities Commission (CPUC) General Order 95 (GO-95)	"Rules for Overhead Electric Line Construction," formulates uniform requirements for construction of overhead lines. Compliance with this order ensures adequate service and safety to persons engaged in the construction, maintenance and operation or use of overhead electric lines and to the public in general.
California Public Utilities Commission (CPUC) General Order 128 (GO-128)	"Rules for Construction of Underground Electric Supply and Communications Systems," formulates uniform requirements and minimum standards to be used for underground supply systems to ensure adequate service and safety to persons engaged in the construction, maintenance and operation or use of underground electric lines and to the public in general.

Applicable LORS	Description
State	
California ISO Planning Standards	Provide standards, and guidelines to assure the adequacy, security and reliability in the planning of the California ISO transmission grid facilities. The CAISO 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 CAISO Standards apply to all participating transmission owners interconnecting to the CAISO 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).

VISUAL RESOURCES

Source	Policy and Strategy Description
County of San Diego General Plan Update August 3, 2011 Chapter 2: Land Use Element Goal LU-11, Policy LU-11.2 Compatibility with Community Character.	Require that commercial, office, and industrial development be located, scaled, and designed to be compatible with, respect and enhance the unique character of the community.
County of San Diego General Plan Update August 3, 2011 Chapter 2: Land Use Element Goal LU-11, LU-11.11 Industrial Compatibility with Adjoining Uses.	Require industrial land uses with outdoor activities or storage to provide a buffer from adjacent incompatible land uses (refer to Policy LU-11.9 for examples of buffering).
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space Element GOAL COS-4 Water Management, COS-4.2 Drought-Efficient Landscaping.	Require efficient irrigation systems and in new development encourage the use of native plant species and non-invasive drought tolerant/low water use plants in landscaping.
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space Element GOAL COS-11, Policy COS-11.1, Protection of Scenic Resources	Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space Element GOAL COS-11, Policy-11.2 Scenic Resource Connections	Promote the connection of regionally significant natural features, designated historic landmarks, and points of regional historic, visual, and cultural interest via designated scenic corridors, such as scenic highways and regional trails.
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space Element GOAL COS-11, Policy-11.5 Collaboration with Private and Public Agencies.	Coordinate with the California Public Utilities Commission, power companies, and other public agencies to avoid siting energy generation, transmission facilities, and other public improvements in locations that impact visually sensitive areas, whenever feasible. Require the design of public improvements within visually sensitive areas to blend into the landscape.
County of San Diego General Plan Update August 3, 2011 Chapter 4: Conservation and Open Space Element GOAL COS-11, Policy-11.7 Underground Utilities	Require new development to place utilities underground and encourage “undergrounding” in existing development to maintain viewsheds, reduce hazards associated with hanging lines and utility poles, and to keep pace with current and future technologies.

Source	Policy and Strategy Description
San Diego County Code of Regulatory Ordinances, Section 51.201-209, Light Pollution Code (LPC), adopted by Ordinance 9974, 4-3-09 (Dark Sky Ordinance)	LPC regulates outdoor lighting in Zones A and B, which are based on distance from the Palomar and Mount Laguna Observatories. The project is located in Zone B, which is more than 15 miles from Palomar and Mount Laguna Observatories.
San Diego County Zoning Ordinance Performance Standards Part 6 General Regulations 6322 Outdoor Lighting, 6324 Lighting Permitted in Required Yards, 6326 Lighting Not in Required Yards	Regulates lighting types, hours of operation, light trespass and requires compliance with the Dark Skies Ordinance.
County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements, Dark Skies and Glare, Modified January 15, 2009.	Section 4.0 Provides guidelines for determining significance of impacts from a project's proposed lighting.
County of San Diego, Water Conservation in Landscaping Ordinance, Title 8, Division 6, Chapter 7 of the San Diego County Code.	A landscape documentation package must be submitted with a building permit application for an industrial use where the landscaped area is 1000 square feet or more that meets the code's requirements.
San Diego County, East Otay Mesa Specific Plan, Urban Design Element, Chapter Two-Plan Elements, Master Streetscape Plan	Alta Road is identified as a collector road requiring trees planted every 25 feet and 10 feet from the face of the curb. A 2-1/2- foot planter shall separate the roadway from the sidewalks with shrubs spaced every 3 feet on center.
San Diego County, East Otay Mesa Specific Plan, Regulatory Provisions, Table 3.2-1 Site Planning Standards	• Public Utility Structures: shall be located underground or appropriately screened. • Fences: Within the setback area, a fence, wall, hedge or other barrier shall have a maximum height of 6 feet. Noise walls may be higher. Beyond the setback area, fences are permitted up to the maximum height applicable to the main building. Goal is to create industrial and business parks with a strong identity and cohesive, visually unified character. The specific plan allows any durable material. Chain link is generally excluded but is permitted in interior lot locations in Heavy Industrial or Mixed Industrial where the fence is located outside the setback from the public right-of-way. • Lighting must comply with Light Pollution Code (51.201-209) and have directional shields; wall-packs are permitted with cut-off luminaries.
San Diego County, East Otay Mesa Specific Plan, Regulatory Provisions, Table 3.2-2 Landscaping Standards	Landscape plans for all development in East Otay Mesa shall be submitted and approved pursuant to Sections 86.701-86.729 of the San Diego County Code. Requirements are identified for the following: • General Landscaping Notes • Streetscapes • Building Setback Landscaping • Parking Lot Landscaping • Screening • Minimum Standards (including slopes) • Irrigation

WASTE MANAGEMENT

Applicable Law	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’s “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

Applicable Law	Description
	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, and 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.
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, CCR 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.

Applicable Law	Description
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 CUPAs. San Diego County Department Hazardous Materials Division 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.

Applicable Law	Description
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 four-year cycle, with a summary progress report due to DTSC every fourth 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.
Title 22, CCR, Chapter 32, §67383.1 – 67383.5	This chapter establishes minimum standards for the management of all underground and aboveground tank systems that held hazardous waste or hazardous materials, and are to be disposed, reclaimed or closed in place.
Title 8, CCR §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).
Title 27, CCR , division 2, Subdivision 1, Chapter 3, Subchapter 4,	This regulation establishes that alternative daily cover (ADC) and other waste materials beneficially used at landfills constitutes diversion through recycling, and requires the California Integrated Waste Management Board to adopt regulations governing ADC.
California Porter-Cologne Water Quality Control Act of 1952: California Water Code, Division 7, Title 23, CCR, Division 3, Chapter 9	Requires adequate protection of water quality by appropriate design, sizing and construction of erosion and sediment controls.
Local	
Policies	
City of San Diego General Plan	Provides guidance for remediation of contaminated site and for siting and management of facilities that store, collect, treat, dispose, or transfer hazardous waste.
San Diego county Integrated Waste Management Program	Provides guidance for local management of solid waste and household hazardous waste.
County Code of Regulatory Ordinances Sections 68.508 through 68.518 Construction & Demolition (C&D) Recycling	Effective April 21, 2007, debris from construction and demolition projects must be diverted away from landfill disposal in the unincorporated County of San Diego. The ordinance requires that 90 percent of inerts and 70 percent of all other materials must be recycled from a project. In order to comply with the ordinance, applicants must submit a Construction and Demolition Debris Management Plan and a fully refundable Performance Guarantee prior to building permit issuance.

WORKER SAFETY AND FIRE PROTECTION

Applicable Law	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 California Building Code.
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)	
2010 Edition of California Fire Code and all applicable NFPA standards (24 CCR Part 9)	National Fire Protection Association (NFPA) standards are incorporated into the California Fire Code. The fire code contains general provisions for fire safety, including road and building access, water supplies, fire protection and life safety systems, fire-resistive construction, storage of combustible materials, exits and emergency escapes, and fire alarm systems.
County of San Diego Department of Environmental Health (DEH) Hazardous Materials Division (HMD)	Requires new/modified businesses to complete a Hazardous Materials Business Plan and Chemical Inventory Forms when handling hazardous materials in excess of threshold quantities.

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

Docket Number: **11-AFC-01** Date: **July 23, 2012**

Project Name: **Pio Pico Energy Center**

EXHIBIT LIST

Applicant's Exhibits

Exhibit	Docket Transaction Number	Brief Description	Offered	Admitted	Refused
1	59646	Application for Certification (AFC) for Pico Pico Energy Center, Application - Docket # 2011-AFC-01, Environmental Information and Appendices, submitted by Applicant	7/23/2012	7/23/2012	
2	59684	Application for Designation of Confidential Record re Emission Reduction Credits, dated February 9, 2011, docketed February 9, 2011	7/23/2012	7/23/2012	
3	59685	Application for Designation of Confidential Paleontological Resources Record dated February 7, 2011, and docketed on February 9, 2011	7/23/2012	7/23/2012	
4	59687	Application for Designation of Confidential Cultural Resources Record dated February 7, 2011, and docketed on February 9, 2011	7/23/2012	7/23/2012	
5	59674	Applicant's Amendment to Application for Permits, San Diego Air Pollution Control District, dated February 11, 2011, and docketed February 11, 2011.	7/23/2012	7/23/2012	

6	59939	Supplemental Air Quality Modeling Data and Risk Assessment Submitted to the San Diego Air Pollution Control District, dated March 8, 2011, docketed March 8, 2011	7/23/2012	7/23/2012	
7	60177	Applicant's Data Adequacy Supplement and Related Cover Letter, dated April 1, 2011, docketed April 1, 2011	7/23/2012	7/23/2012	
8	60231	Application for Designation of Confidential Cultural Resources Records, dated April 1, 2011, docketed April 1, 2011	7/23/2012	7/23/2012	
9	60200	Revised Air Quality Modeling Files dated April 4, 2011, docketed April 4, 2011	7/23/2012	7/23/2012	
10	60177	Applicant's Data Adequacy Supplement and Related Cover Letter, dated April 1, 2011, docketed April 1, 2011	7/23/2012	7/23/2012	
11	60231	Application for Designation of Confidential Cultural Resources Records, dated April 1, 2011, docketed April 1, 2011	7/23/2012	7/23/2012	
12	60802	Letter to M. Jones Re Application for Designation of Confidential Record dated May 25, 2011 and received May 25, 2011	7/23/2012	7/23/2012	
13	60809	Letter to E. Solorio Re CAISO Cluster 2 Phase I Interconnection Study dated May 25, 2011, docketed May 25, 2011	7/23/2012	7/23/2012	
14	61017	Application for Certification Refinement ("AFC Refinement") submitted by Applicant dated June 2011	7/23/2012	7/23/2012	
15	61042	Submittal of Supp. Conf. Cultural and Paleontological Resources Material, dated June 8, 2011, docketed June 8, 2011	7/23/2012	7/23/2012	
16	61121	Applicant's Request for Extension to Submit Data Responses, Set One (#1-59); Objections, dated June 14, 2011, docketed June 14, 2011	7/23/2012	7/23/2012	
17	61310	Withdrawal of Application for Confidential Designation of Documents, dated July 6, 2011, docketed July 6, 2011	7/23/2012	7/23/2012	

18	61361	Application for Designation of Confidential Record re Transmission Data, dated July 11, 2011, received July 11, 2011	7/23/2012	7/23/2012	
19	61348	California Independent System Operator's Cluster 2 Phase I Interconnection Study Report, Group Report for SDG&E dated July 11, 2011, docketed July 11, 2011	7/23/2012	7/23/2012	
20	61385	Submittal of Supplemental Confidential Cultural Resources Materials dated July 15, 2011, docketed July 15, 2011	7/23/2012	7/23/2012	
21	61384	Applicant's Responses to Staff's Data Requests, Set 1 (#1-59) with Air Quality Modeling Files dated July 15, 2011, 2011, docketed July 15, 2011	7/23/2012	7/23/2012	
22	61459	Applicant's Response to Staff's Data Requests BIO-29 and BIO-30 dated July 20, 2011, docketed July 20, 2011	7/23/2012	7/23/2012	
23	61667	Applicant's Supplemental Responses to Staff's Data Requests, Set 1 (#29 and #30) dated August 1, 2011 and docketed August 1, 2011	7/23/2012	7/23/2012	
24	61788	Letter re Worker Safety and Fire Protection Supplemental Information dated August 8, 2011, docketed August 8, 2011	7/23/2012	7/23/2012	
25	61833	Supplemental Responses to Data Requests BIO-29 and BIO-30, dated August 11, 2011, docketed August 11, 2011	7/23/2012	7/23/2012	
26	61832	Letter re Soil & Water-Supplemental Information Related to Offsite Stormwater Drainage, dated August 11, 2011, docketed August 11, 2011	7/23/2012	7/23/2012	
27	61899	Letter re Supplemental Responses to Data Requests Related to Traffic and Transportation, dated August 16, 2011, docketed August 16, 2011	7/23/2012	7/23/2012	

28	61927	Letter re Responses to Data Requests, Set 2 (#60-71) [Air Quality], dated August 17, 2011, docketed August 17, 2011	7/23/2012	7/23/2012	
29	61971	Letter re Correspondence with to San Diego Air Pollution Control District re Air Quality dated August 22, 2011, docketed August 22, 2011	7/23/2012	7/23/2012	
30	62007	Applicant's Supplemental Responses to Data Requests Relating to Biological Resources dated August 25, 2011 docketed August 25, 2011	7/23/2012	7/23/2012	
31	62027	Letter re Applicant's Emission Reduction Credits dated August 29, 2011, docketed August 29, 2011	7/23/2012	7/23/2012	
32	62048	Additional documents Submitted under Designation of Confidentiality dated August 30, 2011, docketed August 30, 2011	7/23/2012	7/23/2012	
33	62037	CAISO Cluster 2 Phase II Interconnection Study Report, Group Report for San Diego Gas & Electric Area dated August 30, 2011, docketed August 30, 2011	7/23/2012	7/23/2012	
34	62077	Applicant's Repeated Application for Confidential Additional Supplemental Phase II Interconnect Study Report dated September 1, 2011, docketed September 1, 2011	7/23/2012	7/23/2012	
35	62067	Letter to Laiping Ng in Response to Request for a Copy of the California Independent System Operator's Cluster 2 Phase II Interconnection Study Report dated September 1, 2011, docketed September 1, 2011	7/23/2012	7/23/2012	
36	62106	Applicant's Letter re Plume Modeling Data, dated September 7, 2011, docketed September 7, 2011	7/23/2012	7/23/2012	

37	**62192**	**Applicant's Supplemental Responses to Data Requests Relating to Water Resources, Land Use, Visual Resources and Biological Resources, dated September 13, 2011, docketed September 13, 2011**	**7/23/2012**	**7/23/2012**	
38	**62266**	**Applicant's Correspondence to U.S. Fish & Wildlife Service dated September 19, 2011, docketed September 19, 2011**	**7/23/2012**	**7/23/2012**	
39	**62280**	**Letter re Acid Rain Permit Application-San Diego Air Pollution Control District, dated September 19, 2011, docketed September 19, 2011**	**7/23/2012**	**7/23/2012**	
40	**62304**	**Applicant's Application for a Prevention of Significant Deterioration Permit, September 19, 2011, docketed September 19, 2011**	**7/23/2012**	**7/23/2012**	
41	**62359**	**Letter to Gary Chandler, PPEC, re PSD Application, dated August 23, 2011, docketed September 28, 2011**	**7/23/2012**	**7/23/2012**	
42	**62443**	**Letter re Water Enhancement and Applicant's Proposed Revised Schedule dated October 3, 2011, docketed October 3, 2011**	**7/23/2012**	**7/23/2012**	
43	**62531**	**Letter submitting additional documents submitted under existing designation of confidentiality re CAISO's Cluster 2, Phase II Interconnection Study Report, dated October 6, 2011, docketed October 6, 2011**	**7/23/2012**	**7/23/2012**	
44	**62510**	**Letter re explanation of "confidential" filing re letter to R. Oglesby dated 10-6-11 re "additional documents submitted under existing designation of confidentiality" [see #95], dated October 6, 2011, docketed October 6, 2011**	**7/23/2012**	**7/23/2012**	

45	**62588**	**Letter re Traffic and Transportation: Responses to K. Ford's October 11, 2011 Inquiry, dated October 14, 2011, docketed October 14, 2011**	**7/23/2012**	**7/23/2012**	
46	**62620**	**Letter re Air Quality: Nitrogen Deposition Modeling Methodology, dated October 20, 2011, docketed October 20, 2011**	**7/23/2012**	**7/23/2012**	
47	**62639**	**Letter re Air Quality Modeling Submitted to San Diego Air Pollution Control District, dated October 25, 2011, docketed October 25, 2011**	**7/23/2012**	**7/23/2012**	
48	**62652**	**Letter re Application for Certification Refinement-Enhanced Water Treatment System, dated October 27, 2011, docketed October 27, 2011**	**7/23/2012**	**7/23/2012**	
49	**62693**	**Letter re Responses to Ann Crisp's September 15, 2011 Inquiry re Biological Resources dated October 31, 2011, docketed October 31, 2011**	**7/23/2012**	**7/23/2012**	
50	**62692**	**Letter re Responses to Ann Crisp's October 4, 2011 Inquiry re Biological Resources dated October 31, 2011, docketed October 31, 2011**	**7/23/2012**	**7/23/2012**	
51	**62699**	**Letter re Responses to Data Requests #72-73 dated October 31, 2011, docketed October 31, 2011**	**7/23/2012**	**7/23/2012**	
52	**62834**	**Letter re Response to Informal Data Requests Relating to Air Quality dated November 7, 2011, docketed November 7, 2011**	**7/23/2012**	**7/23/2012**	
53	**62833**	**Letter re Response to Informal Data Requests Relating to Biological Resources dated November 7, 2011, docketed November 7, 2011**	**7/23/2012**	**7/23/2012**	
54	**62839**	**Letter re additional Air Quality Modeling Submitted to San Diego Air Pollution Control District dated November 8, 2011, docketed November 8, 2011**	**7/23/2012**	**7/23/2012**	
55	**62838**	**Letter re Responses to Data Requests #24 dated November 8, 2011, docketed November 8, 2011**	**7/23/2012**	**7/23/2012**	

56	62870	Letter re submittal of Otay Water District's Water Supply Assessment dated November 10, 2011, docketed November 10, 2011	7/23/2012	7/23/2012	
58	62910	Confidential filing-Letter to R. Oglesby re Additional Docs. Submitted Under Existing Designation of Confidential Documents re Supplemental Responses to Data Requests #72 and 73 dated November 16, 2011, docketed November 16, 2011	7/23/2012	7/23/2012	
59	62900	Letter re Supplemental Responses to Data Requests #72-73 dated November 16, 2011, docketed November 16, 2011	7/23/2012	7/23/2012	
60	62928	Applicant's Opposition to Rob Simpson's Petition to Intervene dated November 17, 2011, docketed November 17, 2011	7/23/2012	7/23/2012	
61	62929	Applicant's Response to Data Requests 72 and 73, dated November 18, 2011, docketed November 18, 2011	7/23/2012	7/23/2012	
62	62998	Applicant's Additional Responses to Staff's Informal Data Requests Re Biological Resources dated November 28, 2011, docketed November 28, 2011	7/23/2012	7/23/2012	
63	63008	Biological Assessment for the Pio Pico Energy Center Project dated November 30, 2011, docketed November 30, 2011	7/23/2012	7/23/2012	
64	63107	Responses to USEPA Inquiries Related to Air Quality Modeling dated December 1, 2011, docketed December 5, 2011	7/23/2012	7/23/2012	
65	63192	Letter to Eric Solorio, including Preliminary Determination of Compliance for PPEC from San Diego APCD dated December 20, 2011, docketed December 20, 2011	7/23/2012	7/23/2012	
66	63274	Letter to E. Solorio re submittal of USEPA's Request for Consultation dated January 4, 2012, docketed January 4, 2012	7/23/2012	7/23/2012	

67	63396	Letter to E. Solorio re Comments on the San Diego APCD's Preliminary Determination of Compliance (PDOC) dated January 17, 2012, docketed January 17, 2012	7/23/2012	7/23/2012	
68	63395	Letter to E. Solorio re Additional Information Submitted to USEPA re PSD Application dated January 17, 2012, docketed January 17, 2012	7/23/2012	7/23/2012	
69	63393	Letter to E. Solorio re San Diego APCD's Notice Extending Comment Period Re PDOC dated January 20, 2012, docketed February 2, 2012	7/23/2012	7/23/2012	
70	63530	Letter to E. Solorio re Otay Water District's Board Meeting Minutes of October 5, 2011, dated February 2, 2012, docketed February 2, 2012	7/23/2012	7/23/2012	
71	63528	Letter to E. Solorio re correspondence from USF&WS Service to USEPA re Initiation of Formal Section 7 Consultation dated February 2, 2012, docketed February 2, 2012	7/23/2012	7/23/2012	
72	63553	Letter to E. Solorio re correspondence from Sierra Research to USEPA re Additional Information re Application for Prevention of Significant Determination Permit dated February 2, 2012, docketed February 3 2012	7/23/2012	7/23/2012	
73	63818	Correspondence to USFWS Related to Section 7 Consultation dated February 24, 2012, docketed, February 27, 2012	7/23/2012	7/23/2012	
74	64025	Re-submittal of Correspondence Sent to U.S. Fish & Wildlife Service dated March 6, 2012, docketed March 6, 2012	7/23/2012	7/23/2012	
75	64129	Applicant's Correspondence to USEPA, Region 9 dated March 7, 2012, docketed March 12, 2012	7/23/2012	7/23/2012	
76	64132	Applicant's Response to Proposed Condition of Certification SOIL&WATER-9 dated March 13, 2012, docketed March 13, 2012	7/23/2012	7/23/2012	
77	64225	Applicant's Supplemental Information re PSD Permit Application, dated March 20, 2012, docketed March 20, 2012	7/23/2012	7/23/2012	

78	64224	Applicant's Supplemental Information re PSD Permit Application, (Visibility Analysis) dated March 20, 2012, docketed March 20, 2012	7/23/2012	7/23/2012	
79	64222	Applicant's Supplemental Information re PSD Permit Application, Response to Supplemental Information Request (GHG BACT) dated March 19, 2012, docketed March 20, 2012	7/23/2012	7/23/2012	
80	65868	Applicant's Comments on Preliminary Staff Assessment dated March 26, 2012, docketed March 26, 2012	7/23/2012	7/23/2012	
81	64645	Applicant's Additional Traffic Data dated April 9, 2012, docketed April 9, 2012	7/23/2012	7/23/2012	
82	64640	Applicant's submittal of Alternatives: Visual Renderings dated April 9, 2012, docketed April 9, 2012	7/23/2012	7/23/2012	
83	64634	Repeated Application for Confidential Designation, CAISO Phase II Interconnect Study Report, Additional Information dated April 9, 2012, docketed April 9, 2012	7/23/2012	7/23/2012	
84	64750	Applicant's Proposed SOIL&WATER-9– Water Conservation Plan dated April 13, 2012, docketed April 13, 2012	7/23/2012	7/23/2012	
85	64830	Additional Data in Support of PSD Permit Application dated April 18, 2012, docketed April 18, 2012	7/23/2012	7/23/2012	
86	65110	San Diego Air Pollution Control District's Final Determination of Compliance dated May 7, 2012, docketed May 7, 2012	7/23/2012	7/23/2012	
87	65187	Correspondence to USFWS Related to Section 7 Consultation dated May 9, 2012, docketed May 9, 2012	7/23/2012	7/23/2012	
88	65203	Applicant's Additional Communication to USF&WS re Section 7 Consultation dated May 14, 2012, docketed May 14, 2012	7/23/2012	7/23/2012	
89	65302	Applicant's Additional Information to EPA re PSD Permit Application dated May 16, 2012, docketed May 17, 2012	7/23/2012	7/23/2012	
90	65448	Applicant's Additional Information to EPA re PSD Permit Application dated May 23, 2012, docketed, May 29, 2012	7/23/2012	7/23/2012	

91	65632	Applicant's Additional Information to EPA re PSD Permit Application dated June 5, 2012, docketed June 6, 2012	7/23/2012	7/23/2012	
92	65909	Applicant's Additional Information to EPA re PSD Permit Applicant (Nearby Sources) dated July 6, 2011, docketed June 22, 2012	7/23/2012	7/23/2012	
93	65907	Applicant's Response to EPA's Questions re PM BACT for Cooling System re PSD Permit Applicant dated November 8, 2011, docketed June 22, 2012	7/23/2012	7/23/2012	
94	65905	2011 Quino Checkerspot Butterfly Site Assessment Report Provided to the USF&WS dated June 2011, docketed June 22, 2012.	7/23/2012	7/23/2012	
95	65904	Applicant's Letter to E. Solorio submitting EPA, Region 9, Letter of Completeness, dated June 14, 2012, docketed June 22, 2012	7/23/2012	7/23/2012	
96	65918	Submittal of U.S. Environmental Protection Agency, Region 9 Proposed Prevention of Significant Deterioration Permit, EPA's public notices (in English and Spanish), Permit Fact Sheet, Ambient Air Quality Report, and Errata Correction to the Proposed PSD Permit dated June 2012, docketed June 22, 2012	7/23/2012	7/23/2012	
97	65911	CAISO Re-Study Phase II Interconnection Report, Group Report for San Diego Gas & Electric Area dated June 4, 2012, docketed June 22, 2012	7/23/2012	7/23/2012	
98	65954	Applicant's Repeated Application for Confidential Additional Supplemental Phase II Re-Study Report dated June 4, 2011, docketed September 1, 2011	7/23/2012	7/23/2012	
99	65954	Declaration of Gary Rubenstein re Air Quality and Public Health, and supporting information for Biology, Alternatives, and Visual Resources, dated June 20, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	

100	65954	Declaration of Steve Hill re Air Quality and Public Health, and supporting information for Biology, Alternatives, and Visual Resources, dated June 20, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
101	65954	Declaration of David Jenkins dated June 25, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
102	65954	Declaration of Steve Hill re Air Quality and Public Health, and supporting information for Biology, Alternatives, and Visual Resources, dated June 20, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
103	65954	Declaration of David Jenkins dated June 25, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
104	65954	Declaration of Lincoln Hulse re Biological Resources dated June 20, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
105	65954	Declaration of Rachael Nixon re Cultural Resources dated June 20, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
106	65954	Declaration of Craig Kebodeaux re Efficiency, Facility Design, Reliability, Transmission System Design, and Transmission Line Safety & Nuisance dated June 21, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
107	65954	Declaration of Ray Rice re Geological Resources and Soils dated June 22, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
108	65954	Declaration of Tricia Winterbauer re Hazardous Materials, Waste Management, and Worker Health and Safety dated June 20, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
109	65954	Declaration of Virginia Viado re Land Use dated June 22, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
110	65954	Declaration of Ron Reeves re Noise dated June 22, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
111	65954	Declaration of Joe Stewart re Paleontological dated June 20, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
112	65954	Declaration of Jennifer Wu re Socioeconomics dated June 19, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	
113	65954	Declaration of Noel Casil re Traffic & Transportation dated June 19, 2012, docketed June 26, 2012	7/23/2012	7/23/2012	

114	**65954**	**Applicant's Opening Testimony, Supporting Testimonials, Declarations, and Exhibits 1-113, dated June 26, 2012, docketed June 26, 2012**	**7/23/2012**	**7/23/2012**	
115	**65967**	**Applicant's Letter Submitting USACOE's Preliminary Jurisdictional Determination dated June 25, 2012, docketed June 27, 2012**	**7/23/2012**	**7/23/2012**	
116	**65973**	**Applicant's Letter Submitting USACOE's Determination Re Section 404 Permit (not required) dated June 26, 2012, docketed June 27, 2012**	**7/23/2012**	**7/23/2012**	
117	**65966**	**Applicant's Letter to Hearing Officer re Service of Applicant's Exhibits on disc to Rob Simpson, dated June 25, 2012, docketed June 27, 2012**	**7/23/2012**	**7/23/2012**	
118	**66007**	**Applicant's Correspondence to Hearing Officer Raoul Renaud re Objection and Opposition to Corrections Corporation of America's Request for Extension, dated June 27, 2012, docketed June 27, 2012**	**7/23/2012**	**7/23/2012**	
119	**66103**	**Applicant's Opposition to Corrections Corporation of America Petition to Intervene, dated July 5, 2012, docketed July 5, 2012**	**7/23/2012**	**7/23/2012**	
120	**66107**	**Applicant's Opposition to Bill Powers' Petition to Intervene, dated July 5, 2012, docketed July 5, 2012**	**7/23/2012**	**7/23/2012**	
121	**66141**	**Declaration of Michael Theriault re Noise and Vibration dated July 6, 2012, docketed July 6, 2012**	**7/23/2012**	**7/23/2012**	
122	**66141**	**Declaration of Brian Mooney re Land Use as it Relates to Noise, dated July 5, 2012, docketed July 6, 2012**	**7/23/2012**	**7/23/2012**	
123	**66141**	**County of San Diego, East Otay Mesa Business Park Specific Plan, dated September 15, 2012, (submitted with Applicant's Rebuttal Testimony on July 6, 2012)**	**7/23/2012**	**7/23/2012**	
124	**66141**	**San Diego Correctional Facility Alternative Site Plan Concept, Noise Analysis Report, dated August 25, 2010 (submitted with Applicant's Rebuttal Testimony on July 6, 2012)**	**7/23/2012**	**7/23/2012**	

125	**66141**	**San Diego County Planning Commission, Agenda Regular Meeting (Attachment F), dated November 19, 2010 (submitted with Applicant's Rebuttal Testimony on July 6, 2012)**	**7/23/2012**	**7/23/2012**	
126	**66141**	**Governor's Office of Planning and Research, "The Planner's Guide to Specific Plans", dated January 2001, (submitted with Applicant's Rebuttal Testimony on July 6, 2012)**	**7/23/2012**	**7/23/2012**	
127	**66141**	**Declaration of David Jenkins dated July 5, 2012, docketed July 6, 2012**	**7/23/2012**	**7/23/2012**	
128	**66139**	**Applicant's Prehearing Conference Statement, dated July 6, 2012, docketed July 6, 2012**	**7/23/2012**	**7/23/2012**	
129	**66141**	**Applicant's Rebuttal Testimony, dated July 6, 2012, docketed July 6, 2012.**	**7/23/2012**	**7/23/2012**	
130	**66283**	**Letter from SDG&E, dated July 17, 2012**	**7/23/2012**		**7/23/2012**
131	**66294**	**Letter re: Proposed Condition NOISE-4, dated July 22, 2012**	**7/23/2012**	**7/23/2012**	

Staff's Exhibits

Exhibit	Docket Transaction Number	Brief Description	Offered	Admitted	Refused
200	65408	Final Staff Assessment	7/23/2012	7/23/2012	
201	65586	Supplement to the Final Staff Assessment	7/23/2012	7/23/2012	
202	63192	San Diego Air Pollution Control District's Preliminary Determination of Compliance	7/23/2012	7/23/2012	
203	65110	San Diego Air Pollution Control District's Final Determination of Compliance	7/23/2012	7/23/2012	
204	59646	AFC Appendix "I", pp1-2, Otay Water District's Will-Serve Letter	7/23/2012	7/23/2012	
205	65892	Record of Conversation, James Adams and Dan Wood	7/23/2012	7/23/2012	
206	TBD	Vidaver Surrebuttal to Bill Powers' Rebuttal Testimony	7/23/2012	7/23/2012	
207	66108	Staff's Rebuttal Testimony and Prehearing Conference Statement	7/23/2012	7/23/2012	

Rob Simpson's Exhibits

Exhibit	Docket Transaction Number	Brief Description	Offered	Admitted	Refused
300		Rob Simpson opening testimony and attachments	7/23/2012	7/23/2012	
301	66145	Robert Sarvey Testimony	7/23/2012	7/23/2012	
302	66147	Bill Powers Testimony	7/23/2012	7/23/2012	
303	66154	AES Energy Storage	7/23/2012	7/23/2012	
304		Powers Rebuttal PowerPoint	7/23/2012		7/23/2012

Corrections Corporation of America Exhibits NOT OFFERED INTO EVIDENCE BY INTERVENOR

Exhibit	Docket Transaction Number	Brief Description	Offered	Admitted	Refused
400		San Diego County General Plan Noise Element			
401		San Diego County Noise Abatement and Control Ordinance			
402		East Otay Mesa Specific Plan			
403		Major Use Permit for the Corrections Corporation of America facility			
404		Noise Report Prepared for the Corrections Corporation of America facility			
405		Corrections Corporation of America's Testimony by Jeff Fuller to Energy Commission			
406		Declaration of Jeff Fuller re Noise			
407		Professional Qualifications and Experience of Jeff Fuller			
408		Final Staff Assessment			
409		Preliminary Staff Assessment			

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
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APPLICATION FOR CERTIFICATION
FOR THE *PIO PICO ENERGY CENTER PROJECT*

Docket No. 11-AFC-01
PROOF OF SERVICE
(*Revised 7/10/2012)*

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*indicates change

DECLARATION OF SERVICE

I, _____, declare that on _____, 2012, I served and filed a copy of the attached _____, dated _____, 2012. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: www.energy.ca.gov/sitingcases/piopico/index.html.

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:
(*Check all that Apply*)

For service to all other parties:

___ Served electronically to all e-mail addresses on the Proof of Service list;

___ Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "e-mail service preferred."

AND

For filing with the Docket Unit at the Energy Commission:

___ by sending one electronic copy to the e-mail address below (preferred method); *OR*

___ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 11-AFC-01
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.ca.gov

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

___ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
Sacramento, CA 95814
michael.levy@energy.ca.gov

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

_____