CALIFORNIA
ENERGY
COMMISSION

EL SEGUNDO POWER REDEVELOPMENT PROJECT

Application For Certfication (00-AFC-14)
Los Angeles County, California

2nd REVISED PRESIDING MEMBER'S PROPOSED DECISION

NOVEMBER 2004
(P800-04-016)

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EXECUTIVE SUMMARY:

Recommend:

APPROVAL

WITH CONDITIONS

The El Segundo Redevelopment Project AFC Committee of the Energy Commission recommends approval of El Segundo Power II LLC's proposed 630-megawatt (MW) combined-cycle facility in El Segundo, California, together with the following highlighted measures to mitigate potential environmental and community impacts and comply with applicable laws, ordinances, regulations and standards (LORS):

ENERGY RESOURCES:

- ✓ The proposed project will replace 1950's vintage generating units with state-of-the-art combined-cycle technology resulting in optimized resource efficiency.
- ✓ The project will use natural gas via an existing pipeline.

LAND USE:

- ✓ The proposed project will reuse existing generating station infrastructure and property already zoned for and being used to generate electricity.
- ✓ The bike path recreational use in front of power plant will be enhanced through a setback of the fence/seawall, added landscaping and benches.

AIR QUALITY:

- ✓ The power plant will use state-of-the-art Best Available Control Technology to minimize emissions.
- ✓ Complete offsets will be used to compensate for any pollutant for which the South Coast Air Quality Management District determines that it is in non-attainment.

WATER RESOURCES:

- ✓ The proposed project will use sea water for cooling purposes in a once-through system and reclaimed water for most other water needs thus providing a net reduction in potable water consumption at the generating station.

BIOLOGY

- ✓ The proposed project sea water cooling system will be subject to an annual flow cap of 126.78 billions gallons, with specific caps applied to the months of February, March and April.
- ✓ Stringent federal Clean Water Act intake structure regulations will be applied to the station through its 2005 NPDES permit renewal process. As a result, the project will be required to

reduce entrainment through cooling water intake #1 by at least 60 percent compared to an unmitigated system.

- ✓ The project owner will conduct a study to evaluate the potential for utilizing aquatic filter barrier technology to eliminate entrainment of marine organisms at the generating station and, if feasible, install the filter barrier.
- ✓ The project owner will provide $~~1~~5 Million in trust to the Santa Monica Bay Restoration Commission to understand the biological dynamics of the Santa Monica Bay and improve the health of the Bay's habitat.

VISUAL

- ✓ The proposed project includes perimeter landscaping, a seawall, and a landscaped berm to screen views. Views of the power plant will be screened while maintaining appropriate ocean and scenic views.
- ✓ The proposed project lowers exhaust stack height for two of the four exhaust stacks at the generating station.
- ✓ The new facility and the remaining units will have shielded and directed lighting to minimize glare.
- ✓ The proposed project will be color and architecturally-treated including colored panels on higher elevations to provide architectural screening.

NOISE

- ✓ Construction and demolition activities on the tank farm portion of the power plant will be conditioned to ensure minimal disturbance of the residential area to the south.
- ✓ Project owner shall conduct before and after noise surveys to ensure that the project does not cause sound levels at the nearest residential receptor to increase by more than 2 decibels.

HAZARDOUS MATERIALS

- ✓ Ammonia will be delivered to the power plant via a new pipeline from the Chevron refinery eliminating the normal truck deliveries of ammonia.

Dated: November 23, 2004

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

WILLIAM J. KEESE
Chairman and Presiding Member
El Segundo AFC Committee

JAMES D. BOYD
Commissioner and Associate Member
El Segundo AFC Committee

PROJECT DESCRIPTION

- ***PROJECT NAME:*** El Segundo Power Redevelopment Project (ESPR)

- ***PROJECT OWNER:*** El Segundo Power II, LLC

- ***PROJECT OBJECTIVES:*** *(per Project Owner)*

  1. To produce cost-effective electricity to sell in California's deregulated electricity market;
  2. To improve the overall environmental performance and reliability of the electrical generating sector in Southern California;
  3. To produce electricity with minimal incremental environmental impacts;
  4. To alleviate the consequences of today's capacity shortage in Southern California; and
  5. To assist meeting the projected demand growth in Los Angeles County.

  - ***FUTURE PROJECT/SITE DEVELOPMENT:*** None proposed. The power plant proposal constitutes the whole of the project.

- ***PROJECT: BEFORE & AFTER:***

Existing View

Simulation View

- ***PROJECT LOCATION:***
  - Location: 301 Vista Del Mar, El Segundo, California
  - Local Jurisdiction: City of El Segundo
  - Zoning: Heavy Industrial (M-2)
  - Air Quality Jurisdiction: South Coast Air Quality Management District (SCAQMD)
  - Seismic Zone: Zone 4
  - Vehicular Access: Regional and interregional vehicular access for the project area is provided by a system of freeways (Interstate-405 and Interstate-105), highways and local arterials. Primary access to the site will be from the north on Vista Del Mar via West Imperial Highway, Glenn Anderson Freeway (I-105), and the San Diego Freeway (I-405).
  - Site Setting: The proposed facility will be located entirely within the existing El Segundo Generating Station, an existing power plant operated by NRG El Segundo Operations, Inc. The project site consists of approximately 33 acres. Electricity generated by the project will be delivered to the existing Southern California Edison (SCE) substation located on a separate parcel immediately adjacent to the ESGS property. From SCE's El Segundo 230-kV substation, electricity will be transmitted to users by the existing transmission and distribution network. Pipeline-quality natural gas will be supplied to the combined-cycle unit via an existing pipeline owned by Southern California Gas Company (SoCalGas).
  - Alternative Locations Considered: No alternative site could meet the project objective of improving the overall environmental performance and reliability of the electrical generating sector in Southern California and have fewer environmental and community impacts.

- ***PROJECT DESIGN:***

- Type: Combined-cycle electric generating facility: The project will supply capacity and energy to California's electric market.

- Fuel: Natural Gas (No backup fuel)

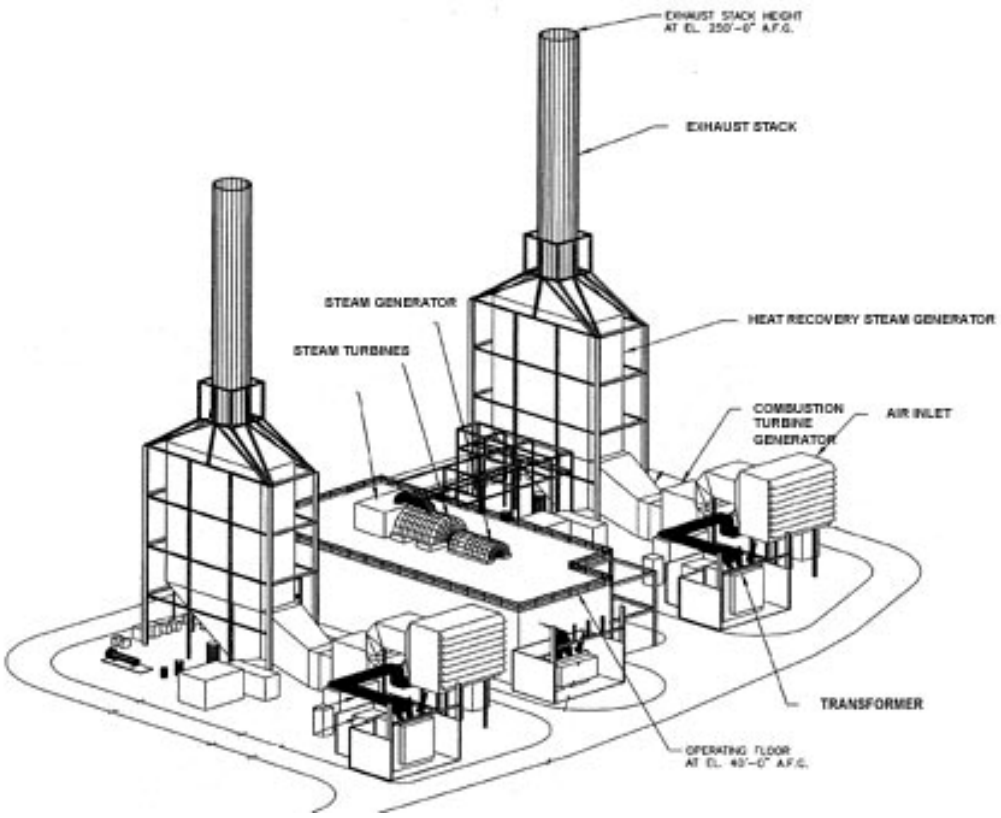
- Output: 630MW

- Combustion Turbines: Two (Units 5 and 7)
  - Manufacturer: General Electric
  - Model/Type: PG7241FA
  - Maximum Rated Output: Each gas turbine-generator will generate a maximum of 171.7 MW (gross).

- Emission Controls:
  - NOx: Low-NOx Burner with water injection/SCR will control NOx emission to 2.0 parts per million (ppm).

- Steam Turbine: One (Unit 6)
  - Manufacturer: General Electric
  - Model/Type: Reheat, double-flow, down-exhausting condensing steam turbine with nominal throttle steam conditions of 1,815 psia, 1050°F, and 1050°F reheat temperature and a hydrogen-cooled generator.
  - Maximum Rated Output: Peak generating output approximately 280 MW.

- Heat Recovery Steam Generator: The HRSGs will recover waste heat from combustion turbine generator exhaust and generate steam for the steam turbine. They are vertical in design and include duct firing to generate additional steam output for full capacity.



- Cooling Water: The plant will continue the use of an existing sea-water cooling system that uses sea water from the Santa Monica Bay for the once-through cooling. The existing intake pipeline extends approximately 2,600 feet offshore. The cooling water discharges through and outfall structure 1,990 feet offshore.

- Hazardous Materials On-site: The following are anticipated hazardous materials that will be on-site for purposes of operation: aqueous ammonia, hydrazine, natural gas, sulfuric acid, hydrogen, diesel fuel, lube oil, mineral oil, propane.

- Wastes & Disposal: Wastes typical of power generation operation including oily rags, broken and rusted metal and machine parts, defective or broken electrical materials, empty containers and other miscellaneous solid wastes including typical refuse will be disposed of in accordance with applicable laws and regulations.

- Tallest Feature: The HRSG exhaust stack structure will be 205-feet tall.

- Alternative Technology Considered: The project will utilize an existing operational seawater intake system. Although alternative cooling options were considered, none of these alternatives was superior to the proposed project.

- Alternative Fuel Considered: No alternative fuels were considered.

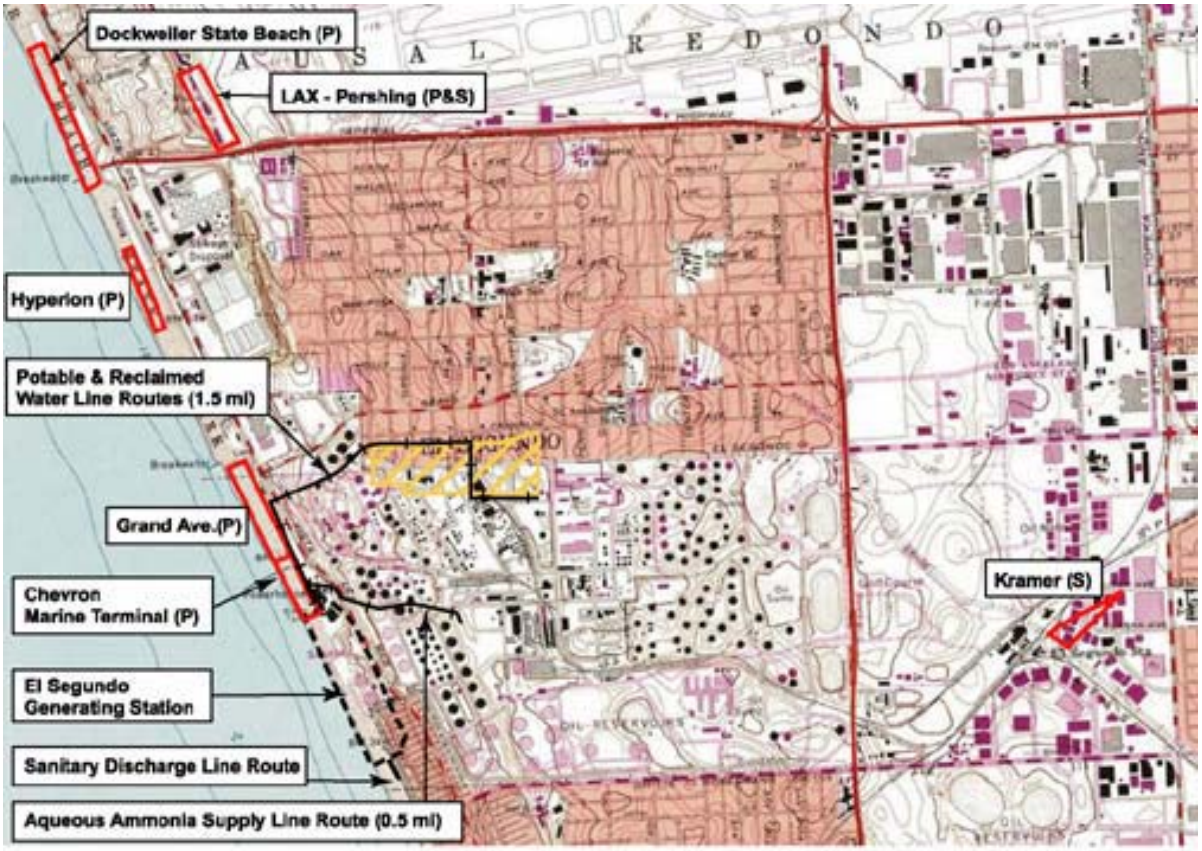
- Alternative Equipment Considered: Only Best Available Control Technology was considered for this project.

SURROUNDING SETTING:

The ESPR site is located on 32.8 acres within the El Segundo Generating Station in the City of El Segundo in Los Angeles County. El Segundo is approximately 20 miles from the Los Angeles downtown area. The project site is approximately 2.5 miles south of Los Angeles International Airport (LAX).

The project site is located on approximately 4,200 linear feet of Santa Monica Bay coastline. The site is bound by a street named Vista Del Mar and a Chevron refinery to the east; Santa Monica Bay beaches to the west, 45th Street in the City of Manhattan Beach to the south and the Chevron Marine Terminal to the north.

A portion of the City of Los Angeles that contains the Scattergood Power Generating Facility, the Hyperion Wastewater Treatment Plant, LAX and other industrial development is located north of the project site. The City of El Segundo is located to the northeast, east, and southeast of the project site. Residential uses, open space, and commercial uses are located to the northeast along the proposed water supply line route. Various heavy industrial uses exist east of the project site. The Chevron refinery lies to the east and southeast of the project site. Residential uses are located south of the project site within the City of Manhattan Beach.



RELATED FACILITIES

- <u>Switchyard</u>
- Existing above ground 230 kV switchyard

- <u>Electric Transmission</u>
- Voltage: 12 kV
- Type: Existing above-ground
- Tower Type: No new towers off-site; existing steel frame structures on-site will be replaced with pole structures.
- Route: No new off-site facilities; replacement of on-site generator lines from generators to on-site switchyard.
- Point of Interconnection: At existing on-site SCE Switchyard.
- Foreseeable Effect on Downstream Transmission Facilities: Increased capacity of the ESPR is handled via some switch gear upgrades within SCE grid pursuant to SCE detailed facilities study.

- Alternative Routes Considered: N/A

Gas Pipeline
- Already exists.

Ammonia Pipeline
- Diameter: 12 inches
- Length: 0.5 mile

AIR QUALITY – Summary of Findings and Conditions

	PROJECT	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Construction Equipment	**MITIGATION**	**None**	**YES**
	Construction: Large construction equipment potentially contributes to existing violations of state 24-hour and annual PM_{10} standards. To minimize PM_{10} emissions, the Project Owner shall require its construction contractors to minimize emissions from diesel-powered earthmoving equipment. **MITIGATION:** ☑ The Project Owner shall require construction contractors to mitigate diesel emissions by measures such as the use of catalyzed diesel particulate filters, use of ultra-low sulfur diesel fuel, and/or use of EPA and CARB 1996 certified diesel engines. Condition **AQ-C3**. *References: FSA Air Quality, pp. 4.1-29.*		
Construction Dust	**MITIGATION**	**None**	**YES**
	Grading and excavation activities potentially produce dust that can be transported off-site by wind. To control airborne fugitive dust, the Project Owner shall water or apply chemical dust suppressants to disturbed areas, apply gravel or paving to traffic areas, and wash wheels of vehicles or large trucks leaving the site. **MITIGATION:** ☑ The Project Owner shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Condition: **AQ-C2.** *References: FSA Air Quality, pp. 4.1-16, 19.*		

Federal & California Air Quality Standards	*PROJECT*	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
▪ **Ozone (O3)**	**MITIGATION**	**None**	**YES**
	The power plant location is designated non-attainment for ozone, which is primarily formed by chemical reactions between nitrogen oxides (NOx) and precursor organic compounds (VOC) in sunlight. Power plant emissions of NOx and VOCs as ozone precursors will be minimized by low-NOx combustors in the combustion turbine and Selective Catalytic Reduction (SCR) in the flue gas stack. A CO oxidizing catalyst in the HRSG will further reduce VOC emissions. Since emissions would contribute to a violation of the ozone standards, the Project Owner shall obtain NOx and VOC offsets. **MITIGATION:** ☑ The Project Owner shall use SCR to meet BACT emission limitations. Conditions: **AQ-2**, **AQ-3,** and **AQ- 4.** ☑ The Project Owner shall install a continuous emissions monitoring system for NOx and report emissions. Condition: **AQ-15**. ☑ The Project Owner shall limit NOx and VOC emissions. Conditions: **AQ-9,** and **AQ- 11.** *References: FSA 4.1-9, 25, 27, 33-36.*		
▪ **Nitrogen Dioxide (NO2; also generically known as NOx)**	**MITIGATION**	**None**	**YES**
	The power plant location is designated attainment for NO_2. NO_2 is formed in the combustion process. Power plant NOx emissions will be minimized by low-NOx combustors in the combustion turbine and steam injection plus SCR in the flue gas stack. For NO_2, the emission rate is limited to 2.0 ppm. NO_2 will be continuously monitored in the stack. NOx emissions would not cause a violation of NO_2 standards; however, NOx offsets are required as precursors to ozone. **MITIGATION:** ☑ The Project Owner shall limit NOx emissions. Conditions: **AQ-9.** *References: FDOC pp. 6, 8 & 21.*		

	PROJECT	CUMULATIVE IMPACTS	LORS COMPLIANCE
▪ **Carbon Monoxide (CO)**	**MITIGATION**	**None**	**YES**
	The power plant location is designated attainment for federal and California CO. CO is formed in the combustion process. CO emissions will be minimized by good combustion practices and an oxidizing catalyst in the HRSG. For CO, the emission rate is limited to 4 ppm. CO will be continuously monitored in the stack. **MITIGATION:** ☑ The Project Owner shall install a continuous emissions monitoring system for CO and report and limit emissions of CO. Condition: **AQ-6**, **AQ-8** and **AQ-9.** *References: FDOC pp.7, 19 & 27. FSA pp. 4.1-32 to 34.*		
▪ **Particulate Matter 10 Microns (PM_{10})**	**MITIGATION**	**None**	**YES**
	The power plant location is designated non-attainment for state 24-hour PM_{10}. Primary PM_{10} is formed by the combustion gases in the exhaust stack. Secondary PM_{10} is formed downstream by mixed gases in the atmosphere. PM_{10} emissions will be monitored and limited. **MITIGATION:** ☑ The Project Owner shall control PM_{10} to meet emission limitations. Condition: **AQ-9**. ☑ The Project Owner shall conduct source testing and report emissions. Conditions**: AQ-6, AQ-7 & AQ 8**. *References: FDOC pp 8, 20 & 26.*		

	PROJECT	CUMULATIVE IMPACTS	LORS COMPLIANCE
▪ **Sulfur Dioxide (SO_2)**	**MITIGATION**	**None**	**YES**
	Sulfur Dioxide (SO_2) is produced from the combustion of fuels containing sulfur. The proposed project is using pipeline-quality natural gas, thus ensuring that sulfur emissions will be well within emission limits. The use of pipeline-quality natural gas also exempts the project from the SOx portion of the SCAQMD RECLAIM program. **MITIGATION**: ☑ The Project Owner shall control SOx (as SO_2) to meet emission limitations. Condition: **AQ-9** and **AQ-11**. ☑ The Project Owner shall conduct source testing and report emissions. Condition: **AQ-6, AQ-7** and **A-8**. *References: FDOC pp. 9, 8, 20 & 23.*		
▪ **Volatile Organic Compounds (VOC)**	**MITIGATION**	**None**	**YES**
	There are no state or federal standards for VOC, per se. VOCs are a precursor for ozone. (See ozone, above.) Consequently, limiting VOC emissions and the use of VOC offsets are part of the strategy for ozone attainment. VOCs are formed in the combustion process. BACT for VOC emissions will be achieved by use of good combustion practices, which use a fuel-to-air ratio resulting in low VOC emissions. The oxidation catalyst for CO emissions further reduces VOC emissions. In the SCAQMD VOC's are referred to as Reactive Organic Gases (ROGs). **MITIGATION:** ☑ The Project Owner shall control VOC to meet an emission limitation of 2.0 ppm. Conditions: **AQ-9** and **AQ-11**. ☑ The Project Owner shall conduct source testing and report emissions. Condition: **AQ-6, AQ-7** and **A-8**. *References: FDOC pp. 7, 19 & 25.*		

	PROJECT	CUMULATIVE IMPACTS	LORS COMPLIANCE
Commissioning & Startup	**Insignificant**	**None**	**YES**
	The initial commissioning of a power plant refers to the time frame between completion of construction and the consistent production of electricity for sale to the market. Normal operating emission limits usually do not apply during initial commissioning procedures. The turbines will go through several series of tests during initial commissioning. Commissioning is a one-time event, subject to controls to minimize emissions. Therefore, there are no significant air quality impacts from facility commissioning. All startup scenarios result in emissions that are higher than normal operating emission limits; however, the number of startup events and their duration are controlled by District rules. Thus, there is no significant air quality impact from facility startup. *Reference: FDOC, p. 9 - 12.*		

AIR QUALITY – GENERAL

This analysis evaluates the expected air quality impacts of the emissions of criteria air pollutants due to the planned construction and operation of the project. Criteria air pollutants are defined as those for which a state or federal ambient air quality standard has been established to protect public health. They include nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), and particulate matter less than 10 microns in diameter (PM_{10}). Volatile organic compounds (VOCs) are regulated as precursors to ozone.

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

- whether the project conforms with applicable Federal, State and local air quality laws, ordinances, regulations and standards;
- whether the project will cause significant air quality impacts, including a new violation of ambient air quality standards or contribution to existing violations of those standards; and
- whether the mitigation proposed for the project is adequate to lessen the potential impacts to a level of insignificance.

The South Coast Air Quality Management District (SCAQMD) prepared its Final Determination of Compliance (FDOC) February 14, 2002. In its comments on the Proposed Decision, the SCAQMD informed the Commission that BACT levels for NOx and CO had been lowered as a result of the analysis performed in the Magnolia Power Project proceeding. (01-AFC-6). These revised BACT levels are now reflected in the Conditions of Certification. Project equipment includes General Electric 7241FA combustion turbine generators (natural gas fired) with dry, low NOx combustors; heat recovery steam generators (HRSG) with natural gas duct burners; and a selective catalytic reduction (SCR) system and CO oxidizing catalyst system.

Construction Equipment/Fugitive Dust

The power plant construction requires the use of large earth moving equipment, which generates considerable combustion emissions themselves, along with creating fugitive dust emissions during grading, site preparation, foundations, underground utility installation, and building erection.

The Applicant did not perform air dispersion modeling analyses of the potential construction impacts at the project site. However, both the Applicant and the Energy Commission Staff (Staff) agreed that any construction impacts would be mitigated to the extent feasible by "boilerplate" construction Conditions of Certification. The boilerplate construction Conditions of Certification were derived from previously certified large and lengthy construction projects and thus will be very effective for this project.

Construction of the project and ancillary facilities will result in unavoidable short-term impacts and it is likely that the general public may be exposed to construction impacts associated with

the project. Nevertheless, the impact from the construction of the project could have a significant and unavoidable impact on PM_{10} ambient air quality standards, and should be avoided or mitigated, to the extent feasible.

The project will undertake one or more of the following measures to reduce emissions during construction activities:

To control exhaust emissions from heavy diesel construction equipment:

- Limit engine idle time and shutdown equipment when not in use.
- Perform regular preventative maintenance to reduce engine problems.
- Use CARB Low-Sulfur fuel for all heavy construction equipment.
- Ensure that all heavy construction equipment complies with EPA 1996 Diesel standards.
- Use catalyzed diesel particulate filters on diesel engines.

To control fugitive dust emissions:

- Use water application or chemical dust suppressant on unpaved travel surfaces and parking areas.
- Use wetting or covering of stored earth materials on-site.
- Require all trucks hauling loose material to either cover or maintain a minimum of two feet of freeboard.
- Use gravel pads and wheel washers as needed.
- Use wind breaks and chemical dust suppressant or water application to control wind erosion from disturbed areas.

With the implementation of these mitigation measures, the construction air quality impacts will be mitigated to the extent feasible and, when combined with the temporary nature of this construction, will be insignificant. (FSA **Air Quality**, pp. 29-30; FSA Errata 12/13/2002 Conditions of Certification pp. 1-4.)

MITIGATION:

- ☑ The Project Owner shall require construction contractors to mitigate diesel emissions by measures such as the use of catalyzed diesel particulate filters, use of ultra-low sulfur diesel fuel, and/or use of EPA and CARB 1996 certified diesel engines. Condition **AQ-C3**.
- ☑ The Project Owner shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Conditions: **AQ-C2**.

<u>Ozone</u>

Ozone is not directly emitted from stationary or mobile sources, but is formed as the result of chemical reactions in the atmosphere between directly emitted air pollutants. Nitrogen oxides (NOx) and hydrocarbons (Volatile Organic Compounds (VOCs) interact in the presence of sunlight to form ozone. The SCAQMD is designated “non-attainment” for state standard and federal 1-hour ozone standard. Attaining the federal ozone ambient air quality standard is typically planned for by controlling the ozone precursors, NO_2 and VOC. The 1997 Ozone

State Implementation Plan for the SCAQMD relies on the California Air Resource Board (CARB) to control mobile sources, the U.S. Environmental Protection Agency (US EPA) to control emission sources under federal jurisdiction, and SCAQMD to control local industrial sources. Through these control measures, California and SCAQMD are required to reach attainment of the federal ozone ambient air quality standard by 2010.

Ozone reduction requires reducing NOx and VOC emissions. To reduce NOx emissions, the Applicant proposes to use dry, low-NOx combustors in the combustion turbines and a post-combustion SCR system. To reduce VOC (and CO) emissions, the Applicant proposes to use a combination of good combustion and maintenance practices, along with an oxidizing catalyst located in the HRSG and offsets.

Dry Low-NOx Combustors

Over the last 20 years, combustion turbine generator manufacturers have focused their attention on limiting NOx formed during combustion. One method has been steam or water injection into the combustor cans to reduce combustion temperatures and the formation of NOx. Because of the expense and efficiency losses that result of this method, CTG manufacturers are presently choosing to limit NOx formation through the use of dry low-NOx technologies. General Electric's dry low-NOx combustor is a two-stage ignition system. Initially the fuel/air mixture is ignited in two independent combustors and enters a premix stage (0%-60% load). The low emissions are achieved from approximately 60% load on with the ignition of the center burner.

In this process, firing temperatures remain somewhat low, minimizing NOx formation, while thermal efficiencies remain high. At steady state, CTG loads greater than 60 percent, NOx concentrations entering the HRSG are 9 ppm corrected to 15 percent O_2. CO concentrations are more variable, with concentrations greater than 100ppm up to approximately 60 percent load, dropping to 9 ppm from there on.

Flue Gas Controls

To further reduce the emissions from the combustion turbines before they are exhausted into the atmosphere, flue gas controls, primarily catalyst systems, will be installed in the HRSGs. ESPR will use two catalyst systems, a selective catalytic reduction system to reduce NOx, and an oxidizing system to reduce CO. (FSA 4.1-46.)

Selective Catalytic Reduction (SCR)

To further reduce the emissions from the combustion turbines before they are exhausted into the atmosphere, flue gas controls, primarily catalyst systems, will be installed in the HRSGs. SCR refers to a process that chemically reduces NOx by injecting ammonia into the flue gas stream over a catalyst in the presence of oxygen. The process is termed "selective" because the ammonia-reducing agent preferentially reacts with NOx rather than oxygen, producing inert nitrogen and water vapor. The performance and effectiveness of SCR systems are dependent upon remaining in a range of operating temperatures, which may vary with catalyst designs. (FSA p. 4.1-47.)

The proposed project will use a combination of the dry, low-NOx combustors and SCR system to produce NOx concentration exiting the HRSG stack of 2.0 ppm, corrected to 15 percent excess oxygen over a 1-hour period. (FSA 4.1-47.)

A NOx limit of 2.0 ppm is currently considered BACT for natural gas firing by both the EPA and the California Air Resources Board. Based upon manufacturer's data and a cost effectiveness analysis, SCAQMD specified a 3-hour average limit of 2.0 ppm.

The project owner will be replacing existing boiler systems (units 1 & 2) with a 2-on-1 combined-cycle combustion/steam turbine package (units 5, 6, and 7). This will result in a reduction of NOx and CO emissions, but an increase in VOC, SOx, and PM_{10} emissions. To offset these increased emission impacts, the project owner will provide emission reduction credits (ERCs) from the SCAQMD ERC bank, the Priority Reserve, and the open market.

MITIGATION:

- ☑ The Project Owner shall use SCR to meet BACT emission limitations. Conditions: **AQ-2**, **AQ-3,** and **AQ- 4.**
- ☑ The Project Owner shall install a continuous emissions monitoring system for NOx and report emissions. Condition: **AQ-15**.
- ☑ The Project Owner shall limit NOx and VOC emissions. Conditions: **AQ-9,** and **AQ- 11.**

Nitrogen Dioxide

Nitrogen dioxide (NO_2) can be emitted directly as a result of combustion or can be formed from nitric oxide (NO) and oxygen. NO is typically emitted from combustion sources and readily reacts with oxygen or ozone to form NO_2. The NO reaction with ozone can occur within minutes and is typically referred to as ozone scavenging. By contrast, the NO reaction time with oxygen is on the order of hours under the proper conditions. SCAQMD is designated “attainment” for both the state and federal NO_2 ambient air quality standards.

The project owner has proposed all practical and technically feasible mitigation measures to limit NOx emissions from the combustion turbines to 2.0 ppm. In addition, the Applicant will use an oxidizing catalyst to limit CO emissions, which will also limit VOC emissions.

MITIGATION:

- ☑ The Project Owner shall limit NOx emissions. Conditions: **AQ-9.**

Carbon Monoxide

Carbon monoxide (CO) is a directly emitted air pollutant as a result of combustion. The SCAQMD is designated “non-attainment” for the federal 1-hour and 8-hour CO ambient air quality standards. This means that the area has an average CO concentration of 16.5 ppm or above.

Oxidizing Catalyst

To reduce carbon monoxide (CO) emissions from the combustion turbines, the proposed project includes an oxidizing catalyst, which is similar in concept to catalytic converters used in automobiles. The catalyst is usually coated with a noble metal, such as platinum, which will oxidize unburned hydrocarbons and CO to water vapor and carbon dioxide (CO_2). The CO catalyst is proposed to limit the CO concentrations exiting the HRSG stack to a BACT limit of 4 ppm (natural gas), corrected to 15% excess oxygen and averaged over 1-hour. (FDOC p.4.1-47.)

MITIGATION:

- ☑ The Project Owner shall install a continuous emissions monitoring system for CO and report and limit emissions of CO. Condition: **AQ-6, AQ-8** and **AQ-9.**

Particulate Matter – PM_{10}

PM_{10} is a particulate that is 10 microns in diameter or smaller and is suspended in air. PM_{10} can be directly emitted from a combustion source (primary PM_{10}), soil disturbance (fugitive dust) or it can form downwind (secondary PM_{10}) from some of the constituents of combustion exhaust (NOx, SOx and ammonia). San Bernardino (not the entire South Coast air basin) has been designated a "non-attainment" zone for the federal 24-hour and annual PM_{10} ambient air quality standards. The SCAQMD (including a portion of the San Bernardino County within the basin) has been designated as a "non-attainment" zone for the state 24-hour and annual PM_{10} ambient air quality standards. Emissions of primary PM_{10} are reduced by the use of natural gas as the power plant fuel. Natural gas contains very little solid particulate.

MITIGATION:

- ☑ The Project Owner shall control PM_{10} to meet emission limitations. Condition: **AQ-9 & AQ-11.**
- ☑ The Project Owner shall conduct source testing and report emissions. Conditions**: AQ-6, AQ-7 & AQ 8**.

Sulfur Dioxide

Sulfur dioxide is typically emitted as a result of the combustion of fuel containing sulfur. Fuels such as natural gas contain very little sulfur and consequently have very low SO_2 emission when combusted. By contrast, fuels high in sulfur content such as lignite (a type of coal) emit very large amounts of SO_2 when combusted. Sources of SO2 emissions within the South Coast Air District come from every economic sector and include a wide variety of fuels, including gaseous, liquid and solid. The SCAQMD is designated "attainment" for all the SO_2 state and federal ambient air quality standards. The closest SO_2 monitoring station to the project site is the Hawthorne monitoring station. The historic 1-hour, 24-hour and annual average SO_2 concentrations of SO_2 are far below the state and federal SO_2 ambient air quality standards. However the trends are ambiguous and indicate neither an increase nor a decrease in SO_2 concentrations.

MITIGATION:

- ☑ The Project Owner shall control SOx (as SO_2) to meet emission limitations. Conditions: **AQ-9 and AQ-11**.
- ☑ The Project Owner shall conduct source testing and report emissions. Conditions: **AQ-6, AQ-7 and A-8**.

Volatile Organic Compounds

There are no state or federal ambient air quality standards for VOC. VOCs are a precursor for ozone. Consequently, the SCAQMD limits VOC emissions and uses VOC offsets are part of the strategy for ozone attainment. VOCs are formed in the combustion process. BACT for VOC emissions will be achieved by use of good combustion practices, which use a fuel to air ratio resulting in low VOC emissions. The oxidation catalyst for CO emissions further reduces VOC emissions. In the SCAQMD, VOCs are referred to as Reactive Organic Gasses (ROGs).

MITIGATION:

- ☑ The Project Owner shall control VOC to meet an emission limitation of 2.0 ppm. Conditions: **AQ-9 & AQ-11**.
- ☑ The Project Owner shall conduct source testing and report emissions. Conditions: **AQ-6, AQ-7 and A-8.**

Commissioning and Start-Up

The initial commissioning of a power plant refers to the time frame between completion of construction and the consistent production of electricity for sale on the market. Normal operating emission limits usually do not apply during initial commissioning procedures. The turbines used at ESPR will go through several series of testing during initial commissioning. During the first set of tests, post-combustion controls will not be operational (i.e., the SCR and oxidation catalyst).

The expected emissions from the initial commissioning for both ESPR combustion turbines are reflected in the FSA, Air Quality Table 13, p. 4.1-38. Experience from recent licensing cases suggests that initial commissioning for a combined-cycle system of this size lasts approximately 30 days. Additionally, daily operation of the turbines during the commissioning period is typically limited to several hours per day. It is assumed that the turbines will be operated, on average, not more than 4 hours each in a single day during the initial commissioning period. Staff also assumes that the SCR and oxidation catalyst will be installed approximately 15 days into the initial commissioning period.

ESPR has three general start-up scenarios: cold start, warm start, and hot start. Cold startups usually occur after extended periods of shutdown, typically 3 days or more. Warm startups occur after shorter periods of shutdown duration than those for cold startups, from 24 to 72 hours. Hot startups generally occur following a trip off line or non-critical emergency shutdown, usually lasting only a few hours. Except for CO emissions, the project owner has chosen to assume that hot and warm startups emissions are the same as cold startup

emissions. The project owner assumes 365 hours of startups per year per turbine. The Commission finds these assumptions to be reasonable.

PSD Review

PSD regulations apply to the preconstruction review of stationary sources that emit attainment air contaminants. There will not be a significant increase in such emissions and therefore, the provisions of SCAQMD Rule 1703(a)(3) are not applicable to this project. (FDOC p. 36.)

Cumulative Impacts

To evaluate reasonably foreseeable future impacts as part of the project impacts analysis, the Applicant performed a cumulative modeling analysis. The cumulative analysis included potential and/or permitted, but not yet operating, projects located up to six miles from the proposed facility site. The Applicant consulted SCAQMD to identify potential and/or permitted projects of a size that might interact with the ESPR project plumes and impacts. None was identified, so additional analysis and cumulative modeling were not conducted.

Non-local Offsets

Intervenors City of Manhattan Beach and Murphy/Perkins assert that the use of Emission Reduction Credits and banked credits, while sufficient to comply with air quality laws, are not sufficient to address the local impacts from the project's emissions under CEQA. Intervenor Murphy/Perkins introduced testimony that local emissions must be mitigated locally, and that non-local offsets are insufficient under CEQA.

Staff presented testimony following clarification of the SCAQMD's requirements for offsetting excess emissions (PM_{10} & ozone) that the Applicant had fully offset project emission by purchasing credits from SCAQMD's banking system. Staff's testimony is that the banking system, not the individual credits, assures that CEQA-type potential direct and cumulative impacts are mitigated on a programmatic level. CEQA Guidelines provide that regional air quality programs, such as SCAQMD's emission trading/banking program, can be used to address cumulative impacts. [Staff Written Rebuttal 2/10, p. 41; CEQA Guidelines § 15064(i)(3).]

The Commission finds that the SCAQMD's emission credit banking program mitigates the potential PM_{10} and ozone emissions of the project. Control and mitigation of these emissions are regional issues; and the emission banking system appears to be effective in addressing these regional emission problems.

FINDING

With the implementation of the Conditions of Certification below, the project conforms with applicable laws related to air quality, and all potential adverse impacts to air quality will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

AQ-C1: The project owner shall submit the resume(s) of their selected Construction Mitigation Manager(s) (CMM) to the CPM for approval. The CMM shall preferably have a minimum of 8 years experience as follows; however, the CPM will consider all resumes submitted regardless of experience:

- 5 years construction experience, as a subcontractor or general contractor.
- 1 year experience in construction project management.
- 2 year experience in air quality assessment.
- Must have an engineering degree or equivalent or an additional 5 years construction experience.

The project owner shall make available a dedicated office for the CMM. The CMM shall be responsible for implementing all mitigation measures related to construction, as outlined in Conditions of Certification for construction AQ-C1 through AQ-C4. The CMM shall be on-site or available to be on-site at any time. The CMM will be granted access to all areas of the main and related linear facility construction-sites. The CMM shall have the authority to stop construction on either the main or the related linear facility construction-sites as warranted by specific mitigation measures. The CMM position may not be terminated prior to the cessation of all construction activities unless written approval is granted by the CPM.

Verification: The project owner shall submit the CMM resume at least 60 days prior to site mobilization**.**

AQ-C2: The CMM shall prepare and submit for approval to the CPM, a Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed during the construction phase of the main and related linear construction-sites. The CMM will be responsible for implementing and maintaining all measures identified in the Fugitive Dust Mitigation Plan. The Fugitive Dust Mitigation Plan must address at a minimum the following:

- the identification of the employee parking area(s) and surface of the parking area(s);
- the frequency of watering of unpaved roads;
- the application of chemical dust suppressants;
- the use of gravel in high traffic areas;
- the use of paved access aprons;
- the use of sandbags to prevent run off;
- the use of posted speed limit signs;
- the use of wheel washing areas prior to large trucks leaving the project site;
- the methods that will be used to clean tracked-out mud and dirt from the project site onto public roads;
- the transport of borrowed fill material,
    - the use of vehicle covers;
    - the use of wetting of the transported material;
    - the use of appropriate freeboard;

- the method for the stabilization of storage piles and disturbed areas;
- the use of windbreaks at appropriate locations;
- the suspension of all earth moving activities under windy conditions; and,
- the use of on-site monitoring devices.

Verification: The CMM shall submit the Fugitive Dust Mitigation Plan to the CPM for approval at least 30 days prior to site mobilization.

AQ-C3: The CMM shall prepare and submit a Diesel Construction Equipment Mitigation Plan that will specifically identify diesel engine mitigation measures that will be employed during the construction phase of the main and related linear construction-sites. The CMM will be responsible for implementing and maintaining all measures identified in the Diesel Construction Equipment Mitigation Plan. The Diesel Construction Equipment Mitigation Plan will address the following mitigation measures:

- the use of catalyzed diesel particulate filters (CDPF);
- the use of CARB certified ultra low sulfur diesel fuel, containing 15ppm sulfur or less (ULSD);
- the use of diesel engines certified to meet EPA and/or CARB 1996 or better off-road equipment emission standards; and
- the practice of restricting diesel engine idle time, to the extent practical, to no more than 10 minutes.

The Diesel Construction Equipment Mitigation Plan must include the following:

1. A list of all diesel-fueled, off-road, stationary or portable construction-related equipment to be used either on the main or the related linear construction-sites. This list will be initially estimated and then subsequently updated, as specific contractors become available. Prior to a contractor gaining access to the main or related linear construction-sites, the CMM will submit to the CPM for approval, an update of this list with regard to that contractor's diesel construction equipment.
2. Each piece of construction equipment listed under item (1) must demonstrate compliance by the following mitigation requirements with the exceptions described in items (3), (4) and (5):

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

3. If the construction equipment is intended to be operated on-site for 10 days or less, then no mitigation measures identified in item (2) are required.

4. The CPM may grant relief from the mitigation measures listed under item (2) for a specific piece of equipment if the CMM can demonstrate that they have made a good faith effort to comply with said mitigation measures and that compliance is otherwise not possible.
5. Any implemented mitigation measure in item (2) may be terminated immediately if one of the following conditions exists, however the CPM must be informed within 10 working days of the termination:
    1. The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or power output due to an excessive increase in back pressure.
    2. The measure is causing or is reasonably expected to cause significant engine damage.
    3. The measure is causing or is reasonably expected to cause a significant risk to nearby workers or the public.
    4. Any other seriously detrimental cause which has approval by the CPM prior to the termination being implemented.
    5. All contractors must agree to limit diesel engine idle time on all diesel-powered equipment, to the extent practical, to no more than 10 minutes.

Verification: The CMM shall submit the initial Diesel Construction Equipment Mitigation Plan to the CPM for approval at least 30 days prior to site mobilization. The CMM will update the initial Diesel Construction Equipment Mitigation Plan as necessary, no less than 10 days prior to a specific contractor gaining access to either the main or related linear construction-sites. The CMM will notify the CPM of any emergency termination within 10 working days of the termination**.**

AQ-C4: The CMM will submit to the CPM for approval, the Monthly Construction Compliance Report that will summarize all compliance actions taken germane to Conditions of Certification **AQ-C2** and **AQ-C3**. The Monthly Construction Compliance Report will include the following elements:

Fugitive Dust Mitigation Monthly Report (see Condition of Certification **AQ-C2**):

- Identification of each mitigation measure approved by the CPM.
- Identification of specific mitigation measure performed, the location performed, date performed and date enforced or verified as remaining effective.
- Identification of any transgressions or circumventions of mitigation measure and the actions taken to correct the situation.
- Identification of any observation by the CMM of dust plumes beyond the property boundary of the main construction-site or beyond an acceptable distance from the linear construction-site and what actions (if any) where taken to abate the plume.

Diesel Construction Equipment Mitigation Monthly Report (see Condition of Certification **AQ-C3**).

- Identification of any changes, as approved by the CPM, to the Diesel Construction Equipment Mitigation Plan from the initial report or the last monthly report including any new contractors and their diesel construction equipment.
- A copy of all receipts or other documentation indicating type and amount of fuel purchased, from whom, where delivery occurred and on what date for the main and related linear construction-sites.
- Identification and verification of all diesel engines required to meet EPA or CARB 1996 off-road diesel equipment emission standards.
- The identification of any suitability report being initiated, pursued or the completed report should be included in the monthly report (in the month that it was completed) as should the verification of any subsequent installation of a catalyzed diesel particulate filter. The suitability of the use of a catalyzed diesel particulate filter for a specific piece of construction equipment is to be determined by a qualified mechanic or engineer who must submit a report through the CMM to the CPM for approval.
- Identification of any observation by the CMM of dark plumes emanating from diesel-fired construction equipment that extend beyond the property boundary of the main construction-site or beyond an acceptable distance from the linear construction-site and what actions (if any) where taken to abate the plume or future expected plumes.

Verification: CMM shall submit to the CPM for approval, the Monthly Construction Compliance Report by the 10th day of each month while construction is occurring at the main or related linear construction-sites.

AQ-C5 The project owner shall commit specific emission reduction credits certificates for the ESPR to offset the project emissions as provided for in Table AQ-C5-1. The project owner shall not use of any ERCs to be surrendered in the Table AQ-C5-1 for purposes other than offsetting the ESPR.

TABLE AQ-C5-1 – Emission Offset Requirements

Certificate Number	Amount (lbs/day)	Pollutant
AQ003331	47	SO2
AQ003332	13	SO2
AQ003333	17	SO2
AQ003334	75	SO2
AQ003336	19	SO2
AQ003463	1	SO2
AQ003464	1	SO2
AQ004450	10	SO2
AQ004498	10	SO2
Total of Certificates Identified	193	SO2
Total to be surrendered	43	SO2
District Exempted Emission Offsets	29	SO2
Total surrendered & exempted emissions	72	SO2

AQ003327	70	VOC
AQ004580	20	VOC
AQ003722	95	VOC
Total of Certificates Identified	185	VOC
Total to be surrendered	140	VOC
TOTAL SURRENDERED EMISSIONS	140	VOC
AQ003352	6	PM10
AQ003462	2	
AQ003550	2	
AQ003568	3	
AQ004145	1	PM10
AQ004322	5	PM10
AQ004323	3	PM10
AQ004326	2	PM10
Total of Certificates Identified	24	PM10
Total to be surrendered	24	PM10
1304 Exempted Emission Offsets	173	PM10
Priority Reserve Purchased	291	PM10
Priority Reserve from District	58	PM10
Total surrendered & exempted emissions	546	PM10

The project owner shall request from the District a report of the NSR Ledger Account for the ESPR after the District has granting the ESPR a Permit to Construct. Such report to specifically identify the ERCs, Priority Reserve Credits and Rule 1304 Exempted Emissions used to offset the project emissions. The project owner shall submit this report to the CPM prior to turbine first fire.

Verification: No more than 15 days following the issuance of the District's Permit to Construct, the project owner shall request from the District the report of the NSR Ledger Account for the ESPR. The project shall submit the report of the NSR Ledger Account for the ESPR to the CPM no less than 30 days prior to turbine first fire.

AQ-1 Deleted.

Conditions of Certification AQ-2 through AQ-27, pertain to the following equipment:

1. 1,896 MMBTU/HR Gas Turbine (ID No. D46) (A/N 378766) No. 5 GE Model 7241FA with Dry Low NOx combustors and steam injection for power augmentation connected directly to a 179 MW (nominal) Electric Generator (ID No. B47) and a Heat Recovery Steam Generator (ID No. B49) with 600 MMBTU/HR Duct Burners (ID No. D48) connected in common with Gas Turbine No. 7 to a 288 MW (nominal) steam turbine (ID No. B50). Selective Catalytic Reduction (ID No. C52) (A/N 378771) with 4379 cubic feet of total volume, with an ammonia injection grid (ID No. B53) and a CO oxidation catalyst (ID No.

C51) with 1000 cubic feet of total volume connected to an exhaust stack (ID No. S54) (A/N 378771) No 5.

2. 1,896 MMBTU/HR Gas Turbine (ID No. D55) (A/N 378767) No. 7 GE Model 7241FA with Dry Low NOx combustors and steam injection for power augmentation connected directly to a 179 MW (nominal) Electric Generator (ID No. B56) and a Heat Recovery Steam Generator (ID No. B58) with 600 MMBTU/HR Duct Burners (ID No. D57) connected in common with Gas Turbine No. 5 to a 288 MW (nominal) steam turbine (ID No. B59). Selective Catalytic Reduction (ID No. C61) (A/N 378773) with 4379 cubic feet of total volume, with an ammonia injection grid (ID No. B62) and a CO oxidation catalyst (ID No. C60) with 1000 cubic feet of total volume connected to an exhaust stack (ID No. S63) (A/N 378773) No 7.

AQ-2: The operator shall install and maintain a flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH3) to the SCR in combined cycle turbines 5 and 7. The operator shall also install and maintain a device to continuously record the parameter being measured. The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-3: The operator shall install and maintain a temperature gauge to accurately indicate the temperature in the exhaust at the inlet to the SCR reactor in combined cycle turbines 5 and 7. The operator shall also install and maintain a device to continuously record the parameter being measured. The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-4: The operator shall install and maintain a pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches water column in combine cycle turbines 5 and 7. The operator shall also install and maintain a device to continuously record the parameter being measured. The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-5: The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutants To be Tested	Test Method	Averaging Time	Test Location
NH3 Emissions	District Method 207.1 and 5.3 or EPA Method 17	1 hour	Outlet of SCR serving this equipment

The test shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 minute averaging time period.

Verification: The project owner shall submit the proposed protocol for the source tests 60 days prior to the proposed source test date to both the District and CPM for approval. The project owner shall notify the District and CPM no later than 7 days prior to the proposed source test date and time. The project owner shall submit source test results no later than 45 days following the source test date to both the District and CPM.

AQ-6: The operator shall conduct start-up source test(s) for the pollutant(s) identified below on combined-cycle turbine units 5 and 7.

Pollutants To be Tested	Required Test Method	Averaging Time	Test Location
NOx Emissions	District Method 100.1	1 hour	Outlet of SCR serving this equipment
CO Emissions	District Method 100.1	1 hour	Outlet of SCR serving this equipment
SOx Emissions	Approved District & CPM Method	1 hour	Outlet of SCR serving this equipment
ROG Emissions	Approved District Method	1 hour	Outlet of SCR serving this equipment
PM Emissions	Approved District & CPM Method		Outlet of SCR serving this equipment
NH3 Emissions	District Method 207.1 and 5.3 or EPA Method 17	1 hour	Outlet of SCR serving this equipment

The test shall be conducted after District and CPM approval of the source test protocol, but no later than 180 days after initial start-up.

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

The test shall be conducted in accordance with a District and CPM approved source test protocol. The protocol shall be approved by the District and CEC before the test commences. The test protocol shall include the proposed operating conditions of the turbine

during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of District Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted with and without duct firing, when this equipment is operating at loads of 100, 75, and 50 percent of maximum load.

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

AQ-7: The operator shall conduct source test(s) for the pollutant(s) identified below on combined cycle turbine units 5 and 7.

Pollutants to be Tested	Required Test Method	Averaging Time	Test Location
SOx Emissions	Approved District & CPM Method	1 hour	Outlet of SCR serving this equipment
ROG Emissions	Approved District Method	1 hour	Outlet of SCR serving this equipment
PM Emissions	Approved District & CPM Method		Outlet of SCR serving this equipment

Verification: The project owner shall submit the proposed protocol for the source tests 60 days prior to the proposed source test date to both the District and CPM for approval. The project owner shall notify the District and CPM no later than 7 days prior to the proposed source test date and time. The project owner shall submit source test results no later than 45 days following the source test date to both the District and CPM.

AQ-8: The operator shall provide to the District and CPM any source test report in accordance with the following specifications:

- Source test results shall be submitted to the District and CPM no later than 60 days after the source test was conducted.
- Emission data shall be expressed in terms of concentration (ppmvd), corrected to 15 percent oxygen (dry basis), mass rate (lbs/hr), and lbs/MM cubic feet. In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.
- All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).
- All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.

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

Verification: See verifications for **AQ-5, -6,** and **–7.**

AQ-9: The project owner shall submit to the Commission, Quarterly Operational Reports that include the fuel use associated with each gas turbine train (both gas turbine and duct burner), in addition to the CO and NOx CEMS recorded data for each gas turbine exhaust stack on an hourly basis in order to verify the following emissions limits.

Except during start-up, shutdown and initial commissioning, emissions from each gas turbine exhaust stack shall not exceed the following limits:

NOx (measured as NO2):	2.0 ppm at 15% oxygen on a dry basis averaged over one hour and 18.27 lbs/hour.
CO:	4 ppm at 15% oxygen on a dry basis averaged over 1 hour and 11.12 lbs/hr.
SOx (measured as SO2):	1.76 lbs/hr
VOC:	6.37 lbs/hr
PM10:	15.0 lbs/hr
Ammonia:	5 ppm at 15% oxygen on a dry basis.

Verification: The project owner shall submit the Quarterly Operational Reports as specified herein to the CPM no later than 30 days following the end of each calendar quarter.

AQ-10: The operator shall vent the combined cycle turbine units 5 and 7, as well as their associated duct burners to the CO oxidation and SCR control whenever this equipment is in operation.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-11: The operator shall limit emissions from this equipment as follows:

Contaminant	Emissions Limit
CO	20,566 LBS IN ANY 1 MONTH
PM10	20,336 LBS IN ANY 1 MONTH
VOC	7,588 LBS IN ANY 1 MONTH
Sox	2,342 LBS IN ANY 1 MONTH

The operator shall calculate the emission limit(s) by using monthly fuel use data and the following emission factors: PM_{10} 6.26 lbs/MMscf , VOC 2.39 lbs/MMscf, and SOx 0.72 lbs/MMscf. Written records of startups shall be maintained and made available to the District.

The operator shall calculate the emission limit(s) for CO, during the commissioning period using fuel use data and the following emissions factors: 501 lbs/MMscf during the full speed no load tests and the part load tests when the turbine is operating at or below 60 percent load, and 14 lbs/MMscf during the full load tests when the turbine is operating above 60 per cent load.

The operator shall calculate the emission limit(s) for CO, after the commissioning period and prior to the CO CEMS certification, using fuel use data and the following emission factors: 100 lbs per startup and 4.55 lbs/MMscf for all other operations.
The operator shall calculate the emission limit(s) for CO, after the CO CEMS certification, based on readings from the certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated in accordance with the approved CEMS plan.

For the purposes of this condition, the limit(s) shall be based on the total combined emissions from gas turbine No. 5 and No. 7.

Verification: The project owner shall submit the monthly fuel use data and emission calculations to the CPM in the Quarterly Operation Reports (**AQ-9**).

AQ-12: The operator shall keep records, in a manner approved by the District, for natural gas fuel use during the commissioning period.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-13: The operator may, at its discretion, choose not to use ammonia injection if the following requirement is met:

- The inlet exhaust temperature to the SCR is 450 degrees F or less, not to exceed 3 hours during a cold startup, 2 hours during a warm startup, and 1 hour during a hot startup.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-14: The operator shall install and maintain a CEMS to measure CO concentration in ppmv. Concentrations shall be corrected to 15 percent oxygen on a dry basis. The CEMS will convert the actual CO concentrations to mass emission rates (lbs/hr) and record the hourly emission rates on a continuous basis. The CEMS shall be installed and operated, in accordance with an approved District Rule 218 CEMS plan application. The operator shall not install the CEMS prior to receiving initial approval from District. The CO CEMS shall be installed and operated within 90 days after the

initial start-up (first firing) of the gas turbines. The CEMS shall be installed and operated to measure CO concentration over a 15 minute averaging time period.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-15: The operator shall install and maintain a CEMS to measure NOx concentration in ppmv. Concentrations shall be corrected to 15 percent oxygen on a dry basis. The CEMS shall be installed and operating no later than 12 months after initial start-up of the turbine and shall comply with the requirements of Rule 2012. During the interim period between the initial start-up and the provisional certification date of the CEMS, the operator shall comply with the monitoring requirements of Rule 2012(h)(2) and 2012(h)(3). Within two weeks of the turbine startup date, the operator shall provide written notification to the District of the exact date of start-up.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-16: The 2.0 PPM NOx emission limit(s) shall not apply during turbine commissioning and startup periods. Startup time shall not exceed 3 hours per day. The commissioning period shall not exceed 33 operating days from the date of initial start-up. The operator shall provide the AQMD with written notification of the start-up date. No more than one turbine shall be in start-up mode at any one time. Written records of commissioning and start-ups shall be maintained and made available upon request from AQMD.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-17: The 4 PPM CO emission limit(s) shall not apply during turbine commissioning and start-up periods. Start-up time shall not exceed 3 hours per day. The commissioning period shall not exceed 33 operating days from the date of initial start-up. The operator shall provide the AQMD with written notification of the initial start-up date. No more than one turbine shall be in start-up mode at any one time. Written records of commissioning and start-ups shall be maintained and made available upon request from AQMD.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-18: The 109 LBS/MMCF NOx emission limit(s) shall only apply during the turbine commissioning period during the full speed no-load tests and the part-load tests when the turbine is operating at or below 60% load to report RECLAIM emissions.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-19: The 33.9 LBS/MMCF NOx emission limit(s) shall only apply during the turbine commissioning period during the full load tests when the turbine is operating above 60% load to report RECLAIM emissions. This emission limit shall also apply during the interim reporting period to report RECLAIM emissions. The interim reporting period shall not exceed 12 months from the initial start-up date.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-20: The 80 lbs/hour NOx emission limit(s) shall only apply during turbine start-ups. Only one turbine shall be in start-up mode at any one time. Start-ups shall not exceed 3 hours per day per turbine.

Verification: The project owner shall submit CEMS records demonstrating compliance with this condition as part of the Quarterly Operational Report required in **AQ-9.**

AQ-21: The 102 LBS/MMCF NOx emission limit(s) shall only apply to report RECLAIM emissions during the interim period for the duct burner. The interim reporting period shall not exceed 12 months from the initial start-up date.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

AQ-22: For the purpose of the following condition numbers, the phrase “continuously record” shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour.

Condition no. **AQ-2**
Condition no. **AQ-3**
Condition no. **AQ-24**

Verification: See verifications for **AQ-2, -3,** and **–24.**

AQ-23: For the purpose of the condition number **AQ-4**, the phrase "continuously record" shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that month.

Verification: See verifications for **AQ-4**.

AQ-24: The 2.0 PPMV NOx emission limit(s) are averaged over 60 minutes at 15 percent oxygen, dry.

Verification: The project owner shall submit CEMS records demonstrating compliance with this condition as part of the Quarterly Operational Report required in **AQ-9.**

AQ-25: The 4 PPMV CO emission limit(s) are averaged over 60 minutes at 15 percent oxygen, dry.

Verification: The project owner shall submit CEMS records demonstrating compliance with this condition as part of the Quarterly Operational Report required in **AQ-9.**

AQ-26: The 5 PPMV NH3 emissions limit(s) are averaged over 60 minutes at 15 percent O2, dry.

Verification: The project owner shall submit CEMS records and all calculations demonstrating compliance with this condition as part of the Quarterly Operational Report required in **AQ-9.**

AQ-27: This equipment shall not be operated unless the operator demonstrates to the Executive Officer and the CPM that the facility holds sufficient RTCs to offset the prorated annual emissions increase for the first compliance year of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer and the CPM that, at the commencement of each compliance year after the first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase.

Verification: The project owner shall submit to the CPM copies of all RECLAIM reports filed with the District in each Quarterly Operational Report (see **AQ-9**).

Condition of Certification **AQ-28**, below, pertains to the following equipment:

Internal combustion engine, emergency fire pump, diesel Clarke, Model JDFP 06WA, turbocharged, aftercooled, 265 BHP A/N 378769 (ID. No. D45).

AQ-28 The operator shall limit the operating time to no more than 199 hours in any one year.

- To comply with this condition, the operator shall install and maintain a non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.
- The operator shall maintain records in a manner approved by the District to demonstrate compliance with this condition.

- The records shall include, date of operation, the elapsed time in hours, and the reason for operation. Records shall be kept and maintained on file for a minimum of 5 years and made available to AQMD upon request.

Verification: The project owner shall submit the recorded data specified in this condition on an annual basis as part of the fourth Quarter Operational Report (see **AQ-8**).

Condition of Certification **AQ-29**, below, pertains to the following equipment:

Underground Aqueous Ammonia Storage Tank, TK-001, carbon steel, double walled with three transfer pumps and a PVR set at 50 PSIG, 20,000 gallons capacity. A/N 379904 (I.D. No. D30)

AQ-29 The operator shall install and maintain a pressure relief valve set at 50 psig.

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

LAWS, ORDINANCES, REGULATIONS & STANDARDS
AIR QUALITY

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Air Act §111: 42 USC §7411; 40 CFR Part 60, subparts Db and GG	Establishes standards of performance to limit the emission of criteria pollutants for which the EPA has established national ambient air quality standards (NAAWS).
Clean Air Act §112 42 USC §7412; 40 CFR Part 63	Establishes national emission standards to limit hazardous air pollutant (HAP) emissions from existing major sources of HAP emissions in specific source categories.
Clean Air Act §160-169A 42 USC §7470-7491; 40 CFR Parts 51 & 53	Requires pre-construction review and permitting of new or modified major stationary sources of air pollution to prevent significant deterioration of ambient air quality. PSD applies only to pollutants for which ambient concentrations do not exceed the corresponding NAAQS (i.e., attainment pollutants).
Clean Air Act §171-193 42 USC 501 et seq.; 40 CFR Parts 51 & 52	Requires pre-construction review and permitting of new or modified major stationary sources of air pollution to allow industrial growth without interfering with the attainment of ambient quality standards.
Clean Air Act §401 42 USC 654 et seq.; 40 CFR Part 72	Requires monitoring and reduction of emissions of acidic compounds and their precursors. The principal source of these compounds is the combustion of fossil fuels. Therefore, Title IV established national standards to limit SOx and NOx emissions from electrical power generating facilities.
Clean Air Act §501 (Title V) 42 USC §7661; 40 CFR Part 70	Requires the issuance of operating permits that identify all applicable federal performance, operating, monitoring, record-keeping and reporting requirements. Title V applies to major facilities, acid rain facilities, subject solid waste incinerator facilities, and any facility listed by EPA as requiring a Title V permit.
Clean Air Act 501 (Title V) 42 USC §7414; 40 CFR Part 64	Requires facilities to monitor the operation and maintenance of emissions control systems and report any control system malfunctions to the appropriate regulatory agency.

Emergency Planning and Community Right-to-Know Act § 313 (EPCRA)	EPCRA requires certain facilities and establishments to report toxic releases to the environment if they: 1. Manufacture more than 25,000 lbs. of a listed chemical per year; 2. Process more than 25,000 lbs. of a listed chemical per year; or 3. Otherwise use more than 10,000 lbs. of a listed chemical per year.
STATE	
Health & Safety Code (H&SC) §39500 et seq.	Required by the Clean Air Act, the State Implementation Plan (SIP) must demonstrate the means by which all areas of the state will attain NAAQS within the federally mandated deadlines.
H&SC §40910-40930	The California Clean Air Act requires local Air Pollution Control District's (APCD) to attain and maintain both national and state AAQS at the earliest practicable date.

APPLICABLE LAW AIR QUALITY	DESCRIPTION
H&SC §39650-39675	The Toxic Air Contaminant Identification and Control Act created a two-step process to identify toxic air contaminants (TAC) and control their emissions. The ARB identifies and prioritizes the pollutants to be considered for identification as Tacos. The ARB then assesses the potential for human exposure to a substance while the Office of Environmental Health Hazard Assessment evaluates the corresponding health effects.
California Public Resources Code §25523(a); 20 CCR §§1752, 1752.5, 2300-2309, and Div. 2 Chap. 5, Art.1, Appendix B, Part(k)	Establishes requirements in the Sec's decision making process on an application for certification that assures protection of environmental quality.
LOCAL	
SCAQMD Regulation 2 Rule 1	Requires an Authority to Construct (ATC and Permit to Operate (PTO) from the air district, as well as the requirement to obtain emission reduction credits.
SCAQMD Regulation 2 Rule 2 – New Source Review (NSR)	Establishes the criteria for siting new and modified emission sources.
SCAQMD Regulation 6-301.	Prohibits visible emissions as dark as or darker than No. 1 on the Ringelmann chart.
SCAQMD Regulation 6-310	Limits particulate emissions to 0.15 grains per cubic foot of gas at dry standard conditions (gr/DSCF).
SCAQMD Regulation 9 Rule 9	Limits NO_x emissions to 9ppm at 15% O_2.
SCAQMD Regulation 9 Rule 1.	Limits SO_2 ground-level concentrations and requires monitoring.

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BIOLOGY – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Protected Species Impact	**None**	**None**	**YES**
	The power plant site, located within the fenced boundary of the existing El Segundo Generating Station, does not contain protected species or their habitat. The water supply pipelines are being installed only under paved roadways. The project utilizes an already installed, permitted and operating cooling system that draws seawater from and discharges warmed seawater to the Santa Monica Bay; the total amount of water withdrawn from (and returned to) Santa Monica Bay is a small fraction of the total volume of the Bay, which is subject to many other facilities that use its water and discharge into it. *References: AFC §5.6, Applicant's Writ. Test., Exh. B, p.3.*		
Long-term Habitat Loss/ Degradation	**None**	**None**	**YES**
	The proposed project will be constructed on the existing generating site and will not affect any habitat. See Aquatic Biology below. *Reference: Applicant's Writ. Test., Exhibit B, and Rbtl. Test. pp. 22-24.*		
Short-term Construction Disturbance	**None**	**None**	**YES**
	No species or habitat will be disturbed by construction of the project and its associated pipelines or the use of offsite lay down areas. *References: AFC p. 5.6-29, FSA Bio. Res., p. 4.2-31-32.*		

Operation Impact	CONDITION	None	CONDITION
	Noise, light, and wastewater discharge resulting from the operation of the project will not impact any species or habitat. Aquatic Biology: The ocean cooling system capacity would not increase as a result of the proposed project nor would the amount of water used by the system. The cooling system, consisting of two intakes, is permitted by the LARWQCB to utilize up to ~~207~~ 605.6 million gallons of seawater per day. New "Phase II " regulations under section 316(b) of the federal Clean Water Act may result in required changes to the system including possible reduction in maximum allowed flows per day. The proposed project includes a flow cap that would restrict flows in the cooling system to recent historical annual averages, plus a 3-month seasonal flow cap. Therefore, the facility would not cause a physical change to the existing environmental setting and thus would not significantly impact biological resources through the operation of the ocean cooling system. In addition, ~~i~~n ~~line with the section 316(b) requirements,~~ conformance with the new Phase II regulations, project entrainment impacts must be reduced by at least 60% and impingement impacts by at least 80%, below unmitigated flows (or the project must achieve alternative compliance options allowed under the regulations) prior to commercial operation. ~~These requirements would remain in place until the time that the NPDES permit is modified pursuant to new 316(b) regulations. For these reasons, the facility would not cause a physical change to the existing environmental setting and thus would not significantly impact biological resources through the operation of the ocean cooling system.~~		

	Further, the project meets the objectives of the California Coastal Act to maintain, enhance, and where feasible restore the marine environment. The project will maintain ~~by maintaining~~ the existing environmental setting, and will help to restore and enhance ~~restoring partially~~ the Santa Monica Bay by payment to the Santa Monica Bay Restoration Commission of up to $5 million for ~~funding~~ studies ~~by payment to the Restoration Commission~~ assessing the ecological condition of the Santa Monica Bay and recommending actions needed to improve the ecological health of the Bay. We fully expect these studies to assist the LARWQCB in carrying out future reviews of NPDES permits for the Applicant.) The project will also enhance~~, and enhancing~~ the aquatic environment by demonstrating the feasibility of an aquatic filter barrier at the project intake site, and by minimizing entrainment and impingement impacts pursuant to the Phase II 316(b) regulations ~~by reducing entrainment by 60% or more following an appropriate 316(b) study~~. **CONDITIONS:** ☑ The project owner shall transfer $~~1~~5,000,000 in trust to the Santa Monica Bay Restoration Commission for bay-wide studies and enhancement measures. Condition: **BIO-1.** ☑ The project owner shall evaluate the feasibility of utilizing aquatic filter barrier technology to eliminate entrainment impacts at ESGS and, if feasible, install the filter barrier at the project intake. Condition: **BIO-2.** ☑ The project owner shall limit total annual flow at ESGS to 126.78 billion gallons per year and further limit monthly flows during February, March and April to 7.961 billion gallons, 8.313 billion gallons, and 8.524 billion gallons, respectively. Condition: **BIO-3** ~~☑ The project owner shall conduct a 316(b) study and limit entrainment impacts by at least 60% and impingement impacts by 80% prior to commercial operation. Condition **BIO-4**.~~ *Reference: AFC p. 5.6-28-32; FSA Biological Res., p. 4.2-28, 29.*

BIOLOGY - GENERAL

The proposed project and ancillary facilities would be constructed within a developed portion of the existing El Segundo Generating Station (ESGS). The proposed project would be located where units 1 and 2 currently stand. This area consists of paved and gravel roads, ornamental iceplant and other ornamental vegetation, and ruderal (weedy) plant species. No sensitive plant or animal species exist on the ESGS site. (AFC p. 5.6-18-23; FSA Biological Res., p. 4.2-6.)

The proposed project would ~~also include~~ use ~~of~~ the existing, operating cooling system #1 that withdraws and discharges seawater ~~to/from~~ from and to the Santa Monica Bay. This system currently provides cooling for units 1 and 2. The operation of this once-through cooling system has the potential to impact aquatic organisms though impingement, entrainment, and thermal effects. Cooling system capacity would not be increased because of the project. The cooling system is permitted and operates under the authority of ~~the responsible agency,~~ the Los Angeles Regional Water Quality Control Board (LARWQCB) through the issuance of a National Pollution Discharge Elimination System (NPDES) permit. The project also is located within the California Coastal Zone and, as such, is subject to the applicable provisions of the California Coastal Act.

Protected Species Impact

~~The proposed power plant site and substation would be located within the existing ESGS site. The proposed facility would be located where Units 1 and 2 currently stand.~~ Part of the footprint of the new facility would extend into paved areas and ornamental vegetation. The proposed power plant, staging and laydown sites do not contain any native or sensitive plant species, and no sensitive animal species or their habitat occurs on-site. Therefore, no protected species are impacted by the project. (AFC p. 5.6-18-23; SA Biological Res., p. 4.2-6.)

~~The proposed project would utilize once-through cooling with seawater. The cooling system that currently provides cooling for units 1 and 2 would be utilized for the proposed project. Thus,~~Since the project does not contemplate a new cooling system, ~~. The history and expectations of the~~ operation of this cooling system would ~~do~~ not ~~include~~ impact~~s to~~ protected species. (AFC §5.6; Applicant's Writ. Test., Exh. B; Applicant's Rpl. Test. pp. 15-28.)

Long-Term Habitat Loss/Degradation

The power plant site is either paved or un-vegetated, planted with ornamental vegetation and has no biological resources. Therefore, as to the site, no habitat resource is being lost or degraded. ~~By constructing~~ Because the proposed power plant will be constructed on the existing generating site, the project will not cause any long-term habitat loss or degradation. (AFC p. 5.6-18-23; SA Biological Res., p. 4.2-6.) See discussion below regarding Aquatic Biology.

Short-term Construction Disturbance

The project site, located within the fenced boundary of the existing ESGS, is un-vegetated soil, gravel-covered or paved areas and devoid of biological resources. Thus, there will be no on-site disturbance of biological resources during construction of the power plant. The associated pipelines run entirely within paved roads and the proposed offsite staging and laydown areas are paved, gravel covered or otherwise devoid of biological resources. (AFC p. 5.6-29; FSA Bio. pp. 4.2-31-32.)

Operation Impact

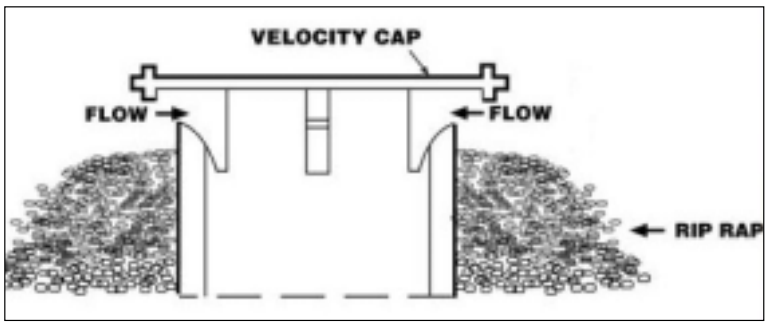
This topic centers on two key issues: 1) project compliance with applicable LORS, particularly the federal Clean Water Act and the California Coastal Act; and 2) the proper application of the California Environmental Quality Act (CEQA), including the project's potential for significant environmental impacts.

Operation of the proposed project would not cause a significant impact on any riparian habitat or local vegetation. (AFC 5.6-29-32; FSA Bio., p. 4.2-6.)

Aquatic Biology

The El Segundo project is located on Santa Monica Bay, which is a significant aquatic resource, not only for its environmental value but also its economic value to California. Santa Monica Bay enjoys heightened public and governmental agency concern about its potential further environmental deterioration from various causes.

~~The proposed project would include use of the existing, operating cooling system (Intake #1) that withdraws and discharges seawater from and to Santa Monica Bay.~~ Applicant proposes that the project use once-through cooling water for the new generating Units 5, 6, and 7 by using the existing cooling water intake and discharge system which currently provides cooling water for existing Units 1 and 2. No physical modification of the intake and outfall is proposed. The existing intake and discharge (for Units 1 and 2) are located approximately 2,590 and 1,989 feet, respectively, offshore at a depth of 32 feet Mean Lower Low Water (MLLW). These intake and discharge structures are located about 240 feet north of similar intake and discharge structures for El Segundo Units 3 and 4.



Cooling water will be withdrawn

from the ocean by an existing vertical intake riser, approximately 11 feet by 14 feet, covered by a velocity cap positioned 3 feet above the riser mouth. Ocean water is conveyed through a 2,500-foot long, 10-foot diameter pipe into a large forebay (holding pool) adjacent to the generating plant. From there, the seawater is withdrawn as needed through a screened intake device, passed through the power plant's steam condenser, and discharged through the outfall structure. During normal, full-load operation, the seawater is heated in the condenser by as much as 22 degrees Fahrenheit (F) and then discharged through a 10-foot diameter outfall pipe at a depth of 26 feet. The discharge temperature is about 20 degrees F above ambient ocean temperature.

Periodically, power plant cooling water is heated further (100° F) and recirculated back into the forebay in a "heat treatment" process to kill organisms that may foul the ocean water intake pipe, forebay, intake screens, and cooling system.

The existing cooling water system operates pursuant to an NPDES permit issued, and subject to 5-year renewal, by the ~~Los Angeles Regional Water Quality Control Board (~~LRWQCB~~)~~, which is a ~~regional~~ state agency ~~exercising a federalized function~~ that exercises authority under section 316(b) of the federal Clean Water Act when granting NPDES permits. The current NPDES permit is due to expire on June 29, 2005. The current NPDES permit authorizes ocean water withdrawal (and discharge) of ~~207~~ 605.6 million gallons per day (mgd) (i.e., intake 1 – 207 mgd, Intake 2 – 398 mgd). For various reasons, the average flow rates have declined substantially for more than a decade to well below the permitted level. Even at the rate of ~~207~~ 605.6 million gallons per day, the project's use of Santa Monica Bay water would be a small fraction of the total volume of the Bay, which is approximately 14.5 trillion gallons. Moreover, unlike the situation we faced in the Moss Landing and Morro Bay cases, here the Santa Monica Bay is not an enclosed body of water with a relatively limited inflow and outflow from the much larger Pacific Ocean. Still, we must take seriously the fact that the project, together with discharges from a number of additional large industrial facilities that use and discharge similarly large amounts of Bay water (or that discharge into the Bay, water, at various levels of purity, that originally came from other sources) may be contributing to a bay-wide environmental problem that needs to be addressed in order to protect and restore this portion of the California coast.

~~The El Segundo project is located on Santa Monica Bay, which is a significant aquatic resource, not only for its environmental value but also its economic value to California. Santa Monica Bay enjoys heightened public and governmental agency concern about its potential further environmental deterioration from various potential causes.~~

~~Applicant proposes that the project use once-through cooling water for the new generating Units 5, 6, and 7 by using the existing cooling water intake and discharge system which currently provides cooling water for existing Units 1 and 2. (Intake No. 1) No physical modification of the intake and outfall is proposed.~~ Applicant initially proposed to operate the project using intake #1 at the maximum flow rate of ~~at~~ 207 million gallons per day allowed under the existing NPDES permit that was issued in 2000 by the LARWQCB following an environmental review. The existing NPDES permit finds that the existing cooling water intake system complies with applicable laws and that "ecological impacts of the intake system are of an environmentally acceptable order." (ESGS NPDES Permit Finding 8.)

In its review of the project, Staff, together with agencies it has contacted and environmental Intervenors, has asserted that the power plant project may cause significant adverse direct impacts and will cause significant cumulative impacts to the aquatic environment. (FSA Bio., pp. 27-36)

At the center of Staff's assertion is its claim that, in the absence of the Applicant's performing a new and site-specific study pursuant to section 316(b) ~~study~~, the Energy Commission is prevented from finding that the project will not have potential significant adverse environmental impacts. "A 316(b) study" derives its name from the governing section of the federal Clean Water Act and ~~is~~ requires both ~~an~~ in-ocean sampling as well as analyses. ~~and analytical effort which has been used by, in this case, the LARWQCB to assess the potential impacts in the issuance of an NPDES permit.~~ From the inception of these proceedings, Staff has asked the Applicant to perform a site specific 316(b) study. Such a study would take a year to complete and cost approximately a million dollars. Staff stated it needed the results of such a study to obtain the appropriate information to begin its independent environmental review. Other agencies, including the California Coastal Commission, the National Marine Fisheries Service, and California Department of Fish and Game, have joined in Staff's call for a new 316(b) study. (Staff Opening Brief, p. 8.) (As we discuss more fully below, such a study would focus on the ESGS and the immediately surrounding environment, not on the entire Bay and all of the sources that use its water or discharge to it.)

The 316(b) study used by the LARWQCB ~~to renew~~ in granting the existing NPDES permit (actually, in renewing a previous permit) is a "proxy" study, prepared initially in 1982. When Southern California Edison (SCE) owned various coastal power plants, SCE's original 1982 316(b) study ~~at~~ for the Ormond Beach ~~facility~~ powerplant, and ~~its~~ updates of that study, were applied to similarly situated coastal plants, such as El Segundo, for the purpose of NPDES ~~permitting~~ permits and their renewals. As a result of deregulation, SCE was required to sell these coastal plants in the late 1990's to non-utility owners, such as this Applicant. The Applicant purchased the plant in 1998 and filed its AFC in December 2000. ~~which began the review by Staff~~.

When it began its review, Staff obtained historical cooling water usage data to establish a "baseline" under CEQA Guidelines section 15125. Since the project proposed to increase flows from the Staff-calculated recent historical average to the NPDES limit, Staff claimed that the greater flows would have caused a physical change to the "existing" environment, with the potential to cause significant impacts.

On that basis, Staff requested that the Applicant to prepare a new 316(b) study specifically for the El Segundo site, instead of relying on "proxy" studies ~~which~~ that the CEC staff considered to be ~~"stale"~~inappropriate due to ~~their~~the age of the analyses, the distance between the original study site (Ormond Beach) and the El Segundo site, and the use of ~~and the fact that~~ sampling and study methodologies that have improved in the last 20 years. ~~Staff was equally concerned about the appropriateness of relying on studies that were performed not in close proximity to the El Segundo site.~~

The Applicant declined to conduct a new 316(b) study ~~or the Staff~~ and presented several other proxy studies to further support the analysis provided in the Ormond Beach 316(b) study. ~~and updates which was the basis for the NPDES permit and the LARWQCB's finding in the 2000 NPDES permit that "ecological impacts of the intake structure were of an environmentally acceptable order." (LARWQCB NPDES Permit for Intake # 1, Finding No. 8)~~

Staff believed that the project would cause unmitigated adverse biological impacts, stating that, ~~Specifically,~~ "the entrainment, impingement and thermal effects on fish and invertebrates from the project's once through cooling system would cause unmitigated direct adverse impacts to marine organisms that may be significant and cumulative impacts that are significant." Further, Staff stated, "Because the Applicant has provided unreliable recent scientific information concerning the extent of adverse entrainment impacts on fish larvae and other plankton species, staff cannot determine the scope and magnitude of the project's *direct* impacts at this time. However, the waters of Santa Monica Bay and the Southern California Bight are already experiencing serious degradation in a number of marine organisms, and the unmitigated entrainment, impingement, and thermal impacts of the proposed project will cause significant *cumulative* adverse biological impacts to marine organisms." (FSA 8/02 Biological Resources, p. 4.2-1.) Staff asserted that the project would cause impacts both ~~in~~ by entrainment (organisms that get through the intake structure's filters and are drawn into the cooling system) and impingement (organisms hit the intake).

Several other agencies and intervenors representing Santa Monica Bay environmental interests joined with the Staff.

After the Staff published the foregoing analysis in its FSA, the Applicant effectively amended the project, including its operations, by proposing three conditions of certification ~~(below) to be included in any certification. The following proposed~~ conditions ~~were initially introduced by the Applicant at the Prehearing Conference and later at the Evidentiary Hearings~~ (2/18/02 RT 82:17-86:15):

- **$1 Million to Santa Monica Bay Restoration Commission**
  Applicant ~~will~~ shall place $1,000,000 in trust to the Santa Monica Bay Restoration Commission to be used to improve the understanding of the biological dynamics of the Bay and to improve the health of the Bay habitat. This work could include fish population studies, entrainment studies, or other studies approved by the Santa Monica Bay Restoration Commission that focus on the Santa Monica Bay habitat. The funds would be administered by the Santa Monica Bay Restoration Commission. ~~(**BIO-1.**)~~

- **Aquatic Filter Barrier Feasibility Study**
  Applicant ~~would~~ shall conduct a study to determine the feasibility of constructing, deploying, and operating a Gunderboom Marine Life Exclusion System™ at intake #1 at ESGS. The feasibility study shall also determine expected benefits and potential impacts of the Gunderboom Marine Life Exclusion System™ if deployed and operated at intake #1. ~~(**BIO-2.**)~~

- **Annual and Seasonal Flow Cap**
  The Applicant shall implement an annual cap on flow of 139 ~~[Applicant's initial proposal]~~ billion gallons on the combined total of all units at the ESGS and shall also cap the monthly flow volumes in February at 9.4 billion gallons, in March at 9.8 billion gallons and in April at 10.0 billion gallons. The cap would be in addition to the daily limit in the NPDES permit for all units. If future NPDES permitting establishes that an annual flow cap is not necessary to avoid significant impacts, then the Applicant shall apply for and receive changes to this Condition of Certification that removes the annual flow cap requirement. If the NPDES permit for ESGS is changed to incorporate entrainment control technology that confirms less than significant impacts, then the Applicant shall apply for and receive changes to this Condition of Certification that removes the annual flow cap. ~~(**BIO-3**.)~~

We will address the Energy Commission's handling of the Applicant's proposed conditions and the need for a 316(b) study later in this section, following our discussion of the underlying CEQA considerations.

Determining an Appropriate Environmental Baseline

CEQA is clear that agencies must analyze the direct and indirect *physical changes* that the project may cause to the existing environmental setting. (CEQA Guidelines §§ 15358 & 15382.)

CEQA Guidelines section 15125~~,~~ discuss~~ing~~ the "Environmental Setting" part of an environmental analysis, which must include: ~~content of an EIR, provides in part,~~

> ~~(a) An EIR must include~~ a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. (Cal. Code Regs., tit. 14 § 15125, subd. (a) [e~~E~~mphasis added.)

Staff contend~~s~~ed that the project setting is established at the time of the filing of an AFC. ~~the Application for Certification (CEQA Guideline §15125).~~ The AFC was filed in December 2000, so Staff calculated the existing baseline as the five years from 1996 through 2000, which averaged 126.78 billion gallons per year. (Staff Written Direct Testimony, p. 6)

In its proposed annual flow cap condition, which would apply to the *entire* ESGS complex, the Applicant calculated the baseline for a five-year period from 1998 through 2002, almost 2 years into the AFC proceeding. Applicant's rationale ~~is~~ was that 1998 through 2002 represents the period of its operation of the ESGS in the "deregulated" market ~~as a merchant facility~~ after its conversion from regulated utility (SCE) status to an unregulated "merchant facility.". Thus, any year that SCE operated the ESGS in a regulated setting ~~is~~ was not included by the Applicant.

The annual average flow using the Applicant's five-year period (1998 through 2002) is 138.7 billion gallons per year. Applicant also testified that for 1998, 1999, and 2000, all years prior to the filing of the AFC, the annual average is 138.85 billion gallons, which is virtually the same as the five-year (1998 – 2002) average ~~which~~ that includes the "deregulated" years of 2001 and 2002. (Applicant's Written Testimony, p. 16; 2/18 RT 82:1-16.)

Since the baseline is normally determined by the environmental conditions as they exist at the time the environmental analysis commences, we have determined Staff's five-year annual average of 126.78 billion gallons per year to be the appropriate CEQA baseline. [CEQA Guidelines, section 15125(a)] This approach is consistent with baseline selection in other recent proceedings in which the Energy Commission has used a five-year average from "the-time-of-AFC-filing" baseline. (Morro Bay AFC; 00-AFC-12; Moss Landing AFC; 99-AFC-4) In addition, because the Staff's five-year average from 1996-2000 includes lower-than-normal operations by Southern California Edison, that baseline already has a built-in conservatism which favors environmental protection. (The lower the baseline, the greater the project's impacts will appear in comparison to the baseline.)

CEC Staff's "Zero" Baseline

Staff, while arguing that the baseline must be pre-AFC filing flows, also argued in the alternative that if a "baseline" can be changed post-filing, then this project's baseline has been changed to "zero" since the existing power plant's air quality Permit to Operate lapsed as of January 2003 and the power plant is not operating. Staff's "zero" baseline is 101.53 billion gallons per year, calculated by averaging the five-year (1996-2000) flows for intake #2 (i.e., the other ESGS units) and zero as the current (2003 only) flow for intake #1.

In response, Applicant testified that it continues to operate the cooling water system at intake #1 at approximately 50 mgd, including the intake and outfall, so that it does not become fouled or clogged, as well as to maintain its NPDES permit. There are, however, intermittent days when the cooling water system does not operate for maintenance or other reasons. (RT 2/19/03, 214:14-218:8.)

Since the Commission has chosen to use the five-year average as of the date of filing of the AFC for consistency with other proceedings and the language of the CEQA Guidelines, we reject Staff's "zero" baseline since it applies data on intake #1 after the date of AFC filing. This conclusion is further supported by the finding that the existing cooling system is using approximately 50 mgd at intake #1, a finding that is also inconsistent with Staff's alternative baseline.

Annual Flow Cap Condition; Resulting Absence of Environmental Impacts

The Commission's determination of an appropriate CEQA baseline takes on an added significance in that, since the project proposes to operate within a flow cap at or below the baseline, the project necessarily will not cause physical changes to the environment. ~~Since the project will not cause a physical change, then~~ Therefore, as a matter of law, the project cannot cause a significant environmental impact.

The evidentiary record contains conflicting testimony as to whether the project would cause a significant environmental impact, mostly related to entrainment impacts. However, by adopting the Staff's initially proposed baseline of 126.78 billion gallons per year as a flow cap condition (**BIO-3)** limiting the operation of intake #1 and intake #2, we must conclude as a matter of law under CEQA that the project does not cause significant environmental impacts. ~~Thus, we do not examine the evidentiary record to determine whether as a matter of fact there are significant environmental impacts if the project were operated above the 126.78 billion gallon per year baseline and the flow cap condition.~~ We also note, but do not rely upon for this finding of no significant impact, that the 126.78 billion gallon per year annual flow cap represents a 43 percent decrease from the current NPDES permit flow rates. In order to ensure that the existing environmental conditions will not worsen, we will apply the flow cap decision to the existing facility immediately upon certification.

CEC Staff's Monthly "Seasonal" Baseline~~-~~Flow Caps

Staff and the Intervenors argued that there ~~was~~ is "seasonality" to the period of maximum entrainment impacts due to an abundance of fish larvae during their reproductive cycles and as a result, that flow caps for each month should be required.

In response to such concerns, the Applicant also proposed as part of the flow cap a monthly flow restriction corresponding to the months of highest fish egg and larval concentrations in southern California (February 9.4 billion gallons; March 9.8 billion gallons; and April 10 billion gallons) to reduce entrainment impacts. (Mitchell, p. 16.) ~~We adopt those monthly caps as a Condition of Certification (**BIO-3)** as well as the annual 126.78 gallon cap.~~

Staff testified that the Applicant's proposed monthly caps are insufficient to mitigate environmental impacts because, Staff asserted, there are at least two other peak fish egg and larval seasons and some species spawn year-round. Thus, to be completely effective, Staff asserted, any seasonal cap must be monthly.

Staff also appear~~s~~ed to extend its argument for need for monthly caps as mitigation to another option to "re-set" a post-filing baseline. Although CEC staff argued in the alternative for a five-year annual average from 1996 through 2000 or a "zero" baseline due to the lapse of the Permit to Operate, Staff also seem~~s~~ed to contend that a third potential baseline be "set" based upon *monthly* average flows in order to preserve "existing" conditions, since any variation from historic monthly flows could cause impacts due to seasonal spawning. (Staff Brief p. 12.)

~~Staff's testimony on the need for monthly caps was mixed. The initial testimony of Staff's expert, in answer to a question of what type of seasonal cap, if any, would preserve existing conditions, was that there is no "compelling argument to have seasonal caps [since] fish larvae, in general, of various species are going to be vulnerable all year round…" (RT 2/18/03, 160:22-161:9)~~

Staff's testimony does not support establishing a new "baseline" by using monthly historic flow rates to define "existing" conditions. Staff's expert testified, in response to a question on

what type of seasonal cap, if any, would preserve existing conditions, that there is no "compelling argument to have seasonal caps [since] fish larvae, in general, of various species are going to be vulnerable all year round…" (RT 2/18/03, 160:22-161:9)~~Staff's testimony, while supporting the concept of a monthly cap, made the level of the cap depend on knowing what larvae are available at the site over a representative year, not historic flow rates. Knowing the larvae present at the site is information derived from a 316(b) study leading to an NPDES permit, not the monthly flow rates reported by the Applicant to the LARWQCB.~~

The Energy Commission finds that there is too much variability in spawning peaks, as well as different seasons when the same species spawn, to allow creation of a reasonably accurate and useful set of monthly caps on an annual basis. Moreover, annual averaging inherently adjusts for this variability over multiple seasons.

Thus, for the purpose of establishing a CEQA "baseline," the Commission finds that ~~the~~ an annual average~~, not a monthly average,~~ of 126.78 billion gallons taken over the five-year period from 1996 through 2000, best establishes the "existing" environment. With respect to monthly flow caps, despite the variability in spawning peaks, a monthly flow cap for February, March, and April is appropriate, consistent with the general agreement by all parties that the period of highest fish egg and larval densities occurs during these months. To ensure consistency with the use of five-year data under a CEQA baseline, the Commission finds that the maximum flow rates for these months shall be based on historical flows during 1996 through 2000. Thus, the Commission adopts a monthly flow cap of 7.961 billion gallons for February, 8.313 billion gallons for March, and 8.524 billion gallons for April. (**BIO-4**)

In its written comments on the Proposed Decision, the Coastal Commission staff asserts that a 316(b)-like study is needed in order to establish the appropriate CEQA baseline. However, the Energy Commission finds that our ~~prior implementation of the CEQA Guidelines using a~~ use of the 5-year annual average cooling water flow rate is consistent with ~~the objectives of the~~ CEQA, ~~Guidelines,~~ particularly since entrainment impacts (which would be assessed as ~~are~~ part of a 316(b) study) are proportional to flow rates, and this project's flow rates will be at or below the CEQA baseline.

CEC Staff's Wastewater Cooling Alternative

CEQA requires the lead agency, when assessing a project, to analyze potentially feasible alternatives that can reduce or avoid the project's significant adverse environmental impacts that may be caused by the project. Since the Staff believed that there were significant aquatic biology impacts, it examined a number of cooling alternatives and ultimately proposed, for the project's cooling water, the use of secondary-treated wastewater from the City of Los Angeles Hyperion Treatment Plant, which is located on the coast approximately one mile north of the ESGS. Using Hyperion water rather than water from the ocean would, Staff asserted, eliminate all impacts from the use of the proposed once-through cooling system.

Staff rejected other alternative cooling options because ~~they were~~ Staff considered them infeasible. Dry cooling and wet/dry cooling were eliminated because the site is not large

enough for those technologies and because they would cause adverse noise and visual impacts. Once-through cooling with tertiary (drinking quality) treated wastewater was eliminated because Hyperion does not have a tertiary treatment facility and because the cost of such a facility and its water would be excessive. The Commission agrees with Staff and finds that these alternatives are infeasible.

Because we have found that the project, ~~Because we have found that the project However, the Energy Commission has found that the project's use of the existing cooling system,~~ with the baseline flow cap described above, ~~, will result in no physical change to the existing environment. Therefore, the project~~ will not cause a significant environmental impact, there is no requirement under CEQA that we analyze alternatives at all. Nevertheless, we will assess the Staff's proposed Hyperion alternative when we discuss Coastal Act issues, below. ~~obviating the need for examination of an alternative system. Consequently, the Energy Commission will not analyze the Staff's proposed wastewater cooling alternative under CEQA. However, we will analyze that below when we discuss compliance with the California Coastal Act.~~

Compliance with LORS

The Federal Clean Water Act and the NPDES Permit

Section 316(b) of the Clean Water Act requires that the cooling water intake structures use the "best technology available" (BTA) to minimize ~~environmental~~ entrainment and impingement impacts. Section 316(b) is implemented in California through the issuance of NPDES permits by the state's regional water quality control boards. In order to operate the El Segundo project, the Applicant will have to obtain a renewal of the current NPDES permit, which expires in 2005.

In February 2004, the U.S. Environmental Protection Agency adopted new Phase II rules affecting existing intake structures. The new rules state that any facility with more than 50 mgd intake (such as El Segundo) has three options to demonstrate that it is using BTA ~~has the best available control technology for minimizing adverse environmental impacts~~:

- The first option is to demonstrate compliance with performance standards by either reducing intake capacity to the equivalent of a closed-cycle, recirculating system *or* reducing impingement mortality by 80 to 95 percent and entrainment by 60 to 90 percent [from unmitigated levels].
- The second option is to demonstrate meeting the performance standards by any combination of design changes, operational changes, or species~~/~~ or habitat restoration.
- The third option is to demonstrate that the costs of meeting the performance ~~criteria~~ standards exceed a threshold or that the costs would be much greater than the benefits derived from compliance. (40 CFR § 125.94 *et seq.*)

It appears that in order to meet the requirements of the new regulations, the Applicant will have to perform a 316(b) study of the existing environmental conditions, as well as the effects of cooling system operation and potentially available technologies to reduce impacts. The

Applicant will also have to implement design or operational changes, or provide mitigation in the form of species or habitat restoration, in order to achieve the required reductions in mortality of aquatic species.[1] However, the 316(b) study will probably be limited in scope to the ESGS and the surrounding area, not the entire Santa Monica Bay. Our condition requiring the Applicant to fund up to $5 million of Bay-wide study and enhancement activities should assist the LARWQCB in its performance of its 316(b) responsibilities, not only for the ESGS project but also for other future projects around the Bay.

In order to ensure compliance with the Phase II Clean Water Act regulations (as well as to carry out the policies of the Coastal Act, which we discuss below), we are adopting a Condition ~~The Energy Commission proposes to move forward with an added Condition which will take its lead from the new 316(b) regulations to actually reduce entrainment impacts from this project. We believe that the "best professional judgment" in this matter should focus principally on the best technology available to reduce entrainment impacts, combined secondarily with any operational measures also to reduce entrainment.~~

~~Thus, Condition of Certification~~ **BIO-4** that provides that ~~prior to~~ before commencement of commercial operation, the ~~project owner~~ Applicant shall reduce entrainment[2] and impingement through the ESGS cooling water intake #1 by at least 60 and 80 percent, respectively, or shall otherwise comply with the regulations, as directed ~~and required~~ by the LARWQCB under section 316(b). ~~of the federal Clean Water Act~~. ~~Pursuant to the implementation of federal regulations enacted under section 316(b) of the Clean Water Act and at the direction of the LARWQCB, project owner shall conduct a study of the entrainment effects of intake #1.~~ In addition, ~~W~~while recognizing the authority of the LARWQCB to determine the final 316(b) study design, it is important that all appropriate entities have input. Therefore, the Commission directs the Applicant to consult with other agencies, including ~~the California Coastal Commission,~~ the National Marine Fisheries Service, the California Coastal Commission, ~~and~~ the California Department of Fish and Game, and the Santa Monica Bay Restoration Commission, as well as the Energy Commission's CPM, in the development and implementation of the 316(b) study design. The CPM shall facilitate the consultation. We find that with the implementation of **BIO-4**, the project will comply with the Clean Water Act.

~~Upon implementation of the requirements of **BIO-4,** the facility-wide 126.78 billion gallon annual flow cap required by Condition of Certification **BIO-3** will be superseded by any new NPDES permit requirements, including any flow cap required by the LARWQCB.~~

~~Conformity to the~~ The California Coastal Act

The ESGS is within the "coastal zone, and therefore is subject to the applicable requirements of the California Coastal Act. ~~There was considerable debate about the interpretation and~~

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[1] We also note that California Water Code section 13142.5(b) states that for "new or expanded coastal powerplant[s]…the best available siting, design, technology, and mitigation measures feasible shall be used to minimize the intake and mortality of all forms of marine life," while section 13142.5(d) states that for "new or expanded" coastal facilities that independent studies should be done prior to development to assess impacts. The parties did not address these Water Code provisions. ~~Although likely not applicable since project water use is not *expanded*, the Conditions in this Decision would nonetheless comply with the Water Code sections, since Condition **BIO-4** requires a pre-operation study of marine resources and the best technology available for reduction of entrainment.~~

~~[2] Impingement is also to be reduced by at least 80 percent.~~

~~implementation of provisions of the Warren-Alquist Act that require coordination with the Coastal Act.~~ This section of the Decision discusses and then applies those provisions.

~~1.~~ Sections 25523(d)(1) and 25525: Compliance with the Coastal Act

Section 25523(d)(1) requires the Energy Commission to find whether a proposed facility complies with all applicable laws including, when a facility is proposed in the coastal zone, ~~compliance with~~ the Coastal Act and ~~with~~ local coastal plans. If the Energy Commission finds noncompliance, then section 25525 requires the Energy Commission to "consult and meet with the [Coastal Commission] to attempt to correct or eliminate the noncompliance." If, after that, the proposed facility still does not comply, the Energy Commission may certify the facility only if it determines that the proposed facility "is required for public convenience and necessity and that there are not more prudent and feasible means of achieving such public convenience and necessity."

Those determinations are solely within the province of the Energy Commission. The Energy Commission gives great weight to the assessment of the Coastal Commission on the compliance of proposed facilities with the Coastal Act and with local coastal plans (just as the Energy Commission also gives great weight to the assessment of other agencies on the compliance of proposed facilities with the laws that they administer), but the Energy Commission is ultimately responsible for making the determinations, based on the evidence in its record.

~~2.~~ Section 25523(b): Recommendations in the Coastal Commission's "30413(d) Report" ~~Provisions Specified by the Coastal Commission to Achieve the Objectives of the Coastal Act~~

Section 25523(b) requires the Energy Commission to include in its AFC Decision "specific provisions to meet the objectives of [the Coastal Act] as may be specified in the report ("Coastal Report") submitted by the California Coastal Commission pursuant to subdivision (d) of Section 30413 [of the Coastal Act], unless the [Energy] commission specifically finds that the adoption of the provisions specified in the report would result in greater adverse effect on the environment or that the provisions proposed in the report would not be feasible."

Here, the Coastal Commission, pursuant to its own procedures and record, makes an initial determination: whether there should be "specific provisions to meet the objectives of [the Coastal Act]." If the Coastal Commission designates any "specific provisions," then the Energy Commission must include those "specific provisions" in the certification decision, unless the Energy Commission finds, based on material in its record, that (1) the provisions would be infeasible or (2) permitting the facility with the specific provisions would cause a greater environmental impact than would permitting the facility without the specific provisions.

There was considerable discussion in the El Segundo proceeding, and in another Energy Commission proceeding, on a proposed power plant at Morro Bay, about the applicability of sections 25523(b) and 30413(d) in AFC proceedings, such as those two, where the AFC has not been preceded by a "notice of intention" (NOI). In the Morro Bay proceeding, the Commission's recently-adopted decision states

> It is true that the literal words of the statutes can be read as limiting a binding Coastal Commission report to AFC proceedings that were preceded by an NOI. However, we believe that the words are ambiguous, and that the weight of the legislative history, and an understanding of the purpose of the coastal protection statutes, indicates to the contrary. (Decision, Docket No. 00-AFC-12, p. 8.)

We will follow the Morro Bay determination here.

In the El Segundo proceeding, the Coastal Commission's analysis of the actions necessary for compliance with the Coastal Act were, as is to be expected, essentially the same as its recommendations, under section 30413(d), on meeting the objectives of the Coastal Act. Therefore, we address them concurrently; we believe that the Conditions in this Decision will both achieve compliance with the Coastal Act and carry out the Coastal Commission's recommendations.

~~This provision is, in a sense, internally illogical. Although section 25523 applies to decisions on AFCs, it refers to "the report submitted by the California Coastal Commission pursuant to subdivision (d) of Section 30413 [of the Coastal Act]". According to section 30413(d), the Coastal Report is prepared only during proceedings on "notices of intention" ("NOI"), which are now usually inapplicable precursors to proceedings on applications for certification. Faced with this conundrum, the Energy Commission must interpret and apply the statutes in the way that applies the statutory language and best promotes the objectives both of the Coastal Act, the most important objective of which is to preserve coastal resources, and of the Warren-Alquist Act, of which a key objective is to give the Energy Commission the final say in licensing needed power facilities, except in very narrow, carefully-specified situations. As we will explain in more detail below, it would serve neither objective to say that the Coastal Commission's recommended "provisions" are irrelevant in AFC proceedings, or that the Energy Commission must absolutely defer to the Coastal Commission's recommendations in formulating an AFC decision.~~

~~Some of the parties in this proceeding, as well as the parties in the Morro Bay AFC proceeding (Docket No. 00-AFC-12) vigorously debated the proper application of Section 25523(b). On March 3, 2004, the Morro Bay Committee (comprised of the same Commissioners as the El Segundo Committee) conducted a hearing to discuss the proper application of the Coastal Report to the AFC.~~

~~In that hearing, the Applicant, Duke Energy, noted that section 25523(b) expressly refers to the Coastal Report as prepared under Public Resources Code section 30413(d), which by its own express terms applies only in an NOI proceeding:~~

> ~~Whenever the…Energy…Commission exercises its siting authority…with respect to any thermal power plant…within the coastal zone, the [Coastal] commission shall participate in those proceedings and shall receive from the…Energy…Commission any **notice of intention** to file an application for certification of a site and related facilities within the~~

> ~~coastal zone. The [Coastal] commission shall analyze each **notice of intention** and shall, prior to completion of the preliminary report [now summary and hearing order] required by Section 25510, forward to the…Energy…Commission a written report on the suitability of the proposed site and related facilities specified in that **notice**. (Pub. Res. Code sec. 30413(d); Emphasis added.)~~

~~The attorney for the El Segundo applicant appeared at the Morro Bay hearing and supported Duke Energy's position.~~

~~By contrast, the Staff, the Coastal Commission staff, and intervenors in both the Morro Bay and El Segundo proceedings argue that section 25523(b), which lists the required contents of an AFC decision, contains no exemption for projects not subject to NOI proceedings. They also argued that the Legislature could not have intended that the Coastal Commission have a more prominent role in specifying mitigation in the NOI's site selection process than in the AFC's site specific permitting phase.~~

~~It may appear somewhat incongruous that the Legislature would have created a powerful role for the Coastal Commission in AFC proceedings for which there was an NOI, and a lesser role in AFC proceedings for which there was no NOI. However, that is what the Legislature has done in Section 25523(b), by requiring the Commission to include in an AFC decision "specific provisions to meet the objectives of [the Coastal Act] *as may be specified in the report submitted by the California Coastal Commission pursuant to subdivision (d) of Section 30413*," but that "report" is submitted only in NOI proceedings. Moreover, while section 30413(***d***) requires the Coastal Commission to submit the Coastal Report in *NOI proceedings* (and section 25523(b) requires the 34413(d) report's recommended "provisions" to be included in AFC decisions unless the Energy Commission makes specified findings), section 30413(***e***) merely *allows* the Coastal Commission to participate in "other proceedings...by the Energy Commission...pursuant to its powerplant siting authority...." – i.e., in AFC and Small Power Plant Exemption (SPPE) proceedings – and there is no corresponding reference in section 25523 to the Coastal Commission's AFC participation.)~~

~~We also recognize that section 25540.6(a), which establishes the NOI exemption that is applicable to both El Segundo and Morro Bay, states:~~

> ~~**Notwithstanding any other provision of law**, no notice of intention is required, and the commission shall issue its final decision on the application, as specified in Section 25523, within 12 months after the filing of the application [if one or more of several conditions are met…" (Emphasis added.)~~

~~In other words, the language of section 25540.6 applies to more than the Energy Commission's portion of the Public Resources Code. "Notwithstanding **any** other provision of law" means unambiguously that if the NOI exemption of section 25540.6 applies, then any NOI-related provision of the Coastal Act is also not applicable to the stand-alone AFC. Since the stand-alone AFC was created for faster processing of less impactful projects and the NOI was retained for large projects such as nuclear or coal, the "[n]otwithstanding any other provision of law" language makes sense in how the Coastal Commission's report in the NOI~~

~~is dropped for the stand-alone AFC.[3] Since on its face section 30413(d) expressly relates *only* to the NOI, the Coastal Commission has no legal mandate to prepare such a Report, and the Report does not apply to a stand-alone AFC.~~

~~In sum, we conclude that the Coastal Commission is not mandated to submit a section 30413(d) Coastal Report in stand-alone AFC proceedings and that the Energy Commission is not required to include in AFC decisions any "provisions" recommended in such a report if one is submitted.~~

~~However, as a matter of policy, we must recognize and give effect to California's legislatively stated objectives of preserving and enhancing coastal resources and to the special role of the Coastal Commission. Therefore, we establish, pursuant to our responsibility to harmonize all the applicable statutory provisions, as a precedential decision under section 11425.60 of the Administrative Procedure Act, the following rules for this proceeding and for future AFC proceedings that involve a coastal site for which there is no NOI:~~

> ~~1. In its AFC proceeding, the Energy Commission will consider the factors listed in section 30413(d).~~
>
> ~~2. With regard to each factor, the Energy Commission will give substantial weight to the timely recommendations of the Coastal Commission following them unless the Energy Commission finds that they would be infeasible, or that they would cause a greater adverse effect on the environment (in comparison to certifying the proposed facility without the recommendations), or that, on the basis of clear and convincing evidence in the Energy Commission's record, they would otherwise be inappropriate.~~

~~We believe this approach acknowledges and preserves the singular role of the Coastal Commission, while also following the statutory directive that the Energy Commission retains its discretion as the exclusive statewide power plant permitting authority under Public Resources Code section 25500.~~

~~On April 9, 2002~~In April 2002, the Coastal Commission stated the project in its original configuration: ~~met in a public meeting and voted to adopt a report concerning the project in its original configuration, informing the CEC that,~~

(1) ~~the project will~~ would not conform to the Coastal Act policies ~~in section 30230~~ requiring that marine resources be maintained, enhanced, and, where feasible, restored; and ~~the project will not conform to policies in section 30231 requiring~~ that adverse entrainment effects be minimized; and

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~~[3] When the Energy Commission was created in the mid-1970's, the regulatory scheme required a two-phase site and facilities certification process for every facility proposed. The initial phase – the Notice of Intention - required an applicant to propose multiple alternative sites which were then evaluated for their acceptability and relative merit. Under the statutory scheme, the second phase – the AFC – focuses on mitigation of site specific project effects. In order to be proposed in an AFC, any coastal site had to be selected as the *preferred* site in the NOI. In the years after the original NOI-AFC combination was established, the Legislature created a single phase AFC which did not require the extensive site selection process contained in the NOI.~~

(2) could not have its impacts, or mitigation to address those impacts, assessed ~~the Coastal Commission cannot identify specific mitigation to meet the Coastal Act policies~~ until a 316(b)-like study is performed on the site.

In November 2002, after ~~After~~ the Staff ~~prepared~~ presented its Hyperion Wastewater Cooling Alternative, the Coastal Commission stated that :~~met publicly on November 6, 2002, and adopted a report to the CEC that,~~

(1) the Hyperion wastewater alternative appeared feasible and would conform to the policies of the Coastal Act, and
(2) if the CEC ~~does~~ did not require the wastewater alternative, a 316(b)-like study would need~~s~~ to be conducted in order to determine conformity to the Coastal Act.

As we discuss more fully below, we find that:

1. The project, as constructed and operated under all of the Conditions of this Decision, including the baseline flow cap restriction, the aquatic filter barrier feasibility study, the $~~1~~5 million payment to the Santa Monica Bay Restoration Commission for Bay-wide studies and enhancement, and the reduction of entrainment (and impingement) impacts as required by the LARWQCB ~~by at least 60 percent~~ following a 316(b) study, will conform with Coastal Act policies requiring that entrainment effects be minimized and that marine resources be maintained, enhanced, and, where feasible, restored;
2. The LARWQCB will require the Applicant to perform whatever study or studies are necessary under section 316(b). However, in order to improve the scientific knowledge and environmental health of Santa Monica Bay, we believe that it is much more important to carry out Bay-wide studies and enhancement activities. Therefore, we believe that our condition requiring funding of up to $5 million for such actions will meet the goals of the Coastal Commission much better than would a 316(b) study standing alone. ~~The inclusion in **BIO-4** of a requirement that the Applicant complete a study, under section 316(b) of the Clean Water Act, in conjunction with its application to the LARWQCB for a renewal of the ESGS NPDES permit, constitutes our adoption in our Decision of the Coastal Commission's recommended provision of a 316(b)-like study~~: and
3. The Hyperion wastewater cooling alternative is not feasible.

Maintain, Enhance, and, Where Feasible, Restore

Public Resources Code section 30230 states:

> Marine resources shall be *maintained, enhanced, and, where feasible, restored*. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

"Maintaining" marine resources is synonymous with not causing a change to the physical environmental setting. The annual and ~~monthly~~ seasonal flow caps means that this project will maintain the marine environment as it existed when the environmental review began.

The Coastal Commission had before it a project configuration that proposed to increase baseline cooling water flows up to the NPDES permit level. The Energy Commission need not reach the issue of whether an NPDES permit flow rate of ~~207~~ 605.6 mgd is "maintaining" marine resources for that no longer is the project. The flow cap condition in this Decision will "maintain" the marine resources status quo related to this project so that the LARWQCB can conduct its Clean Water Act 316(b) review without this project's changing the environmental setting in an adverse way. For this reason, the Commission believes that flow cap condition should apply upon certification.

The condition requiring reduction of entrainment impacts by at least 60 percent, and reduction of impingement impacts by at least 80 percent (or other appropriate compliance with the section 316(b) Phase II regulations) will clearly enhance and will help to restore marine resources. ~~The aquatic filter barrier has the potential to enhance and restore marine resources.~~ Another measure that has the potential to enhance and restore resources is an aquatic filter barrier. The CEC staff has concerns about biofouling problems with the barrier material and mooring stability problems due to ocean action in Santa Monica Bay. (Staff Direct Written Testimony, 1/22/03, p. 11) The Energy Commission previously reviewed the use of an aquatic filter barrier in the San Joaquin River setting in the Contra Costa Project (00-AFC-1) and understands that a demonstration in the open water of California's coast might not be successful. However, the fact that a filter barrier has not been previously demonstrated in such a setting does not mean that it should not be attempted.

Moreover, to enforce the entrainment minimization policy of the Coastal Act (§ 30231), the Energy Commission will modify the Applicant's proposed filter barrier condition to require that a feasibility study be completed in time to be considered by the LARWQCB in its 2005 NPDES renewal process. Moreover, if the LARWQCB determines that it is feasible to construct and operate the filter barrier to demonstrate its effectiveness, and that the El Segundo site is suitable for such a demonstration and, if the LARWQCB directs ~~orders~~ construction of the filter barrier, this Decision requires the demonstration and incorporates it as part of the project. To meet the interests of the State of California as well as the particular provisions of the Coastal Act, the mere conduct of a feasibility study is not sufficient. If the health of Santa Monica Bay ~~what constitutes "best control technology" available under 316(b)~~ can be advanced by an aquatic filter barrier demonstration in this setting, this Commission assures that it shall be done. Moreover, in order to provide maximum technical and economic flexibility, the Energy Commission will not specify a particular vendor or its equipment and will refer to an aquatic filter barrier, rather than the particular Gunderboom™ Marine Life Exclusionary System that was discussed at the hearings.

In addition, ~~The Energy Commission also recognizes that~~ the 3-month seasonal flow cap~~, which is not legally mitigation,~~ will further reduce entrainment impacts ~~in the months of overall peak larval presence. The seasonal flow caps restrict monthly averages to approximately 55 percent of maximum permitted flows for each of the three months. (Applicant's Written~~

~~Testimony, p. 18) Compared to the daily flow limits of the NPDES permit, the seasonal cap~~ and thereby enhance~~s~~ marine resources by a material increment.

Finally, t~~T~~he Applicant's payment of $~~1~~5 million to the Santa Monica Bay Restoration Commission, and the analyses and activities carried out with those funds, will also help to maintain and restore marine resources. The Energy Commission has been impressed during this certification process by the community's concern for the overall health and vitality of the Santa Monica Bay. The long term health of Santa Monica Bay is important to all Californians.

We believe that, to the extent possible, each user of the Bay should assist in the maintenance and improvement in the health of the Bay. The Applicant has noted such a positive contribution that it could make to the health of the Bay when it proposed a condition of certification **BIO-**1 at the Prehearing Conference and the Evidentiary Hearings. Applicant offered a contribution of $1,000,000 to be used to improve the understanding of the biological dynamics of the Bay and to improve the health of the Bay habitat. The funds would be administered by the Santa Monica Bay Restoration Commission.

We agree that this offer is consistent with our deliberations and the Coastal Commission recommendations. Funds made available to conduct studies on the Santa Monica Bay habitat will go a long way to addressing the concerns of the local communities for the ongoing health of the Bay.

All parties agreed that it is necessary that a comprehensive study, addressing all aspects of the entire Bay, and including all major sources of environmental impacts, needs to be conducted – and that measures to enhance the Bay habitat need to be carried out. Indeed, those appear to be the motivating factors supporting the Coastal Commission's recommendations, and in particular the recommendation for a pre-certification 316(b) study. Yet the 316(b) study, with its focus on one particular point source, appears unlikely to achieve the goals of Bay-wide studies and enhancement. The Bay-wide studies that we are ordering, will, in turn, assist the LARWQCB in future 316(b) activities. Therefore, we are specifying that the Applicant's funding to the SMBRC focus on Bay-wide studies and habitat improvement, in Condition **BIO-1**. We also believe that $1 million is probably not sufficient to carry out studies and enhancement in the appropriate scope and detail. Therefore, we will require the Applicant to provide up to $5 million in funding. (To the extent any funds remain unspent at the start of the project's commercial operation, upon petition, those unspent funds shall be returned to the Applicant.) Finally, while we hope that the studies can be done as soon as possible, we do not want to risk the quality of the comprehensive studies for the sake of immediacy. We trust that the SMBRC will proceed with appropriate speed. To assist in this regard, we direct that the Applicant provide $1 million within 6 months after certification of the project.~~;d~~During that 6-month period the SMBRC should develop a study plan and schedule, including a payment schedule. The CPM shall approve or appropriately modify the payment schedule, at which time it shall become binding on the Applicant.

We also agree with the parties' consensus that the Santa Monica Bay Restoration Commission (SMBRC) is the appropriate agency to oversee such studies. The SMBRC originated as a project by the State of California and the U.S. Environmental Protection Agency to develop a long term plan for the health of the Santa Monica Bay and its

Watershed. The project became an independent state organization as a result of the passage of State Senate Bill 1381 (Statutes of 2002) and became officially known as Santa Monica Bay Restoration Commission. The SMBRC continues its work on Bay restoration activities such as implementing pollution prevention and habitat restoration projects, promoting cutting-edge research and technology, building a comprehensive regional monitoring program, and funding programs to raise public awareness about Bay issues.

The selection of the SMBRC is ideal not only for its established experience and expertise but also for its representation. The accompanying Table provides a list of the Governing Board Members for the SMBRC. As the Table shows, a broad and comprehensive list of state, local, and federal agencies have representation on the Governing Board. This group includes: i) California's Secretaries for Environmental Protection and Resources; ii) State Agencies such as the Coastal Commission, Coastal Conservancy, LARWQCB, Fish and Game, Parks and Recreation, and Health Services; iii) Local Governments such as Los Angeles County, Los Angeles City, South Bay cities, Malibu Creek watershed cities, Los Angeles County Sanitation District, and the Los Angeles County Department of Beaches & Harbors; plus iv) State elected officials such as the State Senators of the 23rd and 28th Districts and the Assemblymembers of the 41st and 53rd Districts.

Santa Monica Bay Restoration Commission
Governing Board Members

Governing Board Seat	Status	Appointment/Election
Secretary for Environmental Protection	Voting	Ex-officio
Secretary of the Resources Agency	Voting	Ex-officio
President of the Santa Monica Bay Watershed Council	Voting	Elected by the Bay Watershed Council
Regional Administrator, US EPA Region 9	Non-voting	Ex-officio
Director, NOAA-NMFS Southwest Division	Non-voting	Ex-officio
Member, California Regional Water Quality Control Board - Los Angeles	Voting	Appointed by the RWQCB
Member, California Coastal Commission	Voting	Appointed by the Commission
Member, California State Coastal Conservancy	Voting	Appointed by the Conservancy
Supervisor, County of Los Angeles (Districts 3 or 4)	Voting	Appointed by the Board of Supervisors
Mayor or Councilmember, City of Los Angeles (SM Bay watershed district)	Voting	Appointed by the Mayor, with approval of the City Council
Mayor or Councilmember, South Bay cities	Voting	Elected by the Bay Watershed Council, from members representing El Segundo, Manhattan Beach, Hermosa Beach, Redondo Beach, Palos Verdes Estates, Rolling Hills Estates, Rolling Hills, Torrance
Mayor or Councilmember, Malibu Creek watershed cities	Voting	Elected by the Bay Watershed Council, from members representing Agoura Hills, Calabasas, Malibu, Holden Hills, Westlake Village
Mayor or Councilmember, Ballona Creek watershed cities	Voting	Elected by the Bay Watershed Council, from members representing Beverly Hills, Culver City, Santa Monica, West Hollywood
Public member, environmental/public interest	Voting	Elected by the Bay Watershed Council, from members representing environmental/public interest organizations
Public member, environmental/public interest	Voting	Elected by the Bay Watershed Council, from members representing environmental/public interest organizations
Public member, business/economic interest	Voting	Elected by the Bay Watershed Council, from members representing business/economic interests
General Manager, Los Angeles County Sanitation Districts	Voting	Ex-officio
Director, Public Works Department, City of LA	Voting	Ex-officio
Director, County of Los Angeles, Department of Public Works	Voting	Ex-officio
At-large Member	Voting	Elected by the Bay Watershed Council, from among its members
At-large Member	Voting	Elected by the Bay Watershed Council, from among its members
State Senator, 23rd District	Non-voting	Ex-officio
State Senator, 28th District	Non-voting	Ex-officio
State Assemblymember, 41st District	Non-voting	Ex-officio
State Assemblymember, 53rd District	Non-voting	Ex-officio
Director, CA Department of Fish and Game	Non-voting	Ex-officio
Director, CA Department of Parks and Recreation	Non-voting	Ex-officio
Director, CA Department of Health Services	Non-voting	Ex-officio
Director, Santa Monica Mountains Conservancy	Non-voting	Ex-officio
Director, Los Angeles County Dept. of Beaches and Harbors	Non-voting	Ex-officio
Officer, Las Virgenes Municipal Water District	Non-voting	Ex-officio
Chief, Los Angeles County Fire Department, Life Guard Division	Non-voting	Ex-officio
Chair, Technical Advisory Committee	Non-voting	Ex-officio
President, Santa Monica Bay Restoration Foundation Board	Non-voting	Ex-officio

We believe that the Governing Board, and the constituencies represented therein, will ensure that the results of the SMBRC studies will be widely accepted and that their recommendations will be seriously considered in future LARWQCB NPDES reviews.

In addition, because the funding for the Bay-wide studies and enhancement will be provided pursuant to an Energy Commission licensing condition, we request that SMBRC deliberations on these matters also include a representative of the CEC, to be appointed by our Executive Director.

~~The Staff contends that the $1 million donation amount is too little when compared to mitigation costs in other approved or pending power plant licensing cases before the Energy Commission and that there is no scientific basis to set or limit the funding proposal to $1 million. Staff, viewing the funding proposal as "mitigation," believes that a 316(b) study must be performed to determine the extent of impact and thus any dollar amount associated with such impacts. (Staff Direct Written Testimony, 1/22/03, p. 10.) But, as we have discussed above, mitigation is not required under CEQA and no particular amount of money, or result, is required to "maintain, enhance, or restore" marine resources.~~

Minimize Entrainment Impacts

Public Resources Code section 30231 states that biological productivity of marine waters:

> "…shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment…"

The discussion above demonstrates that with the Conditions of Certification, the project minimizes entrainment impacts.

316(b) Study

The Coastal Commission ~~specified in its Report~~ stated that a 316(b) or 316(b)-like study be performed pre-certification in order to conform to section 30230 of the Coastal Act requiring that marine resources be maintained, enhanced, and where feasible restored, and section 30231 requiring minimization of entrainment impacts. ~~In Condition **BIO-4**, we require the Applicant to perform a 316(b) study during the renewal proceedings on its NPDES permit. With the NPDES renewal required in 2005 and the anticipated project construction schedule perhaps completing in 2005, the Commission has also required that the requirements of **BIO-4** be met prior to commercial operation, which is post-certification. We believe that the timing of the requirements of **BIO-4** best assures that the 316(b) study is performed under the direction of the LARWQCB pursuant to applicable regulations. Since aAny other, pre-certification 316(b)-like study authorized or directed by another agency may not fulfill the requirements of the LARWQCB's "official" 316(b) study, we believe that the avoidance of duplicative studies and their impact upon marine biology and habitat is the better option. Thus, in our view, the 316(b) study provided in Condition **BIO-4** substantially fulfills the recommendation of the Coastal Commission. Moreover, the flow cap limitations of Condition **BIO-3** assure that the existing marine setting is maintained until the LARWQCB acts on the Applicant's NPDES renewal application.~~ As we discuss above, Bay-wide studies and enhancement activities funded under **BIO-1** will achieve, and go beyond, the Coastal

Commission's goals in recommending a pre-certification 316(b) study, just as they will help ensure compliance with the Coastal Act.

~~The Energy Commission, while recognizing the authority of the LARWQCB to ultimately determine the "official" 316(b) study, seeks to promote the inclusion of other agencies, including the California Coastal Commission, the National Marine Fisheries Service, and the California Department of Fish and Game, in the development and review of the 316(b) study design.~~

Feasibility of CEC Staff's Hyperion Wastewater Cooling Alternative

As discussed previously, Staff analyzed the use of reclaimed water from the Los Angeles Hyperion Wastewater Treatment facility in order to eliminate impacts from the use of seawater for cooling.

After considering the Staff-prepared Hyperion Wastewater Cooling Alternative, the Coastal Commission met publicly on November 6, 2002, and adopted a report to the CEC that the Hyperion wastewater alternative appeared feasible and would conform to the policies of the Coastal Act. (RT 2/18/03,191:8-25.)

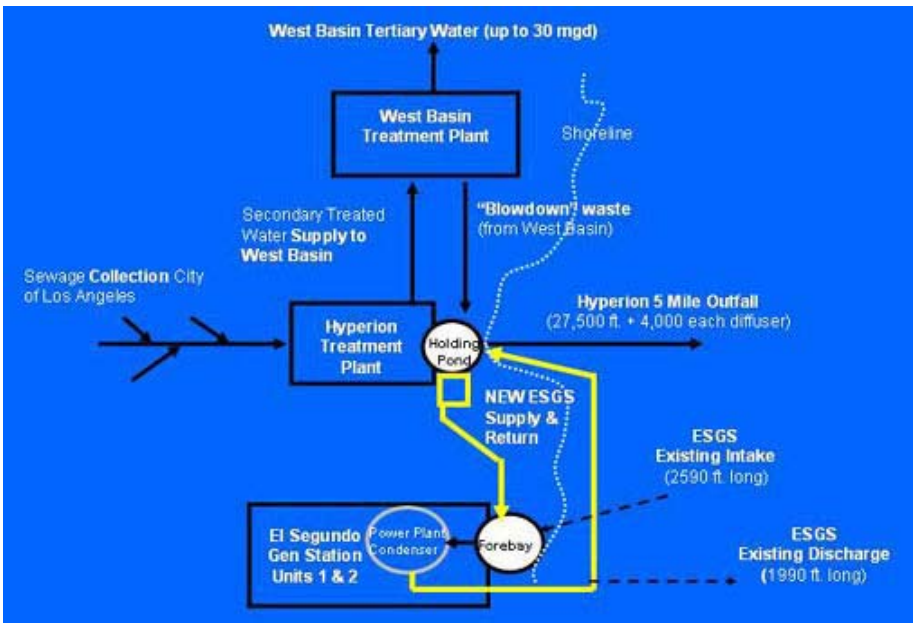
Based on evidence in the record, the Energy Commission finds that the Hyperion Wastewater Cooling alternative is not feasible and would result in greater impact to the environment.

The Hyperion Treatment Plant treats sewage from the City of Los Angeles and discharges non-disinfected, secondary treated wastewater through an outfall approximately 5 miles offshore. The outfall is approximately 200 feet below the ocean surface.

The treatment capacity of Hyperion is 450 million gallons per day (mgd), and the current, average flow is about 360 mgd. However, actual flow varies throughout the day and night depending on sewage amounts. About 6 percent (28 mgd) of Hyperion's secondary treated wastewater is delivered to its only customer, the West Basin Municipal Water District, which further treats that water and in turn sells tertiary (drinking quality) water to its customers.

Staff's proposed alternative would have ESGS taking delivery of between 50 to 150 mgd of secondary wastewater. This would be less flow than the existing NPDES permit level of 207 mgd because the wastewater would have a higher discharge temperature as it leaves the power plant. Essentially, acting as reciprocals, the lower the flow of cooling water, the higher the gain in discharge temperature of a given amount of water. (Thus higher water flows produce a lower gain in discharge temperatures for the same amount of water.)

Staff considered 5 connection alternatives and settled on the configuration shown, which takes the treated wastewater from the "back-end" of Hyperion and returns the heated effluent to the outfall pipe.



Staff takes the position that either the Applicant must conduct the 316(b) study and mitigate the significant effects of the project <u>or</u> amend the AFC to substitute the Hyperion wastewater cooling alternative. Staff analyzed the alternative for all other possible environmental effects and testified that there are no adverse impacts to this alternative.

However, Applicant testified that the Staff's wastewater cooling alternative was infeasible for permitting/contractual, engineering, and environmental reasons.

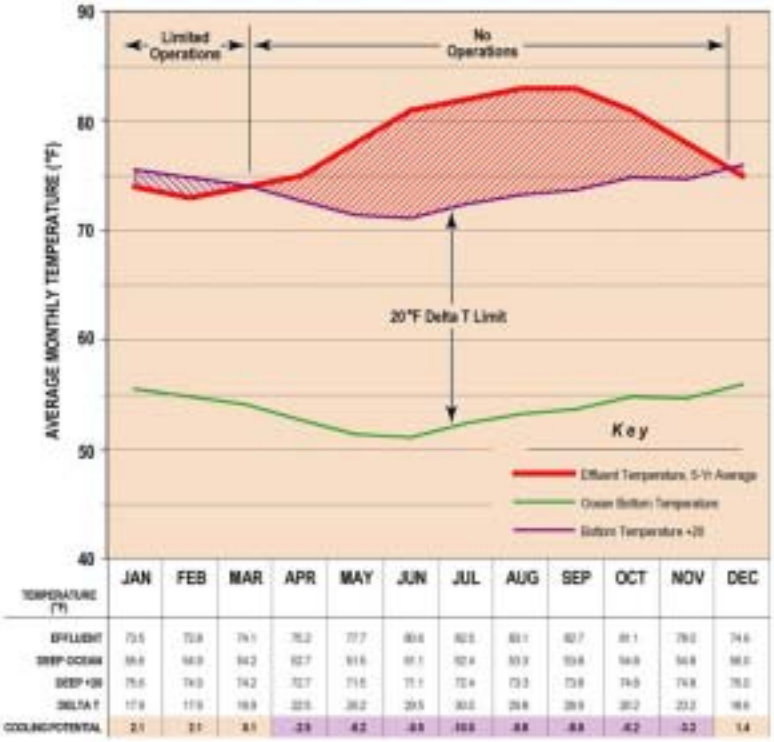
New NPDES Permit/California Thermal Plan

The Applicant contends the discharge of thermal wastes from the once-through cooling at the project back through Hyperion's five-mile outfall would require a separate NPDES permit and would be classified as a "new discharge" under the California Thermal Plan. Thermal Plan section 3.B(3) establishes water quality objectives for "new discharges" to coastal waters and provides that the maximum temperature of the discharge not exceed the temperature of the receiving waters by more than 20 degrees F. (Applicant's Written Testimony, p. 39.)

Staff believes that, at worst, it is "not clear" that the Applicant would be required to obtain a new or separate NPDES permit. (Staff Rebuttal Testimony, p. 35)

Wastewater Alternative Exceeds Thermal Plan Requirements

The Applicant reviewed records of the temperature of the Hyperion wastewater and the temperatures of the receiving waters at the five-mile outfall. Since the bottom temperatures of the receiving waters at the outfall range from 51 degrees F in June to 56 degrees F in December, the maximum discharge temperatures under the Thermal Plan would range from 71 degrees (51+20) to 76 degrees (56+20).



Yet, the average daily temperature of the current effluent that the power plant would receive from Hyperion is 72.8 degrees in February and 83 degrees in August. Consequently, the wastewater from Hyperion could not be heated by passing through the power plant and still comply with the Thermal Plan when discharged though the Hyperion five-mile outfall.

The Applicant believes that the LARWQCB strictly enforces compliance with thermal requirements and would not likely grant a variance from the Thermal Plan to the power plant. (Applicant's Written Testimony, pp. 40 & 41)

Staff testified that the Hyperion NPDES permit allows discharges up to 100 degrees F, so that discharges of project-heated effluent would be possible. However, Staff acknowledges that, when the effluent is at its maximum temperature before being heated by the power plant, the heated effluent could be as much as 105 degrees F. Staff suggests that the existing Hyperion NPDES permit be amended to allow the power plant's 105 degree F discharges. Staff believes that a 5-degree temperature rise would not cause any significant additional harm to the marine environment, so an amendment should be granted. Staff argues, alternatively, if no amendment is possible and the 100 degree F limit applies, the Applicant would switch back to its own existing seawater cooling system. (Staff Rebuttal Testimony, pp 35 & 36)

However, if the Applicant were required to obtain a new or separate NPDES permit, Staff believes either that the heated effluent discharge is not subject to the California Thermal Plan's 20-degree increase limit or that the Applicant could obtain a variance from the 20-degree limit. Staff reasons that since the five-mile outfall is two miles beyond the California jurisdictional limit, the federal 316(a) requirements apply. Those federal performance

requirements are that the discharge causes no appreciable harm or that the higher discharge temperature nevertheless assures protection and propagation of the marine community. (RT 2/18/03, 219:7-220:10)

Upon cross-examination, one of Staff's expert witnesses testified that the Thermal Plan, as part of the California Ocean Plan, "probably" applies to the heated wastewater discharges of the Staff's Hyperion Wastewater Cooling Alternative. (RT 2/19/03, 101:4-104:3; 104:25-105:2)

Staff's presumed worst case, with the power plant operating at full capacity, would discharge at 105 degrees F. (RT 2/19/03 105:13-106:11) Staff's expert testified that if wastewater flows were as low as 100 mgd, the project could not operate at full design capacity of 685 megawatts, because more megawatts produce more heat to transfer to the cooling water. (RT 2/19/03 116-16-120:7)

Under cross-examination, Staff's expert witness also testified that with summertime conditions when the inlet temperature of the wastewater to the power plant is 85 degrees F, plus the project was operating at full design capacity, and 100 mgd was the available flow, the true worst-case discharge temperature is actually 123 degrees F, not 105 degrees. (RT 2/19/03 122:8-123:22)

A representative of the Los Angeles City Board of Sanitation, operator of Hyperion, offered comments consistent with the Applicant's view that a variance from the Thermal Plan may be subject to the anti-back-sliding provisions of the Porter-Cologne Act and the Clean Water Act. Typically, once a limit is imposed, such as Hyperion's 100-degree F limit, it cannot be relaxed. (RT 2/19/03 251 14-24)

Wastewater Flow Requirements

As discussed briefly above, the lower the flow of cooling water, the higher the gain in discharge temperature of a given amount of water. Consequently, by using higher water flows, there will be a lower gain in discharge temperature.

The Applicant used a thermodynamic model to determine what volume of flows would be necessary to prevent a violation of the Thermal Plan's 20-degree limit while using the Hyperion effluent. Applicant calculated that only a 2-degree increase in temperature was allowed in the winter. Thus, to meet the cooling requirements of the power plant running at full load, cooling water flows would have to be dramatically increased from Staff's range of 50 to 150 mgd up to 2,000 mgd. According to the Applicant, no amount of flow would comply with the Thermal Plan in the spring, summer, and fall. (Applicant's Written Testimony, p. 42, Table 1)

Hyperion, with a current maximum treatment capacity of 450 mgd, does not have the capacity to provide 2,000 mgd to the power plant. Moreover, during early morning periods of minimal flow, as little as 90 – 100 mgd would be available to the power plant. This constraint could be handled partially by curtailing wastewater delivery to West Basin for tertiary treatment or by resumption of seawater cooling. (Applicant's Written Testimony, p. 39)

Supply and Return Pipelines for 2,000 MGD
The Applicant estimated that to convey 2,000 mgd from Hyperion and back to the outfall for winter-only cooling would require between 5 to 6 10-foot diameter pipes for each direction. Applicant believes that there is no space for placement of 10 to 12 pipes in the Vista Del Mar Avenue corridor. Also, the existing outfall and diffuser are not adequate to handle this increased flow volume. Moreover, the costs and off-site impacts associated with these pipelines would be much greater than those identified in the Staff's FSA analysis. (Applicant's Written Testimony, p. 43.)

Chevron Infrastructure
The Applicant contacted the Chevron refinery, immediately north of the ESGS, with regard to its willingness to accommodate the pipelines necessary for the supply and return of the wastewater between Hyperion and the ESGS. Chevron has unequivocally declined to make available or modify its terminal facilities for such a purpose. (RT 2/18/03 46:11-15)

Effluent Transport
Applicant contends that there may be regulatory, environmental, public health, and political concerns. The concerns regard whether the potential added temperature of the wastewater discharge may facilitate transport of the Hyperion secondary effluent to the ocean surface due to upwelling or currents. Thus, the pathogens in the secondary effluent might reach the ocean surface or coastal beaches. (Applicant's Written Testimony, p. 43.)

Staff testified that the heated wastewater would not cause pathogens to reach the beaches. Based on thermal plume model results that Staff obtained on the ESGS outfall that is 2,000 feet offshore, Staff believes that the heated discharge from the Hyperion five-mile outfall would not reach shore. According to Staff, salinity has a greater effect on buoyancy than temperature. Since the heated wastewater does not change the salinity ratios of the Hyperion discharge, any temperature increase would have a small effect upon plume behavior. Lastly, Hyperion's public health-protective NPDES permit temperature limit is 100 degrees F. So, a five-degree F increase is not likely to cause adverse health effects. (Staff Rebuttal Testimony, p. 38.)

The expert witness for the environmental Intervenors testified that discharging heated power plant wastewater along with Hyperion's effluent discharge presents "something critical to look at as part of the feasibility study." Namely, there is a need to study the impact of heated wastewater on the transport of Hyperion's effluent plume. According to the Intervenors' expert, the plume would rise more rapidly and would change the existing characteristics of plume transport. (RT 2/28/03 326:19- 328:25.)

Biofouling and Chlorine Discharge
Through the operation of its own cogeneration power plant, Hyperion found that secondary effluent, which has not had any nutrient removal, can produce high levels of biofouling, if not controlled. The biofouling was controlled by shock chlorination.

The Applicant claims that there will be significant technical challenges considering the elevated temperature of the wastewater and the long pipe runs. Hyperion used "primary"

(untreated) effluent to absorb excess chlorine wastes from the shock treatment. Since the Staff alternative has the returning, chlorinated wastewater going directly to the outfall pipe (back-end), there is no opportunity to interact with primary effluent, which is at the front-end of the Treatment Plant. Hyperion does not have the capacity to process the chlorinated wastewater. (Applicant's Written Testimony, p. 44.)

Staff acknowledges the use of "shock chlorine" treatments to control biofouling and the need for "dechlorination" before discharging the resultant cooling waters. Hyperion does not chlorinate its discharge. Hyperion's NPDES permit has maximum as well as weekly and monthly average chlorine limits. Staff suggests that the Applicant could use "bursts" of high chlorination and avoid the need for dechlorination. Alternatively, the Applicant could circulate seawater through the cooling system to kill any algae growth. Staff also believes that the excess chlorine in the returning effluent would react with the unchlorinated Hyperion effluent during the one-hour, five-mile transit period to the outfall. Effectively, any excess chlorine would be consumed by this process. (Staff Rebuttal Testimony, p. 39 & 40.)

Infeasibility

The Energy Commission finds that the problems identified by the Applicant render the Hyperion wastewater treatment alternative infeasible, as that term is applied by CEQA and the Coastal Act (CEQA Guidelines section 21061.1; Pub. Res. Code § 30108). These problems begin with the absence of a contract to provide the wastewater. By City Charter, the wastewater is the property of the City of Los Angeles and would be subject to curtailment or termination on 120 days notice. (RT 2/19/03 243:11-246:6) Likely, the project would require its own, new NPDES permit to discharge thermal waste through the Hyperion outfall.

There is a fundamental inadequacy of the wastewater supply, particularly wastewater that is at an inlet temperature that would allow the power plant to be operated normally and still comply with the temperature limits at the outfall. There are serious engineering and land use issues associated with the multiple large supply and return pipes between ESGS and Hyperion. The biofouling of the cooling system and the possible effects from chlorination appear more problematic, not less, given the experiences at Hyperion's own smaller power plant. Individually, none of these are minor matters. And taken together, they demonstrate that cumulatively the Hyperion wastewater proposal is infeasible and environmentally inferior to the project with the required conditions set forth in this Decision.

Fundamentally, there is also a serious question of whether the Hyperion wastewater alternative meets the most basic CEQA "alternatives" requirement, namely the Applicant's objective of controlling the operation of its facility in response to electricity demand. Based upon the constraints of the varying flows of available wastewater, plus the temperature of the wastewater when available, and the limitations on the discharge temperature of wastewater from the outfall, the Energy Commission believes for the vast majority of time the project could not operate or would operate well below its design capacity. In other words, the Applicant would lose control of the operation of it project due to cooling water constraints. (Applicant's Written Testimony, p. 37.)

Staff has addressed most of the potential infeasibilities identified above by stating that any short-term problem with the use of wastewater could be solved by reverting to the use of

seawater cooling through the existing system. However, the Energy Commission believes that the evidence shows that reverting to the existing seawater cooling would become the rule, rather than the occasional exception, thereby defeating the purpose of the suggested alternative.

Staff acted appropriately, in its independent review function and based upon its view of potential project impacts, to search for an alternative and began to evaluate the use of wastewater since it appeared possibly feasible at a conceptual level.

The determination of the feasibility of the Hyperion wastewater alternative in the Coastal Commission report relied upon the conceptual-level analysis in the Staff's FSA. The Energy Commission in adjudicating the issues regarding the Project's impact on marine biological resources conducted a thorough and rigorous quasi-judicial proceeding, receiving evidence from all parties in the case. Staff's FSA constituted an important part of the evidentiary record, but only a part. Substantial evidence was presented by the Applicant in the form of pre-filed testimony and the oral testimony of expert witnesses. In the end, the Energy Commission has found that many of the positions taken in the FSA are not supported by persuasive evidence and, therefore, has not adopted findings consistent with the arguments presented by Staff.

After applying the same scrutiny to Staff's wastewater cooling alternative as is routinely applied to any Applicant's project, the Energy Commission finds that this alternative is not capable of being elevated to the level of actual licensing, as Staff wishes, as a substitute for the already-permitted cooling water system at the ESGS. Thus, notwithstanding that "mitigation" is not required under CEQA, the Energy Commission also finds that Hyperion wastewater cooling alternative is not feasible.

Environmental Effect of Requiring Wastewater Cooling Alternative

As discussed previously, the Coastal Commission met publicly on November 6, 2002, and adopted a report to the Energy Commission that the Hyperion wastewater alternative appeared feasible and would conform to the policies of the Coastal Act.

The Applicant has made it clear that it considers the Hyperion wastewater cooling alternative to be infeasible, and testified that it was prohibitively expensive as well. The Energy Commission has concluded that the alternative is infeasible.

If the Applicant would not construct the project due to an infeasible wastewater cooling water condition, it could repower the existing Units 1 and 2 in a manner similar to the repowering of the similar Huntington Beach power plant that the Energy Commission reviewed and certified (00-AFC-13). This would leave the old, less efficient boiler units in place and operating. (See FSA, Alternatives, p. 6-12) To meet air quality requirements, the Applicant must install selective catalytic reduction as was done at Huntington Beach.

This result would lead to greater impacts upon the environment. Beginning with the marine environment, the existing NPDES permit would apply at 207 mgd daily limit until changed by the LARWQCB, instead of the 126.78 billion gallon per year flow cap condition of this Decision. There would be no $1 million donation to the Santa Monica Bay Restoration

Commission; and there would be no demonstration of the aquatic filter barrier at a California open-ocean site.

For beach users, the old structures would not be replaced by less visually dominant structures. A repowered boiler unit would use more gas per megawatt than a combined-cycle facility. The repowered units could not generate the same amount of electricity as the project, leaving it to some other facility to generate the lost increment.

Thus, the Commission finds that Hyperion wastewater cooling alternative, if required as presented in the Coastal Commission report of November 6, 2002, would result in greater impact to the environment compared to the proposed project with the conditions which are incorporated in this Decision.

Cumulative Impacts

Cumulative impacts are those that result from the incremental impacts of an action added to other past, present, and reasonably foreseeable future action, regardless of who is responsible for such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Staff experts testified that they "didn't say that there were project-specific significant impacts. What we say is that we don't know. What we're saying is that - - I believe that there's at least significant cumulative impacts by withdrawing ***any*** of these volumes of water from the Bay." (Emphasis added; RT 2/18/03, 249:8-13.)

The Commission rejects Staff's attempt, using the argument that ***any*** withdrawal of seawater in such amounts is adverse, to find a significant cumulative impact by combining project impacts with existing stressors in Santa Monica Bay. These *existing* stressors are not separate, potential "projects" as required for a cumulative CEQA analysis. Instead, they are part of the existing environment. [CEQA Guidelines §§ 15355, 15130(a)(1).]

By requiring an annual flow cap of 126.78 billion gallons per year, the Commission has found for the reasons stated above that, as a matter of law, no direct or indirect significant impacts will result from the operation of the project cooling system. Additionally, when examining the project with an annual flow cap of 126.78 billion gallons per year, in conjunction with other projects in the region, the Commission finds that no cumulative significant impact will result from "other closely related past, present, and reasonably foreseeable future projects." (CEQA Guidelines section 15355(b)

The proposed project does not provide any incremental impacts to riparian habitat. (Applicant's Writ. Test. Exh. B.)

Conclusion

In sum, we find and conclude that the project, with the Conditions of Certification adopted herein, will not cause a significant adverse impact on the aquatic biological environment, will comply with the federal Clean Water Act, will comply with the California Coastal Act, and will implement the recommendations of the Coastal Commission.

~~The Energy Commission has determined that the annual flow cap means that the project, which uses the existing cooling system, will cause no physical change to the existing environmental setting. Thus, under CEQA, there is no environmental impact, let alone a significant environmental impact from the project. Consequently no mitigation is required since there is no potential for impact. Moreover, the seasonal cap provides a project enhancement that will restrict flows, and thereby entrainment, during the peak spawning season. The annual flow cap will assure that the project causes no environmental impact under CEQA pending the 2005 review of the NPDES permit under new and more rigorous federal EPA guidelines. In relation to the current NPDES permit limitations, the caps in the proposed condition materially benefit Santa Monica Bay.~~

~~In addition, the Energy Commission has added Condition **BIO-4** which requires that before the Applicant can begin commercial operation of the project it must reduce entrainment impacts by at least 60 percent from unmitigated levels. Even though such a requirement would otherwise be imposed by new federal 316(b) regulations, the inclusion of Condition **BIO-4** means that we have taken a concrete step to improve the Santa Monica Bay marine environment. Beyond merely calling for a 316(b) study from which Staff, Coastal Commission, other agencies and environmental Intervenors seek to have the Energy Commission establish mitigation on top of an existing valid permit, we have maintained and coordinated the regulatory scheme which vests the LARWQCB with the authority to review and, if appropriate under federal EPA regulations, renew the NPDES permit for the project's cooling system.~~

~~**CONDITIONS**~~

- ☑ ~~**$1 Million to Santa Monica Bay Restoration Project:** Applicant shall place $1,000,000 in trust for the benefit of the Santa Monica Bay Restoration Project to be used to improve understanding of the biological dynamics of the Bay and to improve the health of the Bay habitat. The Santa Monica Bay Restoration Project would administer the funds. Condition: **BIO-1.**~~

- ☑ ~~**Aquatic Filter Barrier Feasibility Study:** In consultation with the Los Angeles Regional Water Quality Control Board, the project owner shall conduct a study to determine the feasibility benefits and impacts of constructing, deploying, and operating an aquatic filter barrier at intake #1 at ESGS. The feasibility study shall also determine expected benefits and potential impacts of the aquatic filter barrier if deployed and operated at intake #1. The feasibility study shall be submitted to the LARWQCB as part of the 2005 NPDES permit renewal process. If the LARWQCB finds that it is feasible to construct and operate an aquatic filter barrier and that the ESGS intake #1 site is suitable for a demonstration and orders the project owner to install an aquatic filter barrier on intake #1 in compliance with applicable 316(b) regulations, the project~~

~~owner shall construct and operate the aquatic filter barrier as directed by the LARWQCB. Condition: **BIO-2.**~~

☑ ~~**Annual and Seasonal Flow Cap:** The Applicant shall implement an annual cap on flow of 126.78 billion gallons on the combined total of all units at the El Segundo Generating Station and monthly caps of 9.4 billion gallons (February), 9.8 billion gallons (March), and 10.0 billion gallons (April) for a combined usage of all cooling water systems of the El Segundo Generating Station. In addition, the Applicant shall comply with all flow caps, of whatever duration, required by the applicable NPDES permit.~~

~~If future NPDES permitting establishes that an annual flow cap is not necessary to avoid significant impacts, then the Applicant may apply for and may receive changes to this Condition of Certification that removes the annual flow cap requirement. Condition: **BIO-3.**~~

☑ ~~**316(b) Study & Entrainment and Impingement Reduction:** Prior to commencement of commercial operation, the project owner shall reduce entrainment through the ESGS cooling water intake #1 by at least 60 percent from unmitigated levels and impingement by at least 80 percent, both from unmitigated levels, as directed and required by the LARWQCB under section 316(b) of the federal Clean Water Act. Pursuant to the implementation of federal regulations enacted under section 316(b) of the Clean Water Act and at the direction of the LARWQCB, Applicant shall conduct a study of the entrainment effects of intake #1. While recognizing the authority of the LARWQCB to determine the final 316(b) study design, the Commission directs the Applicant to consult with other agencies, including the California Coastal Commission, the National Marine Fisheries Service, and the California Department of Fish and Game, as well as the CPM in the development of the 316(b) study design.~~

~~**Findings**~~

~~With the below Conditions of Certification, the project conforms with applicable laws related to biological resources, and there are no potentially significant adverse impacts to biological resources.~~

CONDITIONS OF CERTIFICATION

BIO-1: ~~Prior to commercial operation,~~ The project owner shall place $~~1~~5,000,000 in trust ~~to~~ for the Santa Monica Bay Restoration Commission (SMBRC) to assess the ecological condition of the Santa Monica Bay and to develop and implement actions to improve the ecological health of the Bay. At least $1 million shall be provided within 180 days after this Decision becomes final. At that time, the SMBRC in consultation with the project owner, shall propose a schedule for the payment of the remaining funds; within 30 days after submittal of the proposed schedule to the CPM, the CPM shall approve a schedule, which may be the SMBRC's schedule or a modification thereof. The project owner shall

comply with the approved schedule. Use of the funds in trust must be restricted to improving understanding of the biological dynamics of Santa Monica Bay and for purposes of improving the health of the Santa Monica Bay biological habitat. This could include fish population studies, entrainment studies, or other studies approved by the Santa Monica Bay Restoration Project that focus on the Santa Monica Bay habitat. The funds in trust shall be administered by the Santa Monica Bay Restoration Commission, whose authority in determining the use of the funds shall be absolute. The Santa Monica Bay Restoration Commission shall have the responsibility to publish the results of any study(ies) conducted, and to account for the disposition of the fundsin trust in a timely and detailed manner. The funds shall be spent as directed by the SMBRC, after consultation with the CPM and the Los Angeles Regional Water Quality Control Board, for the purposes of assessing the ecological condition of the Santa Monica Bay and developing and implementing actions to improve the ecological health of the Bay. To the maximum extent feasible in keeping with those purposes, the studies conducted shall be designed to assist the LARWQCB in carrying out its responsibilities under section 316(b) of the Clean Water Act, for this project and other activities affecting Santa Monica Bay. If any funds remain unspent upon beginning of commercial operation, the project owner may petition the Energy Commission for return of those unspent funds to the project owner.

Verification: The project owner shall submit to the CPM a copy of the receipt transferring funds as required by this Condition. the stipulated amount to the Santa Monica Bay Restoration Commission. If the Santa Monica Bay Restoration Commission conducts and publishes study(ies), tThe project owner shall provide to the CPM a copy of any studies carried out under this Condition. such study(ies) to the CPM.

BIO-2: In consultation with the Los Angeles Regional Water Quality Control Board LARWQCB, the project owner shall conduct a study to determine the feasibility of constructing, deploying, and operating an aquatic filter barrier at intake #1 at ESGS. The feasibility study shall also determine expected benefits and potential impacts of the aquatic filter barrier if deployed and operated at intake #1. The feasibility study shall be submitted to the Los Angeles Regional Water Quality Control Board LARWQCB for possible use in implementing regulations under 316(b) of the Clean Water Act. If the Los Angeles Regional Water Quality Control Board LARWQCB finds that it is feasible to construct and operate an aquatic filter barrier and that the ESGS intake #1 site is suitable for a demonstration and orders the project owner to install an aquatic filter barrier on intake #1 in compliance with applicable 316(b) regulations, the project owner shall construct and operate the aquatic filter barrier.

Verification: The project owner shall submit to CPM and the LARWQCB a complete analysis and all results of the feasibility study as part of the evaluation involved in implementing applicable 316(b) regulations.

BIO-3: The project owner shall implement an annual cap on flow on the combined total of Intake #1 and Intake #2 of 126.78 billion gallons and shall also cap the monthly flow volumes in February at 9.4 billion gallons, March 9.8 billion gallons and April at 10.0 billion gallons If future NPDES permitting establishes that an annual flow cap is not

~~necessary to avoid significant impacts then the project owner shall apply for and receive changes to this Condition of Certification that removes the annual flow cap requirement. If the NPDES permit for ESGS is changed to incorporate entrainment control technology that confirms less than significant impacts then the project owner shall apply for and receive changes to this Condition of Certification that removes the annual flow cap. The project owner shall report any communication with the LARWQCB regarding renewal or modification of the NPDES permit for ESGS.~~ Cooling water flows for intakes #1 and #2 combined shall not exceed 126.78 billion gallons per year and shall also be subject to monthly flow volumes not to exceed 7.961 billion gallons in February, 8.313 billion gallons in March, and 8.524 billion gallons in April of any year.

Verification: Project owner shall ~~report~~ send to the CPM copies of the project's quarterly reports to the LARWQCB, including: (1) daily cooling water flows calculated from the measured capacity of each pump; (2) each pump's daily hours of operation; (3) each pump's annual average volume; and (4) average-hourly effluent temperature data. The data shall be presented graphically to illustrate the daily pump volume totals over time. ~~all communication efforts with the LARWQCB regarding entrainment and NPDES permit renewal or compliance. Project owner shall report, in its annual report, monthly flow volumes for both Intake #1 and Intake #2.~~

BIO-4: Project owner shall provide information demonstrating that a valid NPDES permit has been issued prior to operation of the project. The valid NPDES permit and its terms and conditions shall be incorporated into this Decision, except for flow cap provisions, unless those in the NPDES permit are stricter than the flow caps required under **BIO-3**

Verification: Project owner shall report to the CPM all communication efforts with the LARWQCB regarding NPDES permit renewal or compliance. Project owner shall provide to the CPM all data and analysis supporting any 316(b) study performed. Project owner shall consult with the LARWQCB, the Coastal Commission, Energy Commission staff, Santa Monica Bay Restoration Commission, and the Santa Monica Bay Keepers to develop the appropriate design for any 316(b) study.

BIO-5: Prior to commencement of ~~commercial~~ operation, the project owner ~~shall reduce entrainment through the ESGS cooling water intake #1 by at least 60 percent and impingement by at least 80 percent, both from unmitigated levels, or~~ shall achieve compliance with section 316(b) of the Clean Water Act and regulations thereunder as directed and required by the LARWQCB. ~~under section 316(b) of the federal Clean Water Act. Pursuant to the implementation of federal regulations enacted under section 316(b) of the Clean Water Act and at the direction of the LARWQCB, project owner shall conduct a study of the entrainment effects of intake #1. While recognizing the authority of the LARWQCB to determine the final 316(b) study design, the Commission directs the Applicant to consult with other agencies, including the California Coastal Commission, the National Marine Fisheries Service, and the California Department of Fish and Game, as well as the CPM in the development of the 316(b) study design.~~

~~The facility-wide flow cap required by Condition of Certification **BIO-3** shall expire upon completion of the requirements of this Condition, including any flow cap required by the LARWQCB.~~ If the LARWQCB requires that a study be conducted under section 316(b), then the project owner shall consult, with the facilitation of the CPM, with the National Marine Fisheries Service, the California Coastal Commission, the California Department of Fish and Game, and the Santa Monica Bay Restoration Commission in the development and implementation of the 316(b) study design, subject to all applicable authority of the LARWQCB.

Verification: ~~Project owner shall submit proposed changes to this Condition, as required, to correspond with final regulations issued under section 316(b) of the federal Clean Water Act.~~ Project owner shall submit to the CPM copies of all correspondence and submittals to the LARWQCB related to the implementation of section 316(b) regulations. Project owner shall inform the CPM of all 316(b)-related decisions by the LARWQCB and steps taken by the project owner pursuant to LARWQCB direction. ~~Project owner shall report to the CPM when 316(b) regulations and corresponding entrainment or flow reductions or restoration measures have been implemented.~~

LAWS, ORDINANCES, REGULATIONS & STANDARDS
BIOLOGY

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Endangered Species Act of 1973 (16 USC, Section 1531 et seq.) and implementing regulations, (CFR, Section 17.1 et seq.)	Designates and provides for protection of threatened and endangered plants and animals and their critical habitat.
Clean Water Act, USC, Sections 316(a) and (b) and implementing regulations, (CFR, Section et seq.)	Requires scientific evaluation impingement and entrainment effects caused by intake structures (Section 316(b) and thermal effects caused by discharging heated waste Section 316(a). A National Pollutant Discharge Elimination System (NPDES) permit is required for facilities such as the proposed project.
National Environmental Policy Act (NEPA) of 1969 (42 USC 4341 et seq.) and implementing regulations (40 CFR Parts 1500-1508)	NEPA must be addressed if an Environmental Impact Statement (EIS) would be required for a Federal action/permit that would have a significant effect on the environment.
Section 404 of the Clean Water Act (33 USC Section 404 et seq.)	Prohibits the discharge of dredged or fill material into waters of the United States without a permit. A 404 Nationwide permit 12 is applicable for utility line placement near waters of the U.S. causing temporary discharge of material.
Executive Order 11990, Protection of Wetlands	Requires governmental agencies take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out their responsibilities.
STATE	
California Endangered Species Act of 1984, (Fish and Game Code, Section 2050 et seq.)	Protect California's endangered and threatened species.
California Coastal Act, Sections 30230, 30231	Marine resources and their productivity and balance must be maintained, enhanced and restored.

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CULTURAL RESOURCES – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Cultural Resources ▪ **Prehistoric** ▪ **Historic** ▪ **Ethnic Heritage**	**MITIGATION**	**None**	**YES**
	Construction: There are no known prehistoric resources, historic resources, or human remains at the highly disturbed power plant site in the existing El Segundo Generation Station. Ground disturbance during demolition at the plant site may exceed previously disturbed ground and fill. There are four previously recorded sites within ¼ mile of the project, making it a potential location for encountering archeological material. **MITIGATION:** ☑ The Project Owner will designate a cultural resource specialist who will monitor excavation and, in the event of an unanticipated discovery, provide for the handling and curation of any recovered cultural resources. Conditions: **CULT-1** through **CULT-8.** *References: AFC pp. 5.7-12-22; FSA Cultural Resources pp. 4.3-4-6.*		

CULTURAL RESOURCES- GENERAL

This analysis discusses cultural resources, which are defined as the structural and cultural evidence of the history of human development and life on earth. Cultural resources may be found on the ground surface or buried beneath the surface. Evidence of California's early occupation is becoming increasingly vulnerable due to the ongoing development and urbanization of the state. Potential cultural resources are identified through records searches and field surveys.

Since project development and construction usually entail surface and sub-surface disturbance of the ground, the proposed project has the potential to adversely affect both known and unknown cultural resources. Direct impacts are those which may result from the immediate disturbance of resources, whether from vegetation removal, vehicle travel over the surface, earth-moving activities, or excavation. Indirect impacts are those which may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource materials due to improved accessibility. Cumulative impacts to cultural resources may occur if increasing amounts of land are cleared and disturbed for the development of multiple projects in the same vicinity as the proposed project.

There are four previously recorded sites within ¼ mile of the project. Since ground disturbance during demolition at the plant site may be below previously disturbed ground and fill, there is a potential for encountering archeological material.

Prehistoric

Prehistoric archaeological resources are those resources relating to prehistoric human occupation and use of an area; these resources may include sites and deposits, structures, artifacts, rock art, trails, and/or any other traces of Native American human behavior. In California, the prehistoric period has been determined to pre-date 10,000 years before present (B.P.) and which extended well into the 18th century with the initiation of the Mission Period (ca. 1769) and the first Euro-American (Spanish) settlement of California.

The Los Angeles plain and fringing coastline has supported a continuous cultural occupation for at least the last 8,000 years. This particular area of Southern California is associated with the ancestors of the Gabrieleno/Tongva and Chumash. An archaic occupation has been identified in the archaeological record that reflects the early emergence of non-agricultural village-based groups in the Los Angeles Basin. Current archaeological evidence suggests that a relatively small population existed in the basin until approximately 2,000 years before present (B.P.). After that temporal marker, populations appear to have expanded considerably into resource-rich coastal and near-shore estuarine environments. Report from early European contacts to the area such as Juan Rodriquez Cabrillo and Sebastian Vizcaino indicated that some of the larger coastal villages had hundreds of occupants. These observations appear to be supported by the archaeological evidence, although by the late 18th Century, reports indicate that the Los Angeles City environs supported only a small but established hunter/gatherer culture. The coastal populations migrated away from the coast and back to the coast in response to environmental factors. Seasonal migrations of these various populations make delineation of their respective traditional territories difficult to define. The location of the project area, however, suggests a strong association with the Gabrielenos.

The earliest evidence of human occupation in the immediate area of the Del Rey bluffs comes from the Lambert study of 1983, where the southern fringes of the Ballona Lagoon and creek have been identified within a few miles of the current study area. On the Del Rey bluffs, the presence of desert culture-related artifacts and cremations, a noticeable lack of shell ornamentation, and the apparent lack of marine resources suggest a change in the population. This is generally attributed to the presence of Shoshone speakers from the Desert regions.

For approximately 500 years prior to Spanish contact, the western Los Angeles Basin was occupied during the Late Prehistoric by the “Canalino” culture known for their ability to exploit the ocean resources. The coastal site typically exhibited an abundance of shellfish and other marine resources. In the vicinity of the current project, CA-LAN-47, a Late Prehistoric Gabrielino village site, has yielded inhumations, stone bowl, projectile points, pestles, and scrapers all indicative of a Gabrielino presence. The site is described as a seasonal village for the procurement of resources along Ballona Lagoon.

However, the proposed power plant location yielded no physical evidence of prehistoric resources. (AFC p. 5.7-12-19; FSA Cultural Res., 4.3-5,6, 8.)

Historic

Historic archaeological resources are those materials usually associated with Euro-American exploration and settlement and the beginning of written historical records. Historic resources may also include archaeological deposits, sites, structures, traveled ways, artifacts, documents, and/or any other evidence of human activity. Prior to 1998, federal and state requirements identified historic resources as being greater than fifty years of age. Amendments to CEQA have removed the references to the fifty-year designation, while the federal regulations maintain the requirement.

The first recorded contact with Southern California Native Americans (including the Gabrielino) involved the Spanish exploration led by Juan Rodriquez Cabrillo in 1542. Many years later (1769), the Portola Expedition traversed present-day Los Angeles County and made direct contact with the Native population. Shortly thereafter, the Spanish Missionaries led by Father Junipero Serra began establishing Catholic missions throughout California. The references to the Gabrielino are directly related to the founding of the Mission San Gabriel in the San Gabriel Valley of Los Angeles County.

The City of Los Angeles was officially founded in 1786 and by 1800 there were as many as 30 small adobe structures in the area. The current project area (El Segundo) is well outside this early settlement. The City of El Segundo began as a “melon patch” and in 1911 was surveyed by representatives of the Standard Oil Company. The community was called “El Segundo” because it was the second Standard Oil Refinery location in Southern California. The City of El Segundo was incorporated in 1917 and developed into an industrial center when the farming activities gave way to commercial development, eventually including an airfield and other commercial ventures.

The arrival of the Standard Oil refinery in 1911 had a profound effect on the development of early El Segundo. The company almost immediately became the primary employer of the community, resulting in a reference to the “Standard Oil Payroll Town.” Residential housing was constructed shortly after the founding of the refinery and privately owned businesses were established throughout the area. Services were established along Richmond Street, El Segundo’s first business district. At the time of incorporation, El Segundo had a population of 1,000.

The El Segundo Land and Improvement Company began surveying, grading, and development in 1911, installing curbs, sidewalks, and subdividing 1,470 acres. By 1912, many of the lots had sold, but only nine had been developed. The residential housing boom in El Segundo began with incorporation in 1917.

From the onset, the commercial enterprises of El Segundo concentrated on Richmond Street, rather than the adjacent Main Street. Numerous small, wood framed commercial buildings were on Richmond on two blocks between Ballona (later El Segundo Boulevard) and the Pacific Electric tracks (Grand). Most of these structures were destroyed in a fire (ca. 1917), resulting in a redevelopment using bricks rather than wood. The 1930s brought the beginnings of the Los Angeles Airport (originally Mines Field) and the aerospace industry to El Segundo – including Douglas Aircraft (1928), Northrop (1932) and North American

Aviation (1935). Hughes Aircraft arrived in the 1950s, supplementing the post-World War II military presence in the area.

There are no structures at the project site eligible for listing as historic resources. (AFC pp. 5.7-19-22; FSA Cultural Res., p. 4.3-7, 8.)

Ethnic Heritage

Ethnographic resources are those resources important to the heritage of a particular ethnic or cultural group, such as Native Americans, Hawaiian, Eskimo, African, European, or Asian immigrants. They may include traditional resource collecting areas, ceremonial sites, topographic features, cemeteries, shrines, or ethnic neighborhoods and structures. Ethnographic resources also include personal biographical data, interview data, and collections or oral histories relating the life ways of previous generations.

No Native American cultural resource sites have been identified by the Native American Heritage Commission or other Native American representatives. No human remains have been identified within the project area. However, should such resources be identified, the local Native American representatives must be contacted (following notification to the County Coroner) and all requirements of state and federal law, as appropriate. (AFC 5.7-22; FSA Cultural Res., 4.3-9, 10.)

MITIGATION:

- ☑ The Project Owner will designate a cultural resource specialist who will monitor excavation and, in the event of an unanticipated discovery, provide for the handling and curation of any recovered cultural resources. Conditions: **CULT-1** through **CULT-8.**

Cumulative Impacts

The potential for cumulative impacts may be associated with the degree of prehistoric and historic sensitivity. The project site is located in a general area where historic properties and archaeological sites have previously been identified. The area proposed for use has already been disturbed by development. Therefore, cumulative impacts are not an issue.

Proposed developments such as the ESPR power plant and its associated linear facilities in conjunction with other development projects would not alter the amount of land currently exposed to public access and/or the potential removal or damage to cultural resources. The combined effects of development may accelerate the potential for impacts to cultural resources, but not in this case. (FSA Cultural Res., p. 4.3-14.)

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to cultural resources and all potential cultural resource impacts will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

DESIGNATED CULTURAL RESOURCES SPECIALIST

CUL-1 Prior to the start of ground disturbance, the project owner shall submit the resume of the proposed Cultural Resources Specialist (CRS), and one alternate CRS, if an alternate is proposed, to the CPM for review and approval. The CRS will be responsible for implementation of all cultural resources conditions of certification. and may obtain qualified cultural resource monitors (CRMs) to monitor as necessary on the project.

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

a. The technical specialty of the CRS shall be appropriate to the needs of the project and shall include, a background in anthropology, archaeology, history, architectural history or a related field;

b. At least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California; and

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

CRMs shall meet the following qualifications:

a. A BS or BA degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or

b. An AS or AA in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or

c. Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology or a related field and two years of monitoring experience in California.

The project owner shall ensure that the CRS completes any monitoring, mitigation and curation activities necessary; fulfills all the requirements of these conditions of certification; ensures that the CRS obtains technical specialists, and CRMs, if needed; and that the CRS evaluates any cultural resources that are newly discovered or that may be affected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR).

Verification: The project owner shall submit the resume for the CRS at least 45 days prior to the start of ground disturbance. At least 10 days prior to a termination or release of the CRS, the project owner shall submit the resume of the proposed replacement CRS. At least 20 days prior to ground disturbance, the CRS shall submit written notification identifying anticipated CRMs for the project stating they meet the minimum qualifications required by this condition. If additional CRMs are needed later, the CRS shall submit written notice one week prior to any new CRMs beginning work.

PROJECT MAPS SHOWING GROUND DISTURBANCE

CUL-2: Prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps will include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting individual artifacts. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM.

If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes, to the CRS and the CPM for approval. Maps shall identify all areas of the project where ground disturbance is anticipated.

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

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

The project owner shall notify the CRS and CPM of any changes to the scheduling of the construction phases.

Verification: The project owner shall submit the subject maps and drawings at least 40 days prior to the start of ground disturbance.

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

If project construction is phased, the project owner shall submit the subject maps and drawings 15 days prior to each phase.

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

The project owner shall provide written notice of any changes to scheduling of construction phases within 5 days of identifying the changes. A copy of the current schedule of anticipated project activities shall be submitted in each MCR.

CULTURAL RESOURCES MONITORING AND MITIGATION PLAN

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

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

1. The following statement shall be added to the Introduction: Any discussion, summary, or paraphrasing of the conditions in this CRMMP is intended as general guidance and as an aid to the user in understanding the conditions and their implementation. If there appears to be a discrepancy between the conditions and the way in which they have been summarized described, or interpreted in the CRMMP, the conditions, as written in the Final Decision, supercede any interpretation of the Conditions in the CRMMP. The cultural resources conditions of certification are attached as an appendix to this CRMMP.
2. A proposed general research design that includes a discussion of research questions and testable hypotheses applicable to the project area. A refined research design will be prepared for any resource where data recovery is required.
3. Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during ground disturbance, construction, and post-construction analysis phases of the project.
4. Identification of the person(s) expected to perform each of the tasks, their responsibilities; and the reporting relationships between project construction management and the mitigation and monitoring team.
5. A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities.
6. A discussion of all avoidance measures such as flagging or fencing, to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and identification of areas where these measures are to be implemented. The discussion shall address how these measures will be implemented prior to the start of construction and how long they will be needed to protect the resources from project-related effects.
7. A discussion of the requirement that all cultural resources encountered will be recorded on a DPR form 523 and mapped (may include photos). In addition, all archaeological materials collected as a result of the archaeological investigations (survey, testing, data recovery) shall be curated in accordance with The State Historical Resources Commission's "Guidelines for the Curation of Archaeological

Collections," into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Title 36 of the Federal Code of Regulations, Part 79.

8. A discussion of any requirements, specifications, or funding needed for curation of the materials to be delivered for curation and how requirements, specifications and funding will be met. The name and phone number of the contact person at the institution. Include a statement in the discussion of requirements that the project owner will pay all curation fees and that any agreements concerning curation will be retained and available for audit for the life of the project.

9. A discussion of the availability and the designated specialist's access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during construction.

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

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

CULTURAL RESOURCES REPORT

CUL-4 The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall report on all field activities including dates, times and locations, findings, samplings and analysis. All survey reports, DPR 523 forms and additional research reports not previously submitted to the California Historic Resource Information System (CHRIS) shall be included as an appendix to the CRR.

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

WORKER ENVIRONMENTAL AWARENESS PROGRAM

CUL-5 Worker Environmental Awareness Program (WEAP) shall be provided, on a weekly basis, to all new employees starting prior to and for the duration of, ground disturbance. The training may be presented in the form of a video. The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Samples or visuals of artifacts that might be found in the project vicinity;

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

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

CULTURAL RESOURCES MONITORING

CUL-6: The CRS, alternate CRS, or monitors shall monitor ground disturbance full time in the vicinity of the project site, linear facilities and ground disturbance at laydown areas or other ancillary areas to ensure there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner. In the event that the CRS determines that full-time monitoring is not necessary in certain locations, a letter or e-mail providing a detailed justification for the decision to reduce the level of monitoring shall be provided to the CPM for review and approval prior to any reduction in monitoring.

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

The CRS shall notify the project owner and the CPM, by telephone or e-mail, of any incidents of non-compliance with any cultural resources conditions of certification within 24 hours of becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the conditions of certification.

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

A Native American monitor shall be obtained to monitor ground disturbance in areas where Native American artifacts may be discovered. Informational lists of concerned Native Americans and Guidelines for monitoring shall be obtained from the Native

American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that will be monitored.

Verification:

1. During the ground disturbance phases of the project, if the CRS wishes to reduce the level of monitoring occurring at the project, a letter identifying the area(s) where the CRS recommends the reduction and justifying the reductions in monitoring shall be submitted to the CPM for review and approval.
2. During the ground disturbance phases of the project, the project owner shall include in the MCR to the CPM copies of the weekly summary reports prepared by the CRS regarding project-related cultural resources monitoring. Copies of daily logs shall be retained on-site and made available for audit by the CPM.
3. Within 24 hours of recognition of a non-compliance issue, the CRS shall notify the CPM by telephone of the problem and of steps being taken to resolve the problem. The telephone call shall be followed by an e-mail or fax detailing the non-compliance issue and the measures necessary to achieve resolution of the issue. Daily logs shall include forms detailing any instances of non-compliance with conditions of certification. In the event of a non-compliance issue, a report written no sooner than two weeks after resolution of the issue that describes the issue, resolution of the issue and the effectiveness or the resolution measures, shall be provided in the next MCR.
4. One week prior to ground disturbance in areas where there is a potential to discover Native American artifacts, the project owner shall send notification to the CPM identifying the person(s) retained to conduct Native American monitoring. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM who will initiate a resolution process.

DESIGNATED CULTURAL RESOURCE SPECIALIST AUTHORITY

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

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

1. the CRS has notified the project owner, and the CPM has been notified within 24 hours of the find description and the work stoppage.;
2. The CRS, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed;
3. Any necessary data recovery and mitigation has been completed.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM with a letter confirming that the CRS, alternate CRS and

CRMs have the authority to halt construction activities in the vicinity of a cultural resource find, and that the CRS or project owner will notify the CPM immediately (no later than the following morning of the incident or Monday morning in the case of a weekend) of any halt of construction activities, including the circumstance and proposed mitigation measures. The project owner shall provide the CRS with a copy of the letter granting the authority to halt.

WATER PIPELINE REALIGNMENT

CUL-8 The route for the water lines shall extend down Grand Avenue to Eucalyptus St. to El Segundo Blvd, which is within the water pipeline study area, bordered by El Segundo Blvd., Loma Vista St., Grand Ave. and Eucalyptus St. (Applicant has conducted a cultural resources assessment in the pipeline study area and within the area defined as the proposed project). If the water lines and associated pipelines are to be located anywhere but in an area originally defined as part of the proposed project, a cultural resource assessment shall be conducted prior to any ground disturbance. The cultural resource assessment shall consist of a records search and a pedestrian survey. This approach gives equal emphasis to prehistoric and historic resources and an evaluation of significance. A Native American monitor from a group with historic ties to the affected area shall be retained as part of the cultural resources team during any surveys or subsurface investigation.

Verification: Forty days prior to the start of any ground disturbance or project site preparation at the newly identified location of the waterlines and associated pipelines, the project owner shall submit the following for approval by the CPM: (1) the results of the records search and the results of the survey; (2) an evaluation, including site records, of all cultural resources within or adjacent to the project Area of Potential Effects; and (3) the information shall also include the name and tribal affiliation of the Native American monitor.

LAWS, ORDINANCES, REGULATIONS & STANDARDS
CULTURAL RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	
National Historic Preservation Act 916 USC 470, et seq.)	Applicable if federal permits are required, Federal funding provided, or lands owned by Federal government. Requires consultation with lead Federal agency, SHPO, & Advisory Council on Historic Preservation.
36 CFR 61	Professional qualification standards/procedures for state and local government historic preservation programs/cultural resources management.
STATE	
California Environmental Quality Act (CEQA) Guidelines (Sections 15064.5 & 15126.4)	Construction may encounter archaeological resources.
Health & Safety Code 7050.5	If potential Native American human remains are encountered, coroner notifies Native American Heritage Commissioner within 24 hours.
Public Resources Code Section 5097.9	If Native American human remains are encountered, the Native American Heritage Commissioner assigns Most Likely Descendent.

GEOLOGY – Summary of Findings and Conditions

Earthquake	**MITIGATION**	**None**	**YES**
	The project is located in seismic zone 4 and is 2.1 miles from the Palos Verdes-Coronado Valley fault. The power plant will be designed and constructed to withstand strong earthquake shaking as specified in the 2001 California Building Code for seismic zone 4. See also **FACILITY DESIGN**. **MITIGATION:** ☑ The Project Owner shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site. Condition: **GEO-1**. *References: AFC p. 5.3-13; FSA Geology, etc., p. 5.2-3.*		
Instability	**MITIGATION**	**None**	**YES**
	The shallow ground water and loose sands combined with peak horizontal ground acceleration from a design earthquake create moderate to high liquefaction potential which must be addressed in facility engineering. Clay-rich soils, which are expansive in the presence of water, are well below the water table, and thus unlikely to affect final foundation design. Previously existing cut slopes along the eastern boundary of the site do not show potential for landslide or subsidence. Shoreline erosion and deposition are ongoing natural processes. Los Angeles County is responsible for beach maintenance. **MITIGATION:** ☑ The project Owner shall perform a liquefaction analysis. Condition: **GEO-2.** ☑ The Project Owner shall verify the integrity of cut slopes. Condition: **GEO-3**. ☑ The Project Owner shall monitor for shoreline erosion. Condition: **GEO-4**. *Reference: AFC p. 5.3-22-30; FSA Geology, etc., p. 5.2-3, 4.*		
Mineral Resources	**None**	**None**	**YES**
	There are no known geologic resources at the power plant site. *References: AFC 5.3-32; FSA Geology, etc., p. 5.2-5.*		
Fossils (Paleontology)	**MITIGATION**	**None**	**YES**
	There are no known paleontological resources at the power plant site. Procedures need to be in place in the event of an unanticipated discovery of paleontological resources during site excavation. **MITIGATION:** ☑ Procedures for the recovery of unknown paleontological resources at the power plant site will prevent a significant impact to paleontological resources. Conditions: **PAL-1** to **PAL-7**. *References: AFC p. 5.8-2-18; FSA Geology, etc., p. 5.2-5.*		

Flood	MITIGATION	None	YES
	An existing 10-foot high masonry seawall on the seaward side of the power plant complex has not been overtopped during the most significant recent storm (1988) and will be extended north and south to further protect the power plant. The top of existing and extended seawall will be 30 feet above mean sea level, and thus not subject to inundation from tsunami. **MITIGATION:** ☑ The Project Owner shall design the seawall addition in accordance with accepted design practices and the California Coastal Commission Procedural Memo #19. Condition: **GEO-6** *Reference: AFC p. 5.3-28, 29; FSA Geology, etc., 5.2 p. 4.*		

GEOLOGY – GENERAL

The project is located on the Torrance Plain of the Peninsular Range and is flanked by a bike path along a beach, the Pacific Ocean to the west, and a dune sand cut slope to the east. The El Segundo oil field lies approximately one mile east of the project.

The project will involve the demolition of existing Units 1 and 2, and the removal of their foundations will result in an excavation approximately 10 feet below existing grade. Ten feet of engineered fill will then be placed in the excavation.

The project is not crossed by known active faults. The depth to ground water varies with the tide, but ground water may be encountered at ten feet below existing grade. Site near-surface geology consists of alluvium, possibly semi-consolidated dune sand, and artificial fill. The character of the possible fill is unknown. Borings from the early foundation reports for the project do not indicate the presence of fill. The alluvium is made up of Quaternary to Recent age sands, silts, clays, and gravel beneath existing fill. Underneath the alluvium are Tertiary age marine and continental units of sandstone, conglomerate, and clays.

A 1.75:1 (horizontal to vertical) cut slope makes up the eastern border of the site. This slope is heavily vegetated and is made up of semi-consolidated dune sand. The slope is approximately 70 feet high and is not terraced along most of its length. The toe of the slope is supported by an approximately 3-foot-high concrete retaining wall, which also bears a number of pipes associated with the facility. The southern end of the 1.75:1 slope includes two additional retaining walls, each about 5 feet high, stepped up the slope. These higher walls appear to terminate to the north just about at the southern end of Units 1 and 2. North of Units 1 and 2, the slope steepens to 1.5:1.

The project site lies at an elevation of approximately 19 to 20 feet above mean sea level. Existing grade at the power plant site is approximately 1 percent. The existing site drainage is sheet flow in nature into a retention basin to the south. (FSA Geology, etc., p. 5.2-2.)

Earthquake

The project is located within Seismic Zone 4 per the 2001 edition of the California Building Code. There is no observable surface faulting at the project site. No active faults are known to cross the power plant site. A number of active faults lie within a 25-mile radius of the site. The closest active faults to the project are the Palos Verdes-Coronado Fault (2.1 miles southwest) and the North Branch of the Newport–Inglewood Fault Zone (7.3 miles northeast). The North Branch of the Newport-Inglewood Fault Zone is a right lateral strike slip fault with a slip rate of approximately 1 mm/year. The Newport-Inglewood Fault Zone has the potential to generate a moment magnitude 6.9 earthquake or greater. The Palos Verdes-Coronado Fault is a northwest-trending, right-lateral strike-slip fault capable of generating a moment magnitude 7.1 earthquake and has an average slip rate of 3 millimeters per year. Other faults near the project site include the Santa Monica Fault and the Whittier segment of the Ellsinore Fault, which are capable of earthquakes with a magnitude similar in size to the Newport-Inglewood Fault Zone. The Santa Monica Fault trends northeast and lies approximately 12 miles north of the site. The Whittier segment of the Ellsinore Fault, which trends northwest, is located more than 23 miles east of the project. The Whittier segment of the Ellsinore Fault has shown right-lateral strike-slip displacement with an average slip rate of 2.5 mm per year. The Santa Monica Fault has a slip rate of 1 mm per year with left-lateral reverse-oblique movement.

The existing power plant was in operation during both the Sylmar moment magnitude 6.4 earthquake and Northridge moment magnitude 6.7 earthquake. Furthermore, the plant was not damaged in the Sylmar earthquake and only had minor damage to a wall adjacent to the bike path during the Northridge earthquake. The Applicant has estimated that the peak horizontal ground acceleration for the design earthquake (with a 10 percent probability in 50 years return interval) is 0.46g. A peak horizontal ground acceleration of this intensity could cause instability of the existing cut slope and liquefaction of project foundation soils, depending on the soil conditions actually present. The Applicant has proposed to replace structures designed under much older building codes with structures designed under current earthquake standards. (AFC p. 5.3-5-22; FSA Geology, etc., p. 5.2-3, 4.)

MITIGATION:

- ☑ The Project Owner shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site. Condition: **GEO–1.**

Instability

Liquefaction is a nearly complete loss of soil shear strength that can occur during a seismic event. During the seismic event, cyclic shear stresses cause the development of excessive pore water pressure between the soil grains, effectively reducing the internal strength of the soil. This phenomenon is generally limited to unconsolidated, clean to silty sand (up to 35 percent non-plastic fines) and very soft silts lying below the ground water table. The higher the ground acceleration caused by a seismic event, the more likely liquefaction is to occur. Severe liquefaction can result in catastrophic settlements of overlying structural improvements and lateral spreading of the liquefied layer when confined vertically but not

horizontally. Soil borings contained in the AFC indicate ground water is present at depths as shallow as 10 feet below existing grade. The borings also indicate that locally loose sands underlie the site. As a result, the potential for liquefaction is moderate to high. The California Geological Survey has mapped the area as a liquefaction hazard zone.

Hydrocompaction is the process of the loss of soil volume upon the application of water. The fill at the site varies in consistency from loose to dense and is saturated below the water table. The potential for significant compaction due to hydrocompaction is considered remote since the ground water table at the site is shallow.

Subsidence of surface and near-surface soils may be induced at the site by either strong ground shaking due to a large nearby earthquake, by consolidation of loose or soft soils due to heavy loading of the soils by large structures, or by the extraction of fluids from the subsurface. Subsidence due to oil extraction is a regional problem that has been partially mitigated by the injection of water into the subsurface. The injection of water into the subsurface has also been regionally used to prevent the intrusion of seawater into local aquifers north of the project. Subsidence due to ground water withdrawal has not been a major problem in the area – partially because sea water often replaces the fresh water that is pumped from the aquifer. Both subsidence stabilization and the salt-water intrusion mitigation have been moderately successful. Water injection is not anticipated as part of the proposed project.

Soils that contain a high percentage of expansive clay minerals are prone to expansion if subjected to an increase in water content. Expansive soils are usually measured with an index test such as the expansive index potential. The Applicant has indicated in the AFC that the only suspected expansive clay soils lay well below the water table, making shrink-swell very unlikely. Prior to the final design of the foundation for the project, the Applicant will have a foundation investigation report conducted and reviewed by the CBO.

Landslides typically involve rotational slump failures within surface soils/colluviums and/or weakened bedrock that are usually implemented by an increase of the material's moisture content above a layer which exhibits a relatively low strength. Debris-flows are shallow landslides that travel down-slope very rapidly as muddy slurry. No landslides were observed on or adjacent to the proposed power plant site. A shallow, minor, slump was observed in the cut slope near the project administration building. The Applicant proposes to evaluate slope stability during conduct of engineering geological/geotechnical investigations.

Landward erosion is a constant force acting on any shoreline. Erosion and deposition at the shoreline are complex, dynamic processes involving a number of variables that may interact with each other in a chaotic manner. Beaches in this area are largely artificial, the result of a series of beach nourishment projects between 1938 and 1984. A groin was constructed by Chevron in the late 1980s to protect an oil pipeline.

In 1988, a "Great Storm" struck the California Coast, including the El Segundo Area. By coincidence, a shallow-water beach profiling survey had been completed around the Chevron rock groin at project site the day before. A subsequent survey was performed 4 days after the peak storm waves and then periodically for about 9 months. North of the groin beach

erosion ranged from 20 to 63 cubic yards per linear foot. South of the groin the erosion was much less at 4 to 10 cubic yards per linear foot; however, the beach eroded back to the bicycle path and the rock revetment. The revetment was damaged in numerous locations. Within 9 months, the beach north of the groin had recovered over 90 percent of the lost volume. South of the Chevron groin, beaches were artificially nourished right after the storm and were not monitored. Due to the presence of a significantly narrower beach south of the groin, the likelihood of wave run-up to the property may be considered moderate to high.

Maintenance of the beach and revetment is the responsibility of Los Angeles County. Limited historical data for coastal conditions along the El Segundo shoreline indicate that the project site may be subjected to extreme storm swell and sea conditions in conjunction with astronomical high tides. To address shoreline erosion concerns, the Applicant has proposed to design and conduct a shoreline monitoring program lasting a minimum of 10 years. (AFC p. 5.3-22-30; FSA Geology, etc., pp. 5.2-4, 5.)

MITIGATION:

- ☑ The project Owner shall perform a liquefaction analysis. Condition: **GEO-2.**
- ☑ The Project Owner shall verify the integrity of cut slopes. Condition: **GEO-3**.
- ☑ The Project Owner shall monitor for shoreline erosion. Condition: **GEO-4**.

Mineral Resources

The project is located approximately one mile west of the El Segundo Oil Field and one-half mile south of a single producing oil well owned by Occidental Petroleum. The project location is designated as Mineral Resources Zone-3, an area of undetermined mineral resources potential. No mineral resources have been identified at the present site, and there are no significant sand or gravel mines in the area. (AFC p. 5.3-32; FSA Geology, etc., p. 5.2-6.)

Fossils – Paleontology

Energy Commission staff has reviewed the Applicant's paleontological resources technical report. The project site is highly disturbed and partially covered by artificial fill. The Applicant's paleontologist reported no significant paleontological resources during the paleontological archive and literature reviews. The paleontologist did assign the power plant site a high sensitivity rating. The primary area of concern is the proposed 1.5:1 cut slope around the foundation zone of Units 1 and 2. Energy Commission staff observed no paleontological resources at the project site. (AFC p. 5.8-2-18; FSA Geology, etc., p. 5.2-7.)

MITIGATION:

- ☑ Procedures for the recovery of unknown paleontological resources at the power plant site will prevent a significant impact to paleontological resources. Conditions: **PAL-1** to **PAL-7**.

Floods

The existing power plant complex is afforded considerable protection from storm damage by the existing Chevron rock groin, an existing rock revetment, and an existing 10-foot-high

masonry seawall, parallel to Units 3 and 4. The groin and revetments were built in 1983-1984 in response to severe storms during the previous winter, 1982-1983. There is no known documentation of any damage to the plant following that series of storms and prior to the construction of the shoreline protective structures. Conversations with on-site plant personnel have indicated that some wave run-up did enter the plant site through a chain link fence during the storm in mid-January 1988; however, overtopping of the seawall was not observed.

Damage was limited to deposition of water and sand in parking lot areas, south and possibly east of the generating equipment. A series of articles published in the journal *Shore and Beach* indicate that the storms of January 16-18, 1988 were an anomaly, which combined high tides and storm generated waves to a pre-existing, very high swell condition. The computed annual return period of the observed wave conditions for the 1988 storms was 400 to 500 years. In a memorandum dated July 29, 1992, the California Coastal Commission indicated that the design storm is the winter storm of 1982-1983, so that the "Great Storm" of 1988 must be considered an unusual event.

The Applicant is proposing no modifications to the existing rock revetment or rock groin. The existing masonry seawall, also known as the western perimeter wall, is proposed to be extended to the north and south, with the height of the new wall matching the existing at approximately 10 feet. The current top-of-wall elevation is approximately 30 feet above mean sea level, and about 10 feet above ground elevation. It is important that any modifications or additions to this wall be properly designed to withstand the adverse coastal conditions expected at this site.

A tsunami is a wave of water that may be generated by an earthquake or a large underwater landslide. The epicenter of the March 10, 1933 Long Beach earthquake was located in the Pacific Ocean, approximately 3.5 miles southwest of Newport Beach (39 miles southwest of the project site). No tsunami was observed after this earthquake (Wood 1933). Studies cited by the Applicant predict that tsunami upwelling would be between 5.5 and 9.4 feet, respectively, for the 100 and 500 year return periods. At high tide the tsunami run-up could be as high as +12 to +16 feet above MLLW. Since the site lies at approximately 19 feet above MLLW, and might be afforded some protection by the existing sea wall, no significant impacts from a tsunami are anticipated at project site. (AFC p. 5.3-28, 29; FSA Geology, etc., p. 5.2-5, 6.)

MITIGATION:

- ☑ The Project Owner shall design the seawall addition in accordance with accepted design practices and the California Coastal Commission Procedural Memo #19. Condition: **GEO-6**.

Cumulative Impacts

The potential for a significant adverse cumulative impact on paleontological resources, geological resources, or surface water hydrology is unlikely if the project is constructed according to the proposed conditions of certification. While the site is located near the El Segundo Oil Field; construction and operation of the project would not be expected to affect the oil field or vice versa. (FSA Geology, etc., p. 5.2-7.)

Findings

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to geological and paleontological resources, all potential adverse impacts to geologic and paleontological resources will be mitigated to insignificance, and the public is not exposed to geological hazards.

CONDITIONS OF CERTIFICATION

GEO-1: Prior to the start of construction, the project owner shall assign to the project an engineering geologist(s) and a geotechnical engineer(s) certified by the State of California, to carry out the duties required by the 2001 edition of the California Building Code (CBC) Appendix Chapter 33, Section 3309.4. The certified engineering geologist(s) and geotechnical engineer(s) assigned must be approved by the CBO and submitted to the Compliance Project Manager (CPM) for concurrence.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CPM) prior to the start of construction, the project owner shall submit to the CBO for approval the resume and license number(s) of the certified engineering geologist(s) and geotechnical engineer(s) assigned to the project. The submittal should include a statement that CPM concurrence is needed.

The CBO and CPM will approve or disapprove of the engineering geologist(s) and geotechnical engineer(s) and will notify the project owner of its findings within 15 days of receipt of the submittal. If the engineering geologist(s) and geotechnical engineer(s) are subsequently replaced, the project owner shall submit for approval the resume(s) and license number(s) of the newly assigned individual(s) to the CBO and CPM. The CBO and CPM will approve or disapprove of the engineering geologist(s) and geotechnical engineer(s) and will notify the project owner of the findings within 15 days of receipt of the notice of personnel change.

GEO-2: Prior to the initiation of ground disturbance, the owner shall have a liquefaction analysis conducted for the power plant site and adjacent existing cut slope to the east. The liquefaction analysis shall be implemented by following the recommended procedures contained in *Recommended Procedures for Implementation of California Division of Mines and Geology Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California* dated March 1999. (The document is available through the Southern California Earthquake Center at the University of Southern California.)

Verification: The project owner shall include in the application for a grading permit (see Condition of Certification **GEO-5**) a report of the liquefaction analysis and a summary of how the results of this analysis were incorporated into the project foundation and grading plan design for the CBO's review and comment. A copy of the liquefaction analysis and summary of incorporated results shall be sent to the CPM prior to grading.

GEO-3: Prior to completion of the final design of the project, the owner shall have a slope stability analysis conducted for the existing cut slope east of Units 1 and 2. The analysis shall consider both static and earthquake conditions, as well as the effects of any liquefaction of the foundation soils. Since cohesionless soils may be present, the proposed 1.5:1 perimeter excavation should also be evaluated for stability, but only for static conditions.

Verification: The project owner shall include in the application for a grading permit (see Condition of Certification **GEO-5** below) a report of the slope stability analysis and a summary of how the results of this analysis were incorporated into the project foundation and grading plan for the CBO's review and comment. A copy of the CBO's comments shall be sent to the CPM prior to grading.

GEO-4: Applicant shall designate and use a Coastal or Geotechnical Engineer, or geologist familiar with geomorphology, to conduct a shoreline monitoring program and assess erosion on the beach area and at the foot of the revetment on an annual basis for at least ten years. Applicant shall report such results to the CPM and California Coastal Commission annually.

A detailed baseline survey is required, along with some historical research including air photos, a summary of past beach nourishment and shoreline damage. Sand sampling and testing shall be conducted. A series of onshore/offshore shore-normal transects every few hundred feet shall be conducted 4 times per year. Annually, photos from set positions can be taken (e.g. from the groin and from a high elevation in the plant). Shoreline response during and after a major storm will be documented.

After ten continuous years of monitoring, the owner shall prepare and submit a final report. The final report will serve as the annual report for year ten and will include a summary of findings over the 10-year period. Based on the ten-year summary report, the final report will include recommendations for either:

- continued monitoring on an annual basis in accordance with the established protocol if there is evidence of an adverse shoreline erosion condition;
- modifications to the monitoring program and continuation of the program, if modifications are warranted to increase, decrease, otherwise adjust the type and frequency of data collected; or,
- suspension of monitoring due to absence of an adverse shoreline erosion condition related to construction and operation of the ESPR.

Verification: At least thirty days prior to commencing construction, the Applicant shall designate the geologist and submit for approval the resumes of the engineer or geologist to the CBO and CPM. The engineer or geologist shall be experienced in shoreline monitoring, and understand coastal processes. Applicant shall submit as part of its

annual compliance report the results of the assessment. Applicant shall also, at that time, forward the results to the California Coastal Commission and the City of El Segundo with a copy of the transmittal letter to the CPM. During the first 3 years following commencement of construction, the Applicant shall submit the above mentioned quarterly reports. The tenth annual report shall contain the final report.

GEO-5: The assigned engineering geologist(s) shall carry out the duties required by the 1998 CBC, Appendix Chapter 33, Section 3309.4 Engineered Grading Requirements, and Section 3318.1 – Final Reports. Those duties are:

- Prepare the Engineering Geology Report. This report shall accompany the Plans and Specifications when applying to the CBO for the grading permit.
- Monitor geologic conditions during construction.
- Prepare the Final Engineering Geology Report.

The Engineering Geology Report required by the 1998 CBC Appendix Chapter 33, Section 3309.3 Grading Designation, shall include an adequate description of the geology of the site, conclusions, and recommendations regarding the effect of geologic conditions on the proposed development, and an opinion on the adequacy of the site for the intended use as affected by geologic factors.

The Final Engineering Geology Report to be completed after completion of grading, as required by the 1998 CBC Appendix Chapter 33, Section 3318.1, shall contain the following: A final description of the geology of the site and any new information disclosed during grading; and the effect of same on recommendations incorporated in the approved grading plan. The engineering geologist shall submit a statement that, to the best of his or her knowledge, the work within their area of responsibility is in accordance with the approved Engineering Geology Report and applicable provisions of this chapter.

Verification:

(1) Within 15 days after submittal of the application(s) for grading permit(s) to the CBO, the project owner shall submit a signed statement to the CPM stating that the Engineering Geology Report has been submitted to the CBO as a supplement to the plans and specifications and that the recommendations contained in the report are incorporated into the plans and specifications.

(2) Within 90 days following completion of the final grading, the project owner shall submit copies of the Final Engineering Geology Report required by the 1998 CBC Appendix Chapter 33, Section 3318 Completion of Work, to the CBO and to the CPM.

GEO-6: The design for additional seawall or perimeter wall, including any necessary modifications to the existing seawall, shall be performed by a coastal engineer, geotechnical engineer, or engineering geologist, familiar with coastal processes and in accordance with the requirements of the California Coastal Commission Procedural Memo #19 (July 29, 1992).

If additional seawall is installed, performance of the seawall, with respect to shoreline erosion, will need to be addressed and verified in the shoreline monitoring program described under **GEO-4**. The wall should be textured and colored appropriately to minimize visual impacts.

Verification: Once a seawall design plan is available, the Applicant shall obtain approval of the design and construction methods from the CBO who will forward all approved plans and comments to the CPM. The CPM shall then forward this information to the Coastal Commission and the City of El Segundo.

PAL-1: The project owner shall provide the CPM with the resume and qualifications of its Paleontological Resource Specialist (PRS) and Paleontological Resource Monitors (PRMs) for review and approval. If the approved PRS or one of the PRMs is replaced prior to completion of project mitigation and report, the project owner shall obtain CPM approval of the replacement.

The resume shall include the names and phone numbers of contacts. 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 Paleontologists (SVP) guidelines of 1995. The experience of the PRS shall include the following:

1. institutional affiliations or appropriate credentials and college degree;
2. ability to recognize and recover fossils in the field;
3. local geological and biostratigraphic expertise;
4. proficiency in identifying vertebrate and invertebrate fossils;
5. publications in scientific journals; and
6. the PRS shall have 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 PRS shall obtain qualified paleontological resource monitors to monitor as necessary on the project. Paleontologic resource monitors (PRMs) shall have the equivalent of the following qualifications:

1) BS or BA degree in geology or paleontology and one year experience monitoring in California; or
2) AS or AA in geology, paleontology or biology and four years experience monitoring in California; or
3) Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.

Verification:

1. At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work.

2. At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project and stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters and resumes to the CPM for approval. The letter shall be provided to the CPM no later than one week prior to the monitor beginning on-site duties.
3. 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.

PROJECT MAPS

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

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

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

Verification:

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

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

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

PAL-3: The PRS shall prepare, and the project owner shall submit to the CPM for review and approval, a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) to

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

The PRMMP shall be developed in accordance with the guidelines of the Society of the Vertebrate Paleontologists (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 recovery; identification and inventory; preparation of final reports; and transmittal of materials for curation will be performed according to the PRMMP procedures;
2) Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and all conditions for certification;
3) A thorough discussion of the anticipated geologic units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units;
4) An explanation of why, how, and how much sampling is expected to take place and in what units. Include descriptions of different sampling procedures that shall be used for fine-grained and coarse-grained beds;
5) A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed schedule for the monitoring;
6) A discussion of the procedures to be followed in the event of a significant fossil discovery, including notifications;
7) A discussion of equipment and supplies necessary for recovery of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;
8) Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontologists standards and requirements for the curation of paleontological resources; and
9) Identification of the institution that has agreed to receive any data and fossil materials recovered, 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 thirty (30) days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. The PRMMP shall include an affidavit of authorship by the PRS, and acceptance of the project owner evidenced by a signature.

EMPLOYEE AWARENESS TRAINING PROGRAM

PAL-4: Prior to ground disturbance and for the duration of construction, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for all project managers, construction supervisors and workers who operate ground disturbing equipment or tools. Workers to be involved in ground disturbing activities in sensitive units shall not operate equipment prior to receiving worker training. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

The Worker Environmental Awareness Program (WEAP) shall address the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources. In-person training shall be provided for each new employee involved with ground disturbing activities, while these activities are occurring in highly sensitive geologic units, as detailed in the PRMMP. The in-person training shall occur within four days following a new hire for highly sensitive sites and as established by the PRMMP for sites of moderate, low, and zero sensitivity. Provisions will be made to provide the WEAP training to workers not fluent in English.

The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. For training in locations of high sensitivity, the PRS shall provide good quality photographs or physical examples of vertebrate fossils that may be expected in the area;
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 Certification of Completion of WEAP form signed by each worker indicating that they have received the training; and
7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

Verification:

1. At least 30 days prior to ground disturbance, the project owner shall submit the proposed WEAP including the brochure with the set of reporting procedures the workers are to follow.

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

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

4. The project owner shall provide in the Monthly Compliance Report the WEAP copies of the Certification of Completion forms with the names of those trained and the trainer for each training offered that month. The Monthly Compliance Report shall also include a running total of all persons who have completed the training to date.

PAL-5: The PRS and PRM(s) shall monitor consistent with the PRMMP, all construction-related grading, excavation, trenching, and auguring in areas where potentially fossil-bearing materials have been identified. In the event that the PRS determines full time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the PRS shall notify and seek the concurrence of the CPM.

The PRS and PRM(s) shall have the authority to halt or redirect construction if paleontological resources are encountered. The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows:

1) Any change of monitoring different from the accepted schedule presented in the PRMMP shall be proposed in a letter from the PRS and the project owner to the CPM prior to the change in monitoring. The letter shall include the justification for the change in monitoring and submitted to the CPM for review and approval.

2) PRM(s) shall keep a daily log of monitoring of paleontological resource activities. The PRS may informally discuss paleontological resource monitoring and mitigation activities with the CPM at any time.

3) The PRS shall immediately notify the project owner and the CPM of any incidents of non-compliance with any paleontological resources conditions of certification. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the conditions of certification.

4) For any significant paleontological resources encountered, either the project owner or the PRS shall notify the CPM immediately (no later than the following morning after the find, or Monday morning in the case of a weekend) of any halt of construction activities.

Verification: The PRS shall prepare a summary of the monitoring and other paleontological activities that will be placed in the Monthly Compliance Reports. The summary will include the name(s) of PRS or monitor(s) active during the month; general

descriptions of training and construction activities and general locations of excavations, grading, etc. A section of the report will include the geologic units or subunits encountered; descriptions of sampling within each unit; and a list of fossils identified in the field. A final section of the report will address any issues or concerns about the project relating to paleontologic monitoring including any incidents of non-compliance and any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the project shall include a justification in summary as to why monitoring was not conducted.

The PRS shall submit the summary of monitoring and paleontological activities in the Monthly Compliance Report.

PAL-6: The project owner, through the designated PRS, shall ensure the recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: The project owner shall maintain in their compliance file copies of signed contracts or agreements with the designated PRS and other qualified research specialists. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved PRR. The project owner shall be responsible to pay curation fees for fossils collected and curated as a result of paleontological monitoring and mitigation.

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 recovered fossil materials and related information and submitted to the CPM for review and approval.

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

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

Certification of Completion of Worker Environmental Awareness Program

EL SEGUNDO POWER REDEVELOPMENT PROJECT (00-AFC-14)

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, Paleontology & Biology Resources for all personnel (i.e. construction supervisors, crews and plant operators) working on-site or at related facilities. By signing below, the participant indicates that they understand and shall abide by the guidelines set forth in the Program materials. Please include this completed form in your Monthly Compliance Report.

No.	Employee Name	Company	Signature
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Cul Trainer: _____ Signature:_____ Date: ___/___/__
PaleoTrainer: _____ Signature:_____ Date: ___/___/__
Bio Trainer: _____ Signature:_____ Date: ___/___/__

LAWS, ORDINANCES, REGULATIONS & STANDARDS
GEOLOGY

APPLICABLE LAW	DESCRIPTION
FEDERAL	
There are no Federal LORS related to geological hazards and resources.	N/A
STATE	
Uniform Building Code	Specifies acceptable design criteria for storage and open excavation with respect to seismic design and load bearing capacity.
California Building Code 1195	Specifies acceptable design criteria for storage and open excavation with respect to seismic design and load-bearing capacity.
LOCAL	
No local LORS related to geologic hazards and resources.	N/A

PALEONTOLOGICAL RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	
There are no applicable LORS for this section.	
STATE	
California Environmental Quality Act	Defines significant impacts on a fossil site. Project construction might encounter fossil site/remains.
Public Resource Code Section 5097.5	Defines any unauthorized disturbance or removal of fossil site/remains on public land as a misdemeanor. Project construction might encounter fossil site/remains; construction workers might remove fossil remains.

Warren-Alquist Act	Requires CEC to evaluate energy facility siting in unique areas of scientific concern. Project construction might encounter fossil site/remains.
LOCAL	
There are no applicable LORS for this section.	

HAZARDOUS MATERIALS – Summary of Findings and Conditions

Transportation	**MITIGATION**	**None**	**YES**
	Construction: Hazardous materials delivered during construction will be limited to gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants welding flux, lubricants, paint and paint thinner. No acutely hazardous materials will be transported to the power plant site. Operation: There will be a negligible increase in truck deliveries per month to the power plant site of hazardous materials, and a decrease of materials such as aqueous ammonia, for the operation of new units 5, 6, and 7. Deliveries of hazardous materials are over pre-arranged routes selected for their safety features, including the absence of obstructions and curves, and minimal railroad traffic. **MITIGATION:** ☑ Haulers will be specially licensed by the California Highway Patrol. Condition: **TRANS–3.** *References: AFC p. 5.15-2-9.*		
Storage & Use	**MITIGATION**	**None**	**YES**
	Construction: No acutely hazardous materials related to construction will be used or stored on-site at the power plant. Some materials designated as hazardous such as gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants welding flux, lubricants, paint and paint thinner will be used at the construction-site. Given the nature of these substances, the risk of off-site exposure is insignificant. Operation: Hazardous and acutely hazardous material, such as aqueous ammonia, hydrazine, and natural gas will be used for power plant operation. Tank or pipeline ruptures or delivery spills are the only means by which there will be off-site exposure of on-site aqueous ammonia. The Project Owners have an approved Risk Management Plan that will be updated to reflect the project. Natural gas is currently delivered to the existing facility by pipeline and will not be stored on-site. **MITIGATION:** ☑ The Project Owner shall not store and use amounts of acutely hazardous materials in excess of proposed quantities. Condition: **HAZ–1** ☑ The Project Owner will update its Business Plan and Risk Management Plan. Conditions: **HAZ-2** & **HAZ-3** ☑ The Project Owner will undertake a feasibility study of alternatives to hydrazine. Condition: **HAZ-4** *References: AFC § 5.15; FSA Hazardous Materials, p. 4.4-3-9.*		

Disposal	MITIGATION	None	YES
	The facility currently has an approved, comprehensive program to manage wastes in accordance with state and federal regulations. Hazardous wastes will be collected by a licensed hazardous waste hauler and disposed of at a hazardous waste facility. (See **WASTE MANAGEMENT** section.) *Reference: AFC § 5.15*		

HAZARDOUS MATERIALS – GENERAL

The purpose of this analysis is to determine if the proposed project will cause a potential significant impact on the public as a result of the transportation, use, handling, storage, or disposal of hazardous materials at the proposed facility.

This analysis does not address potential exposure of workers to hazardous materials used at the proposed facility. (See **WORKER SAFETY**.) There are specific regulations applicable to protection of workers in general. The standards for exposure and methods used to protect workers are very different from those applicable to the general public. Employers must inform employees of hazards associated with their work and workers accept a higher level of risk than the general public in exchange for compensation. Workers are thus not afforded the same level of protection normally provided to the public. Further, special protective equipment and training can be used to protect workers and reduce the potential for health impacts associated with the handling of hazardous materials. Application of this type of mitigation would not be appropriate for the general public.

For additional information regarding hazardous materials transportation, see **TRAFFIC & TRANSPORTATION.** For additional information on hazardous waste disposal, see **WASTE MANAGEMENT**.

Transportation

There will be a negligible increase in deliveries per month to the power plant site of hazardous materials, such as aqueous ammonia (in the event of a pipeline shutdown), for the operation of the combined cycle facility. (AFC pp. 5.11-11-15.)

MITIGATION:

- ☑ Hazardous materials haulers must be specially licensed by the California Highway Patrol. Condition: **TRANS–3;** see also **TRAFFIC & TRANSPORTATION** section.

Storage & Use

Provisions of California Health and Safety Code, section 25500 et seq., direct facility owners that store or handle acutely hazardous materials in excess of threshold quantities to develop a Risk Management Plan (RMP) and submit it to appropriate local authorities, the US EPA, and the designated local Administering Agency for review and approval. The plan must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release, the magnitude of potential human exposure, any

preexisting evaluations or studies of the material, and the accident history of the material. This new, recently developed program supersedes the California Risk Management and Prevention Plan (RMPP) and is called the California Accidental Release Prevention Program (CalARP). The City of El Segundo Fire Department is designated as the local implementing agency under this program.

The only hazardous materials proposed for use at the project in quantities exceeding the threshold amount is aqueous ammonia. (AFC p. 5.15-11).

Aqueous Ammonia

The project will use Selective Catalytic Reduction (SCR) to reduce combustion-generated nitrogen oxide (NOx) emissions to comply with air permit requirements. Aqueous ammonia (29% ammonia and 71% water) will be used as a reactant within a catalyst to reduce the NOx to water vapor and nitrogen. The ammonia will be stored in a 20,000 gallon capacity double walled underground storage tank which is equipped with leak detectors, pressure relief valves and gauges for temperature and pressure. Aqueous ammonia will be delivered through a new pipeline from the neighboring Chevron facility. The pipeline will be designed and built in accordance with current engineering standards and requirements. The bulk of the pipeline will be aboveground with about 15 percent being located underground. The underground sections of the pipeline will be engineered to minimize corrosion effects. Valves and other measures will be utilized on the entire pipeline to prevent releases of ammonia. The ammonia will be trucked in should the pipeline be down for any reason.

The use of aqueous ammonia significantly reduces the risk that would otherwise be associated with use of the more economical anhydrous form of ammonia. Use of the aqueous form eliminates the high internal energy associated with the more hazardous anhydrous form, which is stored as a liquefied gas at high pressure. The high pressure and resultant latent internal energy associated with the anhydrous form of ammonia can act as a driving force in the event of an accidental release. Loss of containment involving anhydrous ammonia typically results in violent release and can rapidly introduce large quantities of the material into the ambient air, where it can be transported by the atmosphere and result in high down-wind concentrations. Spills associated with the aqueous form are typically much less violent and easier to contain. In addition, the emission rate from a release of aqueous ammonia is limited by mass transfer from the free surface of the spilled material, thus reducing the rate of emission to the atmosphere.

Large accidental and continuous releases of aqueous ammonia culminating in potentially catastrophic outcomes to the public are possible through three potential accidents: (1) failure of the underground storage tank, (2) failure of the operating pipeline, and (3) tanker truck delivery accident. Energy Commission staff typically evaluates four “bench mark” exposure levels of ammonia gas that occur off-site in parts per million (PPM). These include: 1) the lowest concentration posing a risk of lethality, 2,000 PPM; 2) the Immediately Dangerous to Life and Health level (IDLH) of 300 PPM; 3) the Emergency Response Planning Guideline (ERPG) level 2 of 150 PPM (recently changed from 200 PPM), which is also the RMP level 1 criterion used by EPA and California; and 4) 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 exposure associated with a potential release would exceed 75 PPM at any public receptor, staff will presume that the potential release poses a risk of significant impact. However, staff may also assess the probability of occurrence of the release and/or the nature of the potentially exposed population. Staff may, based on such analysis, determine that the likelihood and extent of potential exposure are not sufficient to support a finding of potentially significant impact.

The ammonia underground storage tank is double walled with pressure relief valves and overlain by soil overburden. High operating pressures would not be used to store the aqueous ammonia in the tank. Consequently, any rupture or puncture of the tank would not be capable of blowing away the soil overburden resulting in large releases of ammonia. Instead, in the event of a release, the ammonia would enter the surrounding atmosphere with very little momentum and velocity. Risks to the public from such an accident would therefore be minimally low.

The other two ammonia accident scenarios were modeled and evaluated by the Applicant. The modeling was done in accordance with USEPA RMP and CalARP requirements. The modeling reflects a unique combination of wind direction speed, and atmospheric stability conditions. A 75-ppm impact area with a radius of approximately 1060 feet (0.2 miles) was determined for the pipeline release scenario and an impact area with a radius of approximately 2450 feet (0.5 miles) was forecast for the tanker truck scenario. Sections of Vista Del Mar and the public beach to the northeast fall within the 1060 feet impact area. The tanker truck scenario's impact area extends to some of the residences to the south and portions of the Vista Del Mar and the public beach. The Applicant conducted a risk analysis to estimate the potentials for both scenarios. The analysis suggests that there is a chance of 0.0000063 of an accident involving an ammonia release due to a major release from the ammonia pipeline in any particular year. Similarly, the probability of a major ammonia release due to a tanker truck unloading accident is 0.000038 on an annual basis. It is assumed that the ammonia release stems from the failure of a hose due to operator error during the unloading/delivery.

Both scenarios appear rather remote for the following reasons. A worst-case approach has been used for both scenarios. In a worst-case environment, the greatest possible amount of the chemical is assumed to be released from a storage vessel or piping in a fast, rapid motion at the ground level. Active mitigation devices that need mechanical, human or other energy to manage releases must be assumed to have failed. Further, the weather conditions are assumed to be unique and mild. The ammonia modeling for the ESPR project is therefore not only conservative but also pessimistic thereby culminating in outcomes that are overstated.

The USEPA RMP, CalARP and Cal/OSHA PSM programs each individually list threshold-planning quantities for specific hazardous materials. Only materials that met certain toxicological, physical and accident criteria were identified and listed. If the quantity of a material on-site exceeds the threshold amount, the facility needs to implement chemical accident prevention and preparedness measures that may include a Risk Management Plan (RMP), pursuant to each regulation. The RMP is a detailed engineering analysis of the potential accident factors at a business and the mitigation measures that can be implemented

to reduce accident potentials. Of the listed materials for the ESPR project, aqueous ammonia will need to be managed in accordance with the requirements of the CalARP and USEPA RMP Programs, as the maximum amount of that chemical will be above each respective program's threshold. The El Segundo power plant complex currently has chemical accident prevention and preparedness safeguards as required by CalARP and USEPA RMP programs, in place based on its consumption of aqueous ammonia, hydrogen, hydrochloric acid, cyclohexylamine and sulfuric acid. However, the project will result in an increase in the consumption of aqueous ammonia, thereby prompting a revision of the existing safeguards and procedures to reflect that change pursuant to each applicable program. In addition, the current RMP will need to be revised and upgraded to reflect the increased ammonia usage.

The Applicant has indicated that it has safety systems that add several layers of protection and defense between hazardous materials and the public as part of accident prevention. These include but are not limited to use of written plans and procedures for hazardous materials management, fire extinguishing and spill response equipment for emergencies and training programs for plant personnel in hazardous materials handling.

Supplemental measures to reflect the increased use of aqueous ammonia, combined with the very low probability of accidental release reduce to insignificance the opportunity for, or extent of, public exposure to ammonia. (AFC p. 5.15-11-18; FSA Hazardous Materials, pp. 4.4-3-5.)

<u>Hydrazine</u>
Hydrazine will be stored and used onsite for the ESPR project as an oxygen scavenger in boiler water treatment. Its formulation will consist of 35 percent hydrazine and 65 percent water culminating in an approximate 4:1 solution of hydrazine in water.

Unlike ammonia, which is only toxic, hydrazine is also corrosive and flammable in addition to being toxic. Though it will be stored and used in amounts less than the CalARP thresholds, hydrazine requires special storage and handling in order to avoid or minimize impacts from accidental release, given hydrazine's unique characteristics. The Applicant has indicated that passive mitigation in the form of secondary containment will be available to control any hydrazine release in the storage area. This is important, as the containment would reduce the size of the pooled hydrazine thereby resulting in a smaller vapor cloud. However, additional precautions for hydrazine storage and handling, as outlined in the Conditions of Certification **HAZ-4**, need to be considered in addition to those proposed by the Applicant in order to prudently reduce or eliminate any potential risks posed by hydrazine.

Alternatively, less hazardous and benign substitutes to hydrazine are available commercially. Use of these substitutes will virtually eliminate all potential risks associated with hydrazine. The Applicant has indicated that a feasibility study will be undertaken, during the project's detailed design phase, to evaluate substitution of hydrazine with a less hazardous alternative. (FSA p. Hazardous Materials, 4.4-5.)

<u>Other Materials</u>
Other hazardous materials stored in smaller quantities, such as mineral and lubricating oils, corrosion inhibitors, water conditioners and hydrogen are already present and are properly

stored at the site. These materials pose no significant potential for off-site impacts as a result of the quantities on-site, their relative toxicity, and/or their environmental mobility. (AFC p. 5.15-4, 13.)

Natural Gas

Natural gas poses some risk of both fire and explosion. Although no natural gas is stored on-site, the project will use natural gas in its operation. While natural gas will be used in significant quantities, it will not be stored on-site except for that amount contained within the delivery pipeline. No changes are needed to the existing piping network for the project. The risk of a fire and/or explosion from natural gas can be reduced to insignificant levels through adherence to applicable codes and the development and implementation of effective safety management practices. (AFC p. 5.15-10; FSA Hazardous Materials, p. 4.4-6.)

MITIGATION:

- ☑ The Project Owner shall not store and use amounts of acutely hazardous materials in excess of proposed quantities. Condition: **HAZ–1**
- ☑ The Project Owner will update its Business Plan and Risk Management Plan. Conditions: **HAZ-2** & **HAZ-3**
- ☑ The Project Owner will undertake a feasibility study of alternatives to hydrazine. Condition: **HAZ-4**

Disposal

Hazardous waste generated by the power plant will be minimal. The existing power plant complex currently has an approved, comprehensive program to manage wastes in accordance with state and federal regulations. Hazardous wastes will be collected by a licensed hazardous waste hauler and disposed of at a hazardous waste facility. Hazardous wastes will be transported off-site using a hazardous waste manifest, copies of which will be maintained for three years. (AFC p. 5.14-23). (See also **WASTE MANAGEMENT.**)

Cumulative Impacts

The hazardous material with the greatest potential to migrate off-site is aqueous ammonia. To determine the potential for cumulative impacts, an attempt was made to identify sites that handle ammonia and would potentially create a cumulative ammonia impact in combination with the proposed project and other sites in the project vicinity that use substances that react negatively with ammonia. No such businesses were identified. (AFC p. 5.15-18; FSA Waste Mgt., p. 4.4-6).

Findings

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to hazardous materials management and all potential adverse impacts related to hazardous materials management will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

HAZARDOUS MATERIALS INVENTORY

HAZ-1 The project owner shall obtain the advance approval of the CPM if the facility intends to store, handle, use or move (or combination of these activities) a material, in quantities that exceed those specified in Title 40, CFR Part 355, Subpart J section 355.50.

Verification: The project owner shall provide to the CPM, in the Annual Compliance Report, a list of those hazardous materials designated as regulated substances as set forth in Title 40, CFR Part 355, Subpart J section 355.50. The list shall also include maximum quantities of these substances at the facility. Copies of the list should also be provided to the City of El Segundo Fire Department (CESFD) and the City of Manhattan Beach Fire Department (CMBFD).

BUSINESS PLAN REVISION

HAZ-2 The project owner shall update its existing Business Plan.

Verification: At least 45 days prior to the start-up of the ESPR project Units 5, 6 and 7, the owner shall undertake a hazardous materials floor plan exercise for each shift at the plant with the CESFD and provide a copy of the revised Business Plan, commented on by the CESFD, to the CPM. A copy of the revised Plan shall also be provided to the CMBFD.

RISK MANAGEMENT PLAN REVISION

HAZ-3 The project owner shall revise the existing CalARP Program Risk Management Plan (RMP). Similarly, the project owner shall also revise its existing RMP pursuant to the USEPA RMP Program. Both RMPs shall be expanded to include discussions to prevent and control the accidental release of ammonia from the pipeline. Those discussions shall elaborate on the various safety devices selected for the pipeline including double sleeve construction, provisions for backup safety devices, protective shut-in actions, emergency support systems, monitoring programs and personnel training, as a minimum. The shut-in actions shall include responses to pipeline overpressures and also leaks. Backup safety devices to be considered for the pipeline shall include sprinklers, sprays, deluge systems or equivalent systems. Special emphasis shall be placed on the deployment of such devices in the vicinity of the overpass at Vista Del Mar Boulevard in order to eliminate any vulnerabilities at that location.

Verification: At least 45 days prior to start-up of Units 5, 6, and 7, the project owner shall furnish a final copy of each updated RMP to the CPM, CESFD and CMBFD. An initial draft of the CalARP RMP shall be provided to the CPM and the CESFD for review and comments. The final CalARP RMP shall be approved by the CPM. Similarly, an initial draft of the USEPA RMP shall be provided to the CPM and the CESFD for review and comments, at the time it is submitted to the USEPA for review. The final copy of the USEPA RMP shall reflect recommendations of the CPM and the CESFD.

HYDRAZINE ALTERNATIVES FEASIBILITY STUDY

HAZ-4 The project owner shall undertake a feasibility study for the substitution of the 35% hydrazine with a less hazardous chemical. Should the study conclude that substitution is infeasible or the project owner elects to continue the use of the 35% hydrazine, then the project owner shall develop and prepare a safety management plan focusing on the storage and handling of the hydrazine and the associated protective equipment requirements, handling techniques, personnel training, spill response procedures, detectors and alarms, as a minimum.

Verification: At least 45 days prior to start-up of Units 5, 6, and 7, the project owner shall furnish a final copy of either the feasibility study or the hydrazine storage and handling management plan, as appropriate, to the CPM, CESFD and CMBFD. All initial drafts shall be reviewed and commented upon by the CPM and CESFD. All final copies shall be approved by the CPM.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

HAZARDOUS MATERIALS

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Air Act (40 CFR 68)	Requires a RMP if listed hazardous materials are stored above threshold quantities (TQ).
Clean Water Act (40 CFR 112)	Requires preparation of an SPCC plan if oil is stored above TQ.
SARA Title III, Section 302	Requires certain planning activities when EHSs are present in excess of TQ. Aqueous ammonia to be used onsite in excess of TQ.
SARA Title III, Section 311	MSDSs to be kept onsite for each hazardous material. Required to be submitted to SERC, LEPC and local fire department.
SARA Title III, Section 313	Requires annual reporting of releases of hazardous materials.
49 CFR 171-177	Governs the transportation of hazardous materials, including the marking of the transportation vehicles.
STATE	
Health & Safety Code §25500, et seq. (Waters Bill)	Requires preparation of HMBP if hazardous materials are handled or stored in excess of threshold quantities.
Health & Safety Code §25531, et seq.	Requires registration of facility with local authorities and preparation of RMP if hazardous materials stored or handled in excess of threshold quantities.
CCR Title 8, Section 5189	Facility owners are required to implement safety management plans to ensure safe handling of hazardous materials.
California Building Code	Requirements regarding the storage and handling of hazardous materials.
California Government Code, Section 65850.2	Restricts issuance of COD until facility has submitted a RMP.

LOCAL	
City of El Segundo Ordinances, § 1088, 1264, 1280 & 1285	Provides for the storage and handling of hazardous materials.

LAND USE – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
General/Special Plans	**CONDITION**	**None**	**YES**
	The project conforms to the Coastal Act requirements by using an existing power plant site, not interfering with public access to beaches, and continuing dependency on ocean water for power plant cooling. Additionally, the project conforms to the "Power Plant" designation for the site in the El Segundo Local Coastal Program. The project's pipelines buried in nearby streets conform to General Plan requirements. **CONDITION:** ☑ The project owner shall not interfere with public access to beach parking while constructing the sewer pipeline or by unauthorized use of parking lots by construction workers. Conditions: **TRANS-5** and **LAND-4** *References: AFC p. 5.9-2, 23-25; FSA Land Use p. 4.5-3, 4, 9-17.*		
Zoning	**CONDITION**	**None**	**YES**
	The project structures conform to the El Segundo M2 Zoning Ordinance 200-foot height restrictions, and the 205-foot exhaust stacks are exempt from height limitations. The underground pipelines are not subject to any known zoning requirement. **CONDITION:** ☑ The project owner shall comply with El Segundo M2 Zoning Ordinance design and performance requirements, and additionally parking standards and signage requirements. Condition of Certification **LAND-1** *References: AFC p. 5.9-3, 7-8; FSA Land Use p. 4.5-17.*		
Open Space	**None**	**None**	**YES**
	The Applicant will enhance the existing beach bike path by moving its fence back three feet from the path and installing park-type benches and landscaping. Additionally, the Applicant will construct a sea wall to help screen ground-level views of the project from the bike path. *References: FSA Land Use p. 4.5-11-12.*		

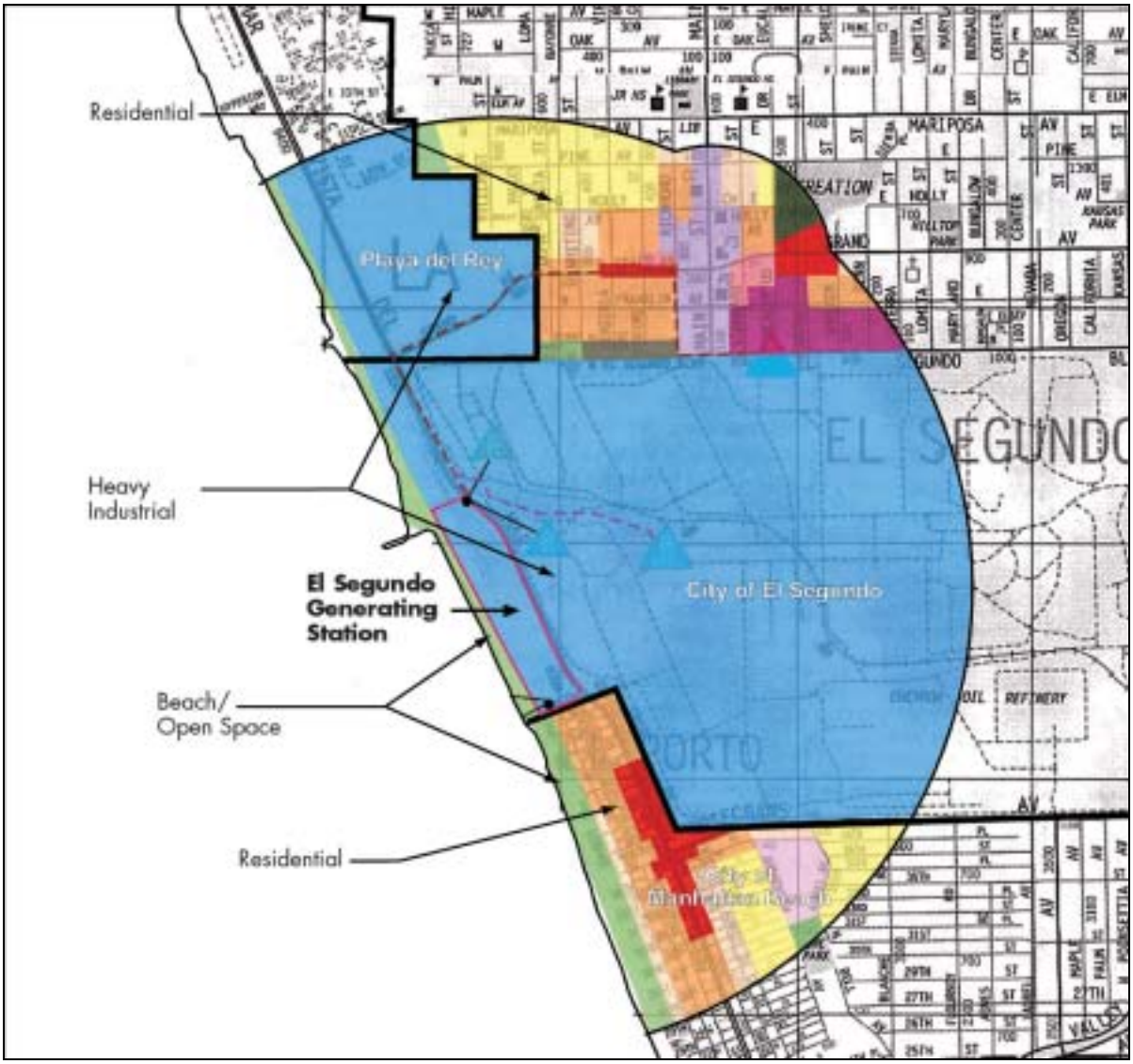
Existing/ Planned Uses	CONDITION	None	YES
	Not only is the power plant consistent with the El Segundo Local Coastal Program and Zoning Ordinance, it is compatible with the industrial uses north and east of the project. After project construction, Applicant plans to demolish two existing oil tanks and use the space for parking. Potential project-related air quality, public health, noise, visual and traffic impacts to neighboring residences south of the project have been mitigated to a level of insignificance. **CONDITION:** ☑ The Project Owner shall submit any future development plans for the tank farm area to the Cities of El Segundo and Manhattan Beach and the Coastal Commission. Condition of Certification **LAND-5** *References: AFC p. 5.9-23-25; Land Use FSA pp. 4.5-17-20.*		

LAND USE - GENERAL

Land uses are controlled and regulated by a system of plans, policies, goals, and ordinances that are adopted by the various jurisdictions with land use authority over the area encompassed by the proposed project.

The project site is located on approximately 4,200 linear feet of coastline within the City of El Segundo. The site is bound by the Chevron refinery to the east; Santa Monica Bay, including Dockweiler State Beach and a Los Angeles County-maintained bicycle path to the west; a residential district in the City of Manhattan Beach to the south; and the Chevron Marine Terminal to the north. There are no agricultural lands within the region. Consequently, the project and its associated pipelines are subject to land use plans for the Coastal Zone administered by the California Coastal Commission, and the Cities of El Segundo and Manhattan Beach, and Los Angeles.

Southern California Edison Company operated the El Segundo Generating Station from 1955 until its sale to the current project owner in 1998. The power plant complex currently contains four gas-fired conventional generating units on the northern portion of the site and two fuel oil storage tanks on the southern portion of the site. A Southern California Edison-owned substation is located adjacent to the project site and is connected to the regional electrical transmission grid. Existing land uses within one mile of the project site are shown below.



According to the Guidelines to the California Environmental Quality Act (CEQA), a project may have a significant effect on land use and planning if a proposed project would:

- conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect;
- disrupt or divide the physical arrangement of an established community; or
- convert Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural use.

A project may also have a significant impact on land use if it would create unmitigated noise, dust, public health hazard or nuisance, traffic, or visual impacts or when it precludes or unduly restricts existing or planned future uses. (AFC p. 5.9-2; FSA Land Use p. 4.5-4, 5.)

General/Specific Plans

Coastal Zone

The California Coastal Act establishes a comprehensive scheme to govern land use planning along the entire California coast (Pub. Resources Code, §30000 et seq.). The following sections of the Act are relevant to energy facilities:

1. **Use of Existing Power Plant Sites:** Section 30260 encourages the use of existing coastal-dependent industrial sites within the Coastal Zone instead of using undeveloped areas of the Coastal Zone;

2. **Coastal Access:** Section 30211 requires that new development not interfere with the public's right of access to the shoreline, where the access has been previously acquired by a federal, state, or local government authorization; and

3. **Coastal Dependent Use:** Section 30101 defines a "Coastal-dependent development or use" as: "any development or use which requires a site on, or adjacent to, the sea to be able to function at all." In accordance with the California Coastal Act, the City of El Segundo Local Coastal Program, and the City of El Segundo's Council Resolution No. 3005, the primary industrial land uses in the Coastal Zone are to be coastal dependent uses as defined by the Coastal Act.

Consistency and Suitability Report

The California Coastal Act (CCA) requires the Coastal Commission to prepare a consistency and suitability report to the Energy Commission on any new power generating facility proposed to be located within the designated Coastal Zone. The consistency and suitability report includes findings on the "conformance of the proposed site and related facilities with the certified coastal programs in those jurisdictions which would be affected by any such development [and] the degree to which the proposed site and related facilities could reasonably be modified so as to mitigate potential adverse effects on coastal resources, minimize conflict with existing or planned coastal-dependent uses at or near the site, and promote the policies of this division." [Pub. Resources Code §30413 (d)(5) and (d)(6).]

The Energy Commission must include in its decision the provisions recommended by the Coastal Commission in its section 30413 report, unless the Energy Commission determines that adoption of these provisions would result in a greater adverse effect on the environment or that the provisions would not be feasible for the project [Pub. Resources Code, §25523(b).]

The 33 acre El Segundo Generating Station property is within the Coastal Zone. The City of El Segundo adopted its Local Coastal Program (LCP) on July 1, 1980. The Coastal Commission certified the LCP on February 4, 1982. The El Segundo LCP incorporated several policies of the California Coastal Act, specifically Chapter 3: Coastal Resources

Planning And Management Policies, including those that pertain to thermal electric generating plants.

1. **Use of Existing Power Plant Sites:** The proposed project, which replaces existing units, would be located entirely within the 33-acre power plant complex. Consequently, the project is consistent with that portion of the Coastal Act's Section 30260 that prefers onsite expansion of existing power plants to development of new power plants in currently undeveloped areas of the Coastal Zone.

2. **Coastal Access:** Consistent with the Coastal Act's requirement for maintenance of public access, the proposed project does not interfere with access to the beach. Currently, there is public access to Dockweiler State Beach and Manhattan State Beach. Coastal access is also available by means of a County-maintained bicycle path that runs along the beachfront (westerly) side of the power plant property. The path links other beach access areas located to the north and to the south of the project site.

   The Applicant is providing public use area(s) along the perimeter of the project's west property line that borders the bicycle path and Dockweiler State Beach. The Applicant will be relocating the existing fence three feet back from its current location to allow the installation of public park type benches and landscaping along the bicycle path. The public use land area(s) will continue to be owned and maintained by the Applicant. The proposed landscaping along the bicycle path will include small trees and flowering shrubs. The Applicant is also proposing to install a concrete sea wall to help screen ground level views of the power plant from the bike path.

3. **Coastal Dependent Use:** Currently, cooling water for the existing facility is provided by two separate intake structures in Santa Monica Bay. The cooling water supply for the proposed project would use Outfall No. 001. Units 3 and 4 would continue to use the second, separate existing sea water intake (Outfall No. 002) to provide cooling water. Since the proposed project would be obtaining cooling water from the ocean, the project would remain consistent with the Coastal-dependent use definition.

<u>California State Lands Commission Lease</u>

The California State Lands Commission (SLC) has exclusive jurisdiction over all non-granted tidelands and submerged lands owned by the State (Pub. Resources Code, sections 6216 and 6301).

The two cooling water intake and outfall structures at the El Segundo Generating Station property are on tideland and submerged land owned and administered by the State of California. The Applicant has an executed lease with the State of California. The executed lease (No. 858.1 Public Resources Code Series, Ser. 18736A) expired on October 27, 2002 and the use of the property has continued on a month to month basis. The project owner filed an application with the SLC requesting a modification of the existing lease or creation of a new lease, which is pending review. Notwithstanding the stated expiration date in the lease, the actual termination of a SLC lease does not occur until such time as the SLC will formally act to terminate it. As long as the Applicant continues to operate in compliance with the

original executed lease, the SLC would permit the operation/use to continue on a month-to-month basis until a new lease is executed. That is exactly what has occurred. For these reasons, the Commission is satisfied that the Applicant has adequate lease rights to proceed with the project.

Energy Commission staff had recommended a condition that compelled that a new lease be obtained prior to commercial operation of the project. Since new leases are likely going be for shorter terms than the previous 50 year lease, the Commission is more concerned that the project owner be required to maintain lease rights for the duration of the project's life. A month-to-month lease will suffice during periods between longer term leases. Thus, the Commission has modified the suggested condition to require that the project owner maintain lease rights and keep the CPM informed as to periodic lease renewal efforts and results.

CONDITION:

- ☑ The project owner shall maintain a lease for the state owned land upon which the cooling system structures rest. **LAND-8**.

Local

The proposed project will affect three local jurisdictions: 1) the City of El Segundo, 2) the City of Manhattan Beach and 3) the City of Los Angeles and its Playa Del Rey community.

City of El Segundo - General Plan/LCP

The City of El Segundo Local Coastal Program (LCP) was adopted in July, 1980, and certified by the Coastal Commission in February, 1982. The LCP is El Segundo's land use plan, zoning ordinance, and zoning district map for the Coastal Zone. The Coastal Zone within the City's jurisdiction is defined as a narrow strip of land approximately 200 yards wide, which includes the existing ESGS. In this area, the City of El Segundo certified LCP supersedes the City's General Plan Land Use Element land use designations and policies. The Local Coastal Program land use designation for the project site is "Power Plant". The proposed power plant is an allowed use in this designation. Therefore, this use is consistent with the Local Coastal Program.

The project's water pipelines, aqueous ammonia pipeline, and sewer pipeline are consistent with the El Segundo General Plan, Goal LU 7: Provision of Quality Infrastructure.

The Kramer and Chevron staging areas are within the City (see Project Description) and used for light and heavy industrial uses, respectively. The use of these staging areas is consistent with current uses.

City of Los Angeles - General Plan

The project includes water pipelines that would be built partially within the City of Los Angeles on Grand Avenue. The City of Los Angeles General Plan designates the area around Grand Avenue as "Heavy Industrial". Subsurface water lines are acceptable in this area. The Los Angeles General Plan does not provide any policies, regulations or standards related to construction of water lines within the public right-of-way. An excavation permit is required for the proposed water lines from the City's West Los Angeles Bureau of Engineers.

The Grand Avenue parking area, LAX-Pershing parking and staging area, and Marina del Rey parking area are within the City of Los Angeles can be used consistently with the current land uses in the area. The City of Los Angeles and the State of California both have jurisdiction over the Dockweiler State Beach parking area and the Hyperion parking area. These sites could serve as worker parking since the sites already have open-air public parking.

City of Manhattan Beach - General Plan
The project includes a new sewer line that would be built partially within the City of Manhattan Beach. The City of Manhattan Beach General Plan does not provide any policies relevant to construction of a sewer line within the public right-of-way. An encroachment permit is required from the City's Public Works Department for the sewer line connection. (AFC p. 5.9-7, 8; FSA Land Use, p. 4.5-17.)

Zoning Ordinances

El Segundo Zoning Ordinance
El Segundo's Local Coastal Program specifies that modifications to existing facilities shall be subject to the requirements of El Segundo's M2 Zone District. The M2 Zone District identifies steam electric generating stations as a permitted use. The proposed project is, therefore, consistent with the use requirements of the El Segundo Zoning Ordinance.

Permitted uses in the M2 Zone "shall not be objectionable by reason of noise, odor, dust, smoke, mud, vibration, refuse, or other similar causes" (Section 20.42.030 (3) El Segundo Zoning Ordinance). Project impacts in these areas would be less than significant after mitigation measures have been implemented. See **NOISE**, **AIR QUALITY**, and **PUBLIC HEALTH**.

El Segundo's (M2) Zone District height restrictions state that buildings and structures shall not exceed a height of 200 feet. However, an exception allows chimneys and smokestacks to be erected above the 200 feet height limit. Therefore, the project's 205-foot high exhaust stacks and buildings would be consistent with the zone district height requirements.

Other applicable portions of the El Segundo Zoning Ordinance include requirements related to permanent and temporary signage and parking.

CONDITION:

- ☑ The project owner shall comply with El Segundo Zoning Ordinance design and performance requirements, and additionally parking standards and signage requirements. **LAND-1.**

City of Los Angeles Municipal Code
The City of Los Angeles zone regulations (City of Los Angeles Municipal Code Section 12.20.) apply to the area where the water pipelines are proposed in the City of Los Angeles. However, the document does not provide regulations related to construction and operation of a water pipeline within the public right-of-way.

Manhattan Beach Municipal Code
The City of Manhattan Beach Zoning Ordinance does not provide any regulations relevant to construction of a sewer pipeline within the public right-of-way. The City expressed concern that construction of the sewer line would reduce access to the parking lot on the beach. As a result, the Applicant has agreed to place an iron plate over the trenching/excavation to maintain beach access or to bore an underground connection to the manhole located in the Strand parking lot. (AFC p. 5.9-3, 7-8; FSA Land Use, p. 4.5-17.)

Open Space

Consistent with the Coastal Act's requirement for maintenance of public access, the proposed project does not interfere with access to the beach. Currently, there is public access to Dockweiler State Beach and Manhattan State Beach. Coastal access is also available by means of a Los Angeles County-maintained bicycle path that runs along the beachfront (westerly) side of the power plant property. The path links other beach access areas located to the north and to the south of the project site. There is also public access to El Segundo Beach, located west of the Chevron Marine Terminal, between Dockweiler State Beach and Manhattan State Beach.

Public access to Manhattan State Beach from 45th Street and the Strand public parking area could be affected by the construction of the project's sewer pipeline connection since the parking lot entrance is narrow and trenching/excavations would be in an area that could block access. However, there would be sufficient room in the parking lot driveway for a single lane to be kept open at all times during construction.

The project owner is considering temporary use of Dockweiler State Beach, Hyperion, and Grand Avenue as temporary back-up construction worker parking lots. (See **TRAFFIC & TRANSPORTATION**) The Los Angeles County Department of Beaches and Harbors operates these parking lots subject to Coastal Commission oversight. The Los Angeles County Department of Beaches and Harbors would review Applicant's possible use the parking lots for construction parking and would not allow that use to interfere with public access to the beach.

Public Access Area
The City of El Segundo presented testimony requesting dedication of approximately 1.2 acres on the southwest corner of the ESGS property to public access in order for the project to conform to the City's General Plan. (RT 2/20/03 38:17-42:22) This would be in addition to the increase of public access area by the Applicant's moving the fence on the west edge of the property back three feet and providing park-type benches along the existing bicycle path. The City also intends that this public use property is necessary to satisfy the terms of Public Resources Code section 25529, requiring that projects in the coastal zone establish a public use area. The City would be willing to negotiate with the Applicant the ownership, maintenance and security of the public use area.

Energy Commission staff testified that it had security concerns, which section 25529 takes into account, about unrestricted access to a public use area, particularly if it is not fenced. (2/20 RT 51:4-55:10) The Applicant contends that section 25529 is satisfied with its moving

of the fence and installation of park-type benches along the bike path, which by County ordinance is not intended for pedestrian use. Historically, Southern California Edison (SCE) and Chevron granted public access when the bicycle path was created and thereafter confirmed in El Segundo's Local Coastal Program. The Applicant has negotiated with the City about ownership, maintenance, and security of the corner area, without agreement, thus leading to the alternative proposal to move the fence and increase public access. (Applicant's Written Rebuttal Testimony 2/10/03, pp. 3-4.)

The Commission believes that the expansion of the area adjacent to the bicycle path by the Applicant's moving the fence and installing park-type benches is sufficient to meet any requirement of establishing or enhancing public access. The language of Condition **LAND-9** requires designation of public use areas, which would not be limited to the expanded bicycle path. The Commission acknowledges our Staff's security concerns. Fencing, perhaps gating, and hour of access are matters which need to be resolved in favor of the security of the facility, while nonetheless affording access to the coastal resource as also provided by law.

Thus, the Commission is satisfied that Condition **LAND-9** is sufficient to address public access issues. The Commission finds little support for prohibiting pedestrian access to the bike path area, particularly after moving the fence widens it. Repeal or modification of this County ordinance should be considered to allow dual use during certain times of the year.

Existing/Planned Uses

The current development pattern for the project site and the area surrounding it as established by the El Segundo General Plan is for heavy industrial uses.

The El Segundo Generating Station has been operating at this location since 1955. The proposed project would be constructed on the site of the existing power plant facility. The proposed project is compatible with the existing power plant use and neighboring recreational uses that include State owned beaches. The proposed project is also consistent with existing heavy industrial and energy uses to the north and east of the project site. ESGS is adjacent to residential uses to the south located within the City of Manhattan Beach.

Project-related water, reclaimed water, ammonia, and sewage pipelines are all compatible with nearby uses. The water and wastewater supply lines would be constructed in the existing road right-of-way located in commercial, residential, and heavy industrial areas. These pipelines would be constructed according to local engineering requirements and would be buried under the pavement after construction. During construction, there may be some temporary reduction in vehicular access to residences or businesses where pipelines are to be constructed in the public-right-of-way. Since vehicular access is being affected by pipeline construction, a Condition of Certification **TRANS-5** requires residents and businesses be notified prior to any construction activity. After construction, the land use impacts of the project's pipelines would be insignificant because the pipelines would be buried and would not interfere with adjacent uses.

The existing fuel tank farm area is located on Parcel 2, an approximately 9 acre area that contains two large tanks that were used to store fuel oil used by the original power plants built in the 1950s and 1960s. The fuel tanks are no longer used since the power plant complex switched to natural gas delivered by pipeline.

The Applicant proposes to use Parcel 2 during construction as a laydown and staging area for the project. Upon completion of the project, the existing tanks are to be removed. Parcel 2 is then to be used as an overflow parking area. At this time, the Applicant is not proposing any development on the tank farm area.

Representatives from the Cities of El Segundo and Manhattan Beach and residents of the El Porto community within the City of Manhattan Beach expressed concern with the timing of the removal of the two fuel tanks and the Applicant's plan for future use of the parcel after tank demolition. Specific concerns raised by the El Porto residents pertained to noise and visual effects. The tanks currently provide a noise and visual buffer between residences and the existing Units 3 and 4, which will remain in service.

The Applicant submitted a proposed preliminary Tank Farm Plan that focuses on the demolition process to be used for the tanks and the time (phase) sequence for it. The draft plan describes four phases: Phase I – Preparation of the Tank Farm Area, Phase II – Use of Tank Farm Area During Demolition of Units 1 and 2, Phase III – Use of Tank Farm Area During Construction of the project, and Phase IV: Remediation and Public Benefit.

Major components of the plan include: Use of the tanks as a visual and sound buffer for the El Porto community until an earthen berm can be constructed along the south property line of Parcel 2, and tank farm demolition activity, site and time restrictions. (FSA Land Use, pp. 6-7.)

To the extent any residences could be subjected to increased noise or visual impacts, mitigation has been provided by this Decision which reduces such potential impacts to insignificance. Refer to **NOISE, VISUAL RESOURCES,** and **TRAFFIC AND TRANSPORTATION**.

The cities of El Segundo and Manhattan Beach have asked that any future development plans on the parcel be made available for early review by the Cities, and that the development be consistent with the City of El Segundo's General Plan, Local Coastal Plan and zoning regulations. (AFC p. 5.9-23-25; FSA Land Use p. 4.5-17-20)

MITIGATION:

- ☑ The Project Owner shall submit development plans for the tank farm area to the Cities of El Segundo and Manhattan Beach and the Coastal Commission. Condition: **LAND-5**.

Cumulative Impacts

Cumulative land use impacts may occur when a project has effects that are individually limited but may be considerable when viewed together with effects of related new residential, commercial, and industrial projects. There are five nearby development proposals, either

permitted or under review, which can be characterized as mixed-use, commercial, and limited residential use.

Depending on the timing of the start of construction for these developments and the project, there may be some traffic flow disruptions and/or inconveniences within the City of El Segundo.

In accordance with Condition of Certification **TRANS-5**, the Applicant will be working with the City of El Segundo to prepare a traffic control plan that would resolve potential traffic conflicts in the event that the construction schedule of the project overlaps with any of these other proposals.

The project will not make a significant contribution to regional impacts related to new development and growth, such as population immigration, the resultant increased demand for public services, and expansion of public infrastructure such as water and natural gas pipelines to serve residential development. (AFC p. 5.9-26; FSA Land Use, p. 4.5-20-21.)

Findings

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to land use and all potential land use impacts will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

LAND-1: The project owner shall ensure that the project and its associated facilities are in compliance with the affected local jurisdiction's applicable adopted county or municipal code requirements for the project site's development (e.g., setbacks, zone district requirements, design criteria, height, sign requirements, etc.).

The project owner shall submit to the applicable city/county planning department for review and comment, a development plan showing site dimensions, design and exterior elevation(s) and any other item(s) that may be required by the local jurisdiction's planning department to conduct a ministerial review of the project and its associated facilities in accordance with the jurisdiction's site development requirements. The city/county planning department shall have 60 calendar days to review the plan(s) and provide written comments to the project owner. The project owner shall provide a copy of the city/county planning department's written comments and a copy of the development plan to the CPM.

Verification: At least 90 calendar days prior to the site mobilization on the power plant project site and its associated facilities, the project owner shall submit the proposed development plan to the affected jurisdiction for review and comment. The project owner shall provide any comment letters received from the local jurisdiction along with the proposed development plan to the CPM for review and approval.

LAND-2: The project owner shall identify the secured lay down/staging area(s) for the project prior to site mobilization. The project owner shall provide a plot plan and location map showing the lay down/staging area(s) to the affected local jurisdiction(s) planning department(s) (i.e. County of Los Angeles, the City of El Segundo, City of Manhattan Beach, etc.) and to the Executive Director of the California Coastal Commission if located within the State designated Coastal Zone for review and comment. The local jurisdiction(s) and the Executive Director (if applicable) shall have 60 calendar days to review the lay down/staging area(s) and provide written comments to the project owner. The project owner shall provide a copy of the local jurisdiction's and the Executive Director's (if applicable) written comments and a copy of the secure lay down/staging area(s) to the CPM for review and approval.

Verification: The project owner shall provide a copy of the lay down/staging area(s) to the affected local jurisdiction and the Executive Director of the California Coastal Commission (if applicable) for written comment. At least 30 days prior to the start of site mobilization, the project owner shall provide any plan(s), map(s) showing the secured laydown and staging area(s) along with any comment letters from the local jurisdiction and the California Coastal Commission to the CPM for review and approval.

LAND-3 The project owner shall provide appropriate evidence of compliance with Federal Aviation Administration (FAA) regulations regarding the marking and/or lighting of the project's new exhaust stacks.

Verification: Pursuant to the schedule contained in Condition of Certification **TRANS-6,** the project owner shall submit copies of the FAA Form 7460-1 with copies of the FAA response to Form 7460-1 to the CPM.

LAND-4: The project owner shall either bore the proposed sewer line under 45th Street in the City of Manhattan Beach or use conventional excavation techniques using steel cover plates to allow traffic to have access to the Strand parking lot at all times. The time period necessary to complete the 45th Street sewer excavation/trenching and connection shall be kept to a minimum. The Applicant shall obtain the required encroachment permit(s) from the local government of jurisdiction(s). The sewer line shall be constructed during the off-peak season of September to May.

Verification: The project owner shall submit to the City of Manhattan Beach Public Works Department an encroachment permit application for their review and approval and to the CPM for final approval. The permit application shall include a description of the method that would be used to complete any excavations in 45th Street. The application shall include the proposed time to begin and complete the sewer line connection. Also, the permit application shall illustrate how the construction crew and traffic control will ensure that access to the parking lot is not disrupted.

The project owner shall monitor the construction of the sewer line in the 45th Street right-of-way at all times and promptly notify the City of Manhattan Beach Public Works Department and CPM of any difficulties experienced.

Prior to any ground disturbance within the 45th Street public right-of-way a copy of the City of Manhattan Beach approved/issued encroachment permit shall be submitted to the CPM.

The CPM or City of Manhattan Beach designated representative may conduct random site visits to verify compliance, and the CPM may temporarily stop construction to ensure access is maintained.

LAND-5: The project owner shall provide written notification to the CPM when any plans for use of the abandoned fuel tank farm area (Parcel 2) are developed and indicate whether the project owner believes such plans are subject to the Energy Commission's permitting authority in accordance to the Warren-Alquist Act. The written notification shall include a description of the development and an analysis of which agency has proper jurisdiction over the development according to the enacted laws, ordinances and standards in effect at the time such development is to be proposed.

Verification: The project owner shall provide written notification to the planning departments of the City of El Segundo and the City of Manhattan Beach and to the Executive Director of the California Coastal Commission who shall have 30 calendar days to provide written comments to the CPM to review.

At least 60 days prior to submitting any applications to any other agency for development of the abandoned fuel tank farm area (Parcel 2); the project owner shall provide a copy of the written notification to the CPM. The project owner shall also provide copies of the written notification sent to the Cities of El Segundo, Manhattan Beach and to the Executive Director of the California Coastal Commission to the CPM.

LAND–6: The abandoned fuel storage tanks on Parcel 2 shall be removed prior to the start of commercial operation of the new generating units. Any site remediation and/or soil restoration activities required by appropriate authorities shall be completed following tank removal.

Following site remediation, the tank farm area shall be paved and landscaped in accordance with the landscape plan submitted and approved pursuant to condition of certification, VIS-2. The tank farm uses will be restricted to parking in the designated parking areas and approved uses in the paved area south of the designated parking area. Approved uses include temporary equipment staging and overflow parking during maintenance evolutions. The paved area shall not be used for permanent storage of vehicles, equipment or materials.

Verification: The project owner shall submit a detailed schedule for the removal of the fuel storage tanks, site remediation and/or soil restoration to the CPM for review and approval prior to the start of construction.

LAND-7: The project owner shall provide copies of final grading and drainage plans to the planning departments of the Cities of El Segundo and Manhattan Beach.

Verification: Pursuant to the schedule contained in Condition of Certification **CIVIL-1** the project owner shall also submit copies of the proposed drainage structures and

grading plan to the City of El Segundo planning department and the City of Manhattan Beach planning department concurrent with their submittal to the Chief Building Official (CBO) and CPM.

LAND–8: The project owner shall maintain lease rights for the tideland and submerged land owned by the State of California leased via the California State Lands Commission. Project owner shall provide copies to the CPM of all new or amended leases and all relevant correspondence between the project owner and the State Lands Commission regarding lease terms.

Verification: The project owner shall provide the CPM with a copy of submitted lease applications filed with the State Lands Commission and other relevant correspondence. The project owner shall submit to the CPM a copy of all new or amended lease agreements with the California State Lands Commission.

LAND–9: The project owner shall provide copies of the final perimeter landscape plan(s) to the CPM. The landscape plans shall identify the area to be designated for public use, subject to restrictions for security and public safety as determined by the CPM. The project owner shall install public park-type benches within the public use area along the west property line of the ESGS property.

Verification: The public park-type benches shall be installed pursuant to the schedule contained in Condition of Certification **VIS-2**. Within 14 days after completion of the public use area, the project owner shall contact the CPM to request a final inspection.

LAND-10: Project pre-construction and construction activity shall not prevent public use of the County maintained Class 1 bicycle path. The project owner shall maintain public access along the bicycle path that borders the El Segundo Generating Station.

The project owner shall repair any damage to the bicycle path that is caused by pre-construction and construction activities conducted for the project.

Verification: The project owner shall complete any repair to the bicycle path pursuant to the schedule contained in Visual Resources Condition of Certification **VIS-3**.

The CPM, the designated representative of the affected local jurisdiction(s) and the designated representative of the Coastal Commission may conduct random site visits to verify compliance. Also, the CPM will investigate filed complaints to ensure compliance.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

LAND USE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Federal Aviation Administration	Interruption of flight patterns by exhaust stacks.
STATE	
California Coastal Act, Pub. Res. Code §30000 et seq.	Establishes comprehensive scheme to govern land use planning along the California coast, administered by the California Coastal Commission.
State Tideland Leasing, Pub. Res. Code §6701 et seq.	Establishes authority for the State Lands Commission to lease non-granted state tidelands and submerged lands.
LOCAL	
City of El Segundo Local Coastal Program	Establishes the City's land use plan, zoning ordinance, and zoning district map within the Coastal Zone, under the oversight of the Coastal Commission.
City of El Segundo General Plan	Describe specific land uses allowed within the City.
City of El Segundo Zoning Ordinance	Implements the General Plan.
City of Manhattan Beach General Plan	Describe specific land uses allowed within the City
City of Manhattan Beach Zoning Ordinance	Implements the General Plan.
City of Los Angeles General Plan	Describe specific land uses allowed within the City
City of Los Angeles Zoning Ordinance	Implements the General Plan.

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NOISE – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Loudness/ Time of Day	**MITIGATION**	**None**	**Yes**

Construction: Construction activities will occur on the tank farm, near Manhattan Beach residences. Disturbances to residences may occur.

MITIGATION:

- ☑ The Project Owner shall notify neighboring residents and business owners of impending construction at the power plant site and disseminate a telephone "hotline" number to report any undesirable noise conditions. Condition: **NOISE-1**.
- ☑ The Project Owner shall create a noise complaint process through which it will attempt to resolve all noise complaints. Condition: **NOISE-2**.
- ☑ The Project Owner shall comply with construction time-of-day and day-of-week restrictions. Condition: **NOISE-8**.

It is necessary to clear the steam pipes of debris that would damage the steam producing equipment. This flushing process, known as a steam blow, is traditionally accomplished by venting high-pressure steam to the atmosphere, which would produce a very loud noise at the nearest residential receptor. A quieter process must be employed.

MITIGATION:

- ☑ The Project Owner shall use a continuous steam blow or other equivalent low-pressure process. The Project Owner will notify affected groups prior to conducting steam blows. Conditions: **NOISE-4 & NOISE-5.**

Operation: During its operating life, the generating facility will represent essentially a steady, continuous noise source day and night. The noise emitted by power plants during normal operations is generally broadband, steady state in nature. Occasional short-term increases in noise level will occur as steam relief valves open to vent pressure, or during start-up or shutdown, as the plant transitions to and from steady-state operation. The removal of the fuel oil storage tanks will remove sound shielding between 45th Street Residences and noise sources on the Generating Station. Operational sound levels at local residences are not expected to rise more than 2 dBA.

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Worker Noise:	**MITIGATION**	**None**	**Yes**
	Power plant noise can damage workers' hearing if not properly managed. **MITIGATION:** ☑ The Project Owner will implement a noise control program for employee noise exposure. Condition: **NOISE-3**. ☑ The Project Owner shall conduct an occupational noise survey and take action based upon its results. Condition: **NOISE-7** The loudspeaker system can be heard outside of the generating station. Modern communication equipment eliminates the need to use loudspeakers for general communication. **MITIGATION** ☑ The loudspeaker system shall be reserved for emergencies and for testing purposes only. Condition: **NOISE-10** *References: AFC p. 6.3-3-6; FSA Noise, pp. 4.6-6-9.*		
Vibration	**MITIGATION**	**None**	**YES**
	The primary source of vibration noise associated with a power plant is the operation of the turbines. It is anticipated that the plant's turbines will be maintained in optimal balance to minimize excessive vibration that can cause damage or long term wear. Consequently, no excessive vibration would be experienced by adjacent land uses. Another potential source of significant vibration is pile driving during construction. Given the relatively great distances to the nearest sensitive receptors, no vibration effects are likely if pile driving were required. **MITIGATION:** ☑ The Project Owner shall ensure that construction and operation activities do not cause sensitive receptor vibrations to exceed limit. Condition: **NOISE-5**. *References: FSA Noise, p.4.6-7.*		

NOISE – GENERAL

The construction and operation of any power plant creates noise and sound. Construction noise is a temporary phenomenon. Construction noise levels heard offsite will vary from hour to hour and day to day, depending on the equipment in use and the operations being performed.

The character and loudness of this noise, the times of day or night during which it is produced, and the proximity of the facility to any sensitive receptors are combined to determine whether the facility will meet applicable noise control laws or cause any significant noise impacts.

Sound associated with the operation of the project will be produced by the inlets, outlets, structures, motors, pumps and fans associated with the two gas turbines, the heat recovery

steam generators, the electric generators, and the transformers. Essentially, project equipment will operate continuously and produce a steady sound 24-hours per day, seven days per week. Occasional short-term noise level increases will occur during plant start-up or shut down, during load transitions, and during opening of steam release valves for venting pressure. At other times, the plant will be shut down, producing less noise.

The removal of the fuel oil storage tanks represents a unique noise exposure issue. Currently, the fuel oil storage tanks act as noise shields for some homes in Manhattan Beach. Removal of the tanks could result in increased power plant noise reaching those homes. Further complicating noise level issues, is the presence of two other sources of noise and sound: the surf of Santa Monica Bay and jets taking off at Los Angeles International Airport.

The project is located in the City of El Segundo. Parties argued during the process that the project should have to comply with El Segundo and Manhattan Beach's noise ordinances. The Applicant conceded, and CEC Staff concurred.

Loudness/Time of Day

Construction: The construction phase does not create long-term increases in noise levels. The potentials for speech interference during the daytime or sleep disturbance at night are the most appropriate criteria for assessing construction noise impacts. If the hourly average construction noise level during the day were to exceed 60 dBA Leq in an outdoor activity area near a residence, the construction noise would begin to interfere with speech communication.

The parties reached agreement on Condition of Certification **NOISE-8**, which establishes time-of-day and day-of-week restrictions on use of the tank farm area to support construction and demolition. The parties further agreed to two conditions (**NOISE-1** and **NOISE-2**) that govern communication of noise complaints during construction.

MITIGATION:

- ☑ The Project Owner will notify neighboring residents and business owners of impending construction at the power plant site and disseminate a telephone "hotline" number to report any undesirable noise conditions. Condition: **NOISE-1**.
- ☑ The Project Owner will create a noise complaint process through which it will attempt to resolve all noise complaints. Condition: **NOISE-2**.
- ☑ The Project Owner shall comply with construction time-of-day and day-of-week restrictions. Condition: **NOISE-8**.

Since the power plant will include heat recovery steam generators (HRSGs) to produce steam from the waste heat of the combustion turbines, it is necessary to clear the steam pipes of debris that would damage this equipment. This flushing process, known as a steam blow, is traditionally accomplished by venting high-pressure steam to the atmosphere. The Applicant agreed to utilize a low pressure continuous steam blow process or equivalent. The parties agreed upon conditions that govern this steam blow requirement.

MITIGATION:

- ☑ The Project Owner shall use a continuous steam blow or other equivalent low-pressure process. The Project Owner will notify affected groups prior to conducting steam blows. Conditions: **NOISE-4 & NOISE-5**.

Operation: During its operating life, the generating facility will represent essentially a steady, continuous noise source day and night. The noise emitted by power plants during normal operations is generally broadband, steady state in nature. Occasional short-term increases in noise level will occur as steam relief valves open to vent pressure, or during start-up or shutdown, as the plant transitions to and from steady-state operation. The removal of the fuel oil storage tanks will remove sound shielding between 45th Street Residences and noise sources at the Generating Station. Operational sound levels at local residences are not expected to rise 2 dBA.

The parties reached agreement on a contentious issue involving how the operational noise survey would be conducted. The proposed project has two other significant noise sources in the area: jets taking off at Los Angeles International Airport (LAX) and the surf of Santa Monica Bay beaches in the area. Further, the most likely action to affect residential receptors is the removal of the fuel oil storage tanks. While the Applicant and Energy Commission staff do not predict that resultant residential noise levels will exceed ambient median levels by 2 or more decibels, the parties agreed to a protocol for conducting before and after noise surveys to ensure the accuracy of this determination. The Commission concurs on this condition.

MITIGATION:

- ☑ The Project Owner shall ensure that the project does not cause resultant residential noise levels to exceed ambient median levels by 2 or more decibels. Condition: **NOISE-6**.

Power plant noise can damage workers' hearing if not properly managed.

MITIGATION:

- ☑ The Project Owner will implement a noise control program for employee noise exposure. Condition: **NOISE-3**.
- ☑ The Project Owner shall conduct an occupational noise survey and take action based upon its results. Condition: **NOISE-7.**

The loudspeaker system can be heard outside of the generating station. Modern communication equipment eliminates the need to use loudspeakers for general communication.

MITIGATION

- ☑ The loudspeaker system shall be reserved only for emergencies and for testing. Condition: **NOISE-10.**

Vibration

A potential source of significant vibration is pile driving during construction. Given the relatively great distances to the nearest sensitive receptors, no vibration effects are likely if pile driving is required.

The primary source of vibration noise associated with a power plant is the operation of the turbines. It is anticipated that the plant's turbines will be maintained in optimal balance to minimize excessive vibration that can cause damage or long term wear. Consequently, no excessive vibration would be experienced by adjacent land uses.

MITIGATION:

☑ The Project Owner shall ensure that construction and operation activities do not cause sensitive receptor vibrations to exceed limit. Condition: **NOISE-5**.

Cumulative Impacts

No other new or proposed noise-producing development near the project site was identified which might cause cumulative impacts exceedences of noise standards or criteria. (AFC p. 6.3-7.)

Findings

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to noise and all potential noise impacts will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

NOISE-1: At least 15 days prior to site mobilization, the project owner shall notify all residents, property owners, and business owners within one-half mile of the site, and the City of Manhattan Beach, the City of El Segundo, and L.A. County Lifeguard Headquarters, by mail and/or other effective means, of the commencement of project construction. At the same time, the project owner shall establish and disseminate a 24-hour "hotline" telephone number for use by the public to report any undesirable noise conditions associated with the construction of the project. This telephone number shall also be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year. The telephone shall be located in an area that is likely to be staffed, and, if the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended.

Verification: The project owner shall transmit to the CPM in the first Monthly Construction Report following site mobilization, a statement, signed by the project manager, attesting that the above notification has been performed, and describing the method of that notification. This statement shall also attest that the telephone number has been established and posted at the site.

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 as soon as possible.

- The project owner shall establish and disseminate a 24-hour "hotline" telephone number for use by the public to report any undesirable noise conditions associated with the project. The telephone shall be located in an area that is likely to be staffed, and, if the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended.
- The project owner shall designate a noise monitoring officer for each construction shift, and for the daytime shift after the plant is placed into service. The noise monitoring officer shall be trained in the use of a sound level meter, and shall be empowered to halt any construction activities causing or likely to cause a violation of the Conditions of Certification herein. The noise monitoring officer shall carry at all times an operable portable electronic device (such as telephone or pager) to receive any incoming "hotline" call.
- The noise monitoring officer shall log each noise complaint on a CPM-approved complaint form and shall attempt to resolve the complaint.
- For construction noise complaints received outside of the construction hours and days allowed as described by Condition of Certification **NOISE-8**, the noise monitoring officer shall take immediate steps to determine whether power plant construction is causing the noise and, if so, to reduce the noise level of that activity or take other appropriate action to remedy the complaint as quickly as possible (not to exceed one hour) in order to comply with the Conditions of Certification.
- For construction noise complaints, the noise monitoring officer shall contact the complainant within the hour, if requested by the complainant, with information on the status and resolution of the complaint.
- In the event of construction noise complaints for two consecutive periods outside of which construction is specifically allowed by **NOISE-8**, either from a single affected residence, from multiple residences, or businesses, the project owner shall monitor noise levels at the receptor(s) for no less than the following two consecutive periods.
- The noise monitoring officer, as appropriate, shall measure site fence-line noise levels, and/or measure noise levels at the complainant's property line, to assure compliance.
- The project owner shall attempt to contact the person(s) making a plant operations noise complaint within 24 hours, and shall conduct an investigation to determine the source of noise related to the complaint.
- If the noise is related to plant operations, the project owner shall take all feasible measures to reduce the noise at its source as soon as possible.
- If the noise complaint is not resolved to the satisfaction of the complainant, including the time frame for resolution, the noise monitoring officer shall provide the Commission's toll free compliance telephone number (1-800-858-0784 unless otherwise specified by the CPM).

- Within 24 hours of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the City of El Segundo and City of Manhattan Beach, and with the CPM, documenting the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 3-day period, the project owner shall submit a progress report and a proposed mitigation schedule, subject to the approval of the CPM, to the CPM and the affected City within 5 days of receiving the complaint.
- Following resolution of the noise complaint, the project owner shall submit an updated Noise Complaint Resolution Form and a report to the CPM and the affected City documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to the complainant's satisfaction.

Verification: The project owner shall provide to the CPM, in the applicable Monthly and/or Annual Compliance Report, a listing of noise complaints received in that time period, and the status of resolution of each complaint, including all those which have not yet been resolved.

NOISE-3: Prior to site mobilization, the project owner shall submit to the CPM for review and approval a noise control program. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal-OSHA standards**.**

Verification: At least 30 days prior to site mobilization, the project owner shall submit to the CPM the above referenced program for review and approval. The project owner shall make the program available to OSHA upon request.

NOISE-4: A low-pressure continuous steam blow or other equivalent low-pressure process shall be employed. Prior to site mobilization, the project owner shall submit a description of this process, with expected noise levels and projected hours of execution, to the CPM, who shall review the proposal with the objective of ensuring that the resulting noise level does not exceed the nighttime ambient hourly L_{50} value determined in **NOISE-6** plus 5 decibels at the nearest residential property line. Project owner shall strive to avoid nighttime steam blows. If nighttime low pressure steam blows are unavoidable, these low pressure steam blows shall not exceed nighttime ambient hourly L_{50} value determined in **NOISE-6** plus 2 decibels at the nearest residential property line during the hours 6:00 p.m. to 7:30 a.m. Copies of the process description and predicted noise levels shall be provided to the Cities of Manhattan Beach and El Segundo.

Verification: At least 15 days prior to any low-pressure continuous steam blow, the project owner shall submit to the CPM drawings or other information describing the steam blow process, including the noise levels expected and the projected time schedule for execution of the process.

NOISE-5: At least 15 days prior to the first steam blow(s), the project owner shall notify the Cities of El Segundo and Manhattan Beach, L.A. County Lifeguard Headquarters, and all residents, property owners and business owners within one mile of the site of the planned steam blow activity, and shall make the notification available to other area residents in an appropriate manner. The notification may be in the form of letters to the area residences, telephone calls, fliers and/or other effective means. The notification shall include a description of the purpose and nature of the steam blow(s), the proposed schedule, the expected noise levels and potential hazards associated with them, the "hotline" phone number where people register complaints, and the explanation that it is a one-time operation and not a part of normal plant operations.

Verification: Within 5 days of notifying these entities, the project owner shall send a letter to the CPM confirming that there has been appropriate notification to the residents, property owners, Cities and businesses of the planned steam blow activities, including a description of the method(s) of that notification.

NOISE-6: The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the project will not cause resultant noise levels to exceed the ambient median noise level (L_{50}) at residential receivers by 2 decibels or more, and that the noise due to plant operations will otherwise comply with the noise standards of the El Segundo and Manhattan Beach Municipal Codes.

No new pure tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise. Steam relief valves shall be adequately muffled.

A. Determine the ambient noise level (L_{50}) at Residential Receivers. Prior to site mobilization , the project owner shall prepare and submit to the City of El Segundo and City of Manhattan Beach for review and comment, and to the CPM for review and approval, a Pre-Construction Noise Survey Plan. This plan will indicate the survey procedure and methodology for establishing the ambient noise level at nearby residential receivers. At a minimum, the plan will include the following:
   - The project owner will conduct a 30-day continuous community noise survey at a residential receptor (on 45th Street in Manhattan Beach), selected by the CPM in cooperation with the City of Manhattan Beach. This pre-construction survey shall be conducted during the period of June 1 to September 30. Hourly L_{eq}, L_{50} and L_{90} values shall be measured.
   - Existing ESGS Units 3 and 4 shall be operating normally during the course of the survey, and the levels of plant operation will be documented during the survey. The plan will establish a range of acceptable ("normal") operating conditions suitable for the purposes of these studies.
   - A simultaneous control measurement will be conducted within the project boundary. The site shall be selected to ensure that the dominant noise source will be the surf, requiring a clear line of sight to the surf. A location near the southwest project site corner is preferred to minimize the potential for noise from the existing power plant to influence the surf noise measurements. Wave

height and other surf conditions, and any unusual environmental conditions occurring during the survey period shall be documented.

- For each of the days of noise data collected at each receptor, the arithmetic average median noise level (L_{50}) shall be computed for the quietest consecutive 4-hour period. The resultant average median noise levels shall then be averaged arithmetically to calculate the relationship between surf noise levels and ambient noise levels along the northern side of the El Porto Community.
- If the initial 30-day measurement data, in the judgment of the CPM in consultation with the City of Manhattan Beach, fail to demonstrate a consistent relationship of surf and ambient noise levels, the measurement will be repeated until a consistent relationship can be established.

Following approval of the Survey Plan, and prior to site mobilization, the project owner shall implement the survey and present the results in a Pre-Construction Noise Survey Report to the Cities of El Segundo and Manhattan Beach and to the CPM. The Report will include a discussion of the ambient noise level taking into consideration all relevant factors, such as plant operating conditions, surf and wind conditions.

B. Conduct post-construction survey. As soon as feasible, within the time frame described below and after Units 5, 6 and 7 first achieve a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct short-term survey noise measurements at monitoring sites ST-1, ST-2, ST-3 and ST-12 (as described in the AFC, Section 5.12, Figure 5.12-3, as amended May 4, 2001). "In addition, the Applicant shall conduct a 30-day community noise survey at the same receptor locations used for the 30-day noise measurement cited in Section A above."

The post-project community noise survey shall be conducted between June 1 and September 30, using the methods described in Item A. above. The post-construction survey shall also include measurement of one-third octave band sound pressure levels at each of the above locations to ensure that no new pure-tone noise components have been introduced. If environmental conditions prevent completion of the post-construction community noise survey in a timely manner, then the survey shall be completed as soon as conditions allow.

Following the post-construction survey, the project owner shall present the results in a Post-Construction Noise Survey Report to the Cities of El Segundo and Manhattan Beach and to the CPM. The Report will include a discussion of the relationships between surf and ambient noise levels.

C. Implement Tank Removal Noise Mitigation if Required. Mitigation measures shall be implemented to reduce noise levels to a level of compliance if the results from the post-construction noise survey at the residential receptor location indicate that the ambient median noise level (L_{50}) has increased by 2 decibels or more due to facility operation, as determined by the relationship between surf and ambient noise levels obtained from the pre-construction survey. The project owner shall

present the proposed mitigation measures to the Cities of El Segundo and Manhattan Beach and to the CPM.

D. Implement Pure Tone Mitigation if Required. If a facility-related pure tone is found to be present at any of the above monitoring sites, mitigation measures shall be implemented to eliminate the pure tone. For the purpose of this condition, the State of California's Model Community Noise Control Ordinance defines a pure tone. The project owner shall present the proposed mitigation measures to the Cities of El Segundo and Manhattan Beach and to the CPM.

E. Implement Plant Noise Mitigation if Required. If the results of noise measurements at ST-1, or ST-12 indicate that the ambient noise level has increased by more than 5 decibels due to facility operation, as compared with the baseline noise measurements conducted on July 20 and 21, 2000, the owner will implement mitigation measures to reduce the noise at those locations to comply with the Municipal Code of the City of El Segundo. The project owner shall present the proposed mitigation measures to the Cities of El Segundo and Manhattan Beach and to the CPM.

Verification:

1. Pre-Construction Survey and Determination of Ambient Noise Level.

a) At least 60 days prior to site mobilization, the project owner shall provide the Pre-Construction Noise Monitoring Survey Plan to the CPM for review and approval.
b) Within 30 days of completion of the survey, the project owner shall provide to the CPM for review and approval the results of the pre-construction noise survey.

2. Post-construction Survey. Within 45 days after completing the post-construction surveys, the project owner shall submit a summary report of the survey to the CPM. Included in the report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures.

3. Mitigation Implementation. If mitigation is required, then upon completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described in paragraph B and showing compliance with this condition.

NOISE-7: Within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

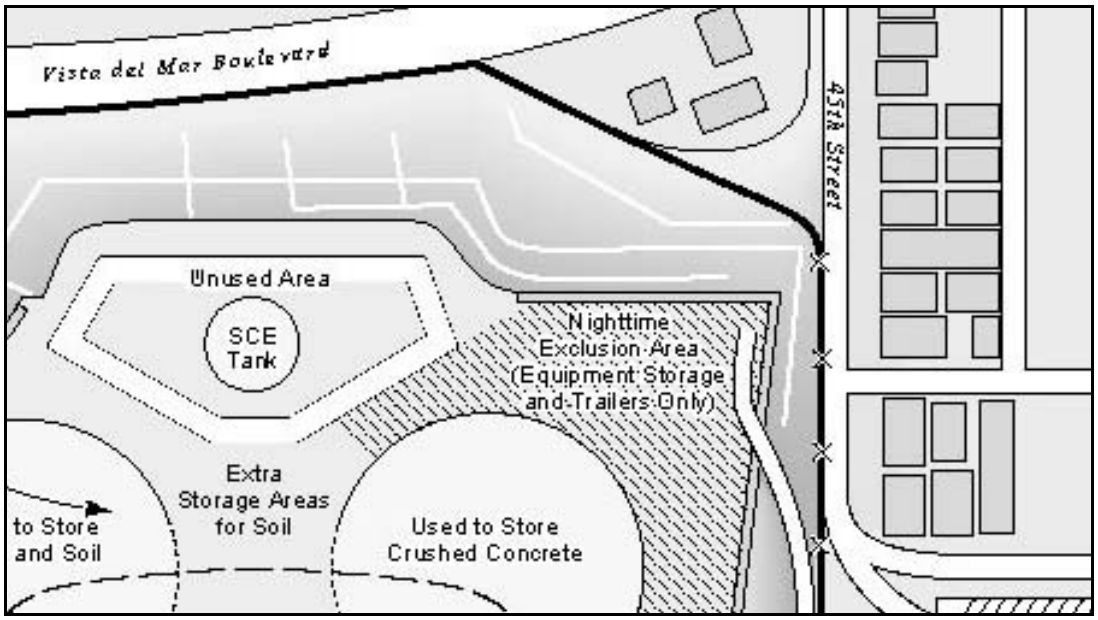
Verification: Within 30 days after completing the survey, the project owner shall submit the noise survey report, including proposed mitigation measures, to the CPM for review and approval. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

NOISE-8: Heavy equipment operation and noisy construction or demolition work shall be restricted beginning at site mobilization as described below.

No pure tones are allowed outside of the hours of 7:30 A.M. to 6:00 P.M. Monday-Friday, and 9:00 A.M. to 6:00 P.M. Saturday. 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.

Tank Farm Area: Noise levels at any residential property line due to tank farm construction or demolition shall be limited to the average daytime hourly ambient L_{50} value plus 5 dBA, or 65 dBA L_{50}, whichever is lower for continuous noise. For intermittent noise (up to 30 minutes in one hour) the maximum noise levels shall be ambient L_{50} plus 10 dBA). 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.

The use of the tank farm area is divided into four phases. For each phase the following restrictions shall be observed. Construction activity outside the hours described will not be allowed in the area south of the southern tank, which shall be termed the nighttime exclusion area, shown below:



Phase I: Prepare the tank farm for use during demolition and construction: cutting openings into the sides of the tanks, use of grader, backhoe and small trucks, a few truck trips to remove material, some welding, installation of landscaping and irrigation. All demolition and construction will occur during daytime hours of 7:30 AM to 6:00 PM Monday - Friday and 9:00 AM to 6:00 PM on Saturdays. No demolition or construction shall occur on Sundays or holidays.

Phase II: Demolition period: Entering and exiting the site, hauling material. Construction activities shall avoid the southerly end of the tank farm. All construction activities will be restricted to 7:30 AM to 6:00 PM. During the hours 5:00PM to 9:00AM, the nighttime exclusion area may be accessed by passenger vehicles or pedestrians to inspect tanks. . Except as further restricted above, all demolition and construction shall occur between 7:30 AM to 6:00 PM Monday - Friday and 9:00 AM to 6:00 PM on Saturdays. No demolition or construction shall occur on Sundays or holidays.

Phase III: Construction period: Haul material into and out of the area; remove the north tank. Daytime activities will be shielded from 45th street residents by the use of the south tank as a dome and as a shield. All demolition and construction shall occur between 7:30 AM to 6:00 PM Monday - Friday and between 9:00 AM to 6:00 PM on Saturdays. No demolition or construction shall occur on Sundays or holidays.

Phase IV: Operations period: Remove the south tank, and limit the traffic on the tank farm area. During daytime only, metal cutting will be allowed from 9:00 AM to 5:00 PM Monday through Friday, except holidays. During daytime only, trucks may be used to remove tank material and to remove soil. Bulldozers, graders etc. may be used during daytime hours only to move, excavate and replace soil. All demolition and construction shall only occur between 7:30 AM and 6:00 PM Monday-Friday. No demolition or construction shall occur on Saturdays, Sundays or holidays.

Other Areas of the Project Site: The noise standards for construction and demolition occurring at the rest of the project site (with the exception of the tank farm area) shall be:

- 65 dBA hourly L_{50} at any residential receptor during the hours of 7:30 A.M. to 6:00 P.M. Monday-Friday, and 9:00 A.M. to 6:00 P.M. Saturday.
- The ambient hourly L_{50} value plus 2 dBA at any residential receptor at any other time.

Ambient noise levels shall be determined from the pre-construction survey conducted pursuant to **NOISE-6**.

Verification: The project owner shall transmit to the CPM in the first Monthly Construction Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

NOISE-9: The project design and implementation shall ensure that site mobilization, demolition, construction, or operation of the power plant will not cause vibration at any sensitive receptor to exceed a peak particle velocity of 0.003 in/sec, or to cause vibration which is perceptible without use of instruments to any reasonable person of normal sensitivity.

The noise monitoring officer designated pursuant to Condition of Certification **NOISE-1** shall log each construction vibration complaint on a CPM-approved complaint form and attempt to resolve the complaint. For construction vibration complaints received outside of the construction hours or days allowed as described by Condition of Certification **NOISE-8**, the noise monitoring officer shall take immediate steps to determine whether power plant construction is causing the vibration and, if so, to reduce the vibration level of that activity as quickly as possible (not to exceed one hour) in order to comply with the Conditions of Certification. The noise monitoring officer, as appropriate, shall measure site fence-line vibration levels to assure compliance. If the vibration complaint is not resolved to the satisfaction of the complainant, including a time frame for resolution, the noise monitoring officer shall provide the Commission's toll free compliance telephone number (1-800-858-0784, unless otherwise specified by the CPM).

In the event of construction-related vibration complaints either from a single affected residence, from multiple residences, or businesses, the project owner shall monitor vibration at the receptor(s) for no less than the following two days of construction.

Within 24 hours of receiving a complaint for vibration, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the City of El Segundo and/or City of Manhattan Beach, and with the CPM. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 3-day period, the project owner shall submit a progress report and a proposed mitigation schedule, subject to the approval of the CPM, to the CPM and the affected City within 5 days of receiving the complaint. The project owner shall submit an updated Noise Complaint Resolution Form to the CPM and the affected City when the mitigation is finally implemented.

Verification: The project owner shall provide, in the applicable Monthly and/or Annual Compliance Report, a listing of vibration complaints received in that time period, and the status of resolution of each complaint, including all those which have not yet been resolved.

NOISE-10: The loudspeaker system shall be used only for testing and emergencies.

Verification: The project owner shall transmit to the CPM in the first Monthly Construction Report a statement acknowledging that the above restrictions will be observed throughout the construction and operation of the project.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

NOISE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
EPA 1974 Noise Guidelines	Guidelines for State and Local Governments
HUD Circular 1390.2	Directions for noise levels at construction-site boundaries not to exceed 65 dBA for 9 hours in a 24-hour period.
29 CFR Section 1910.95 (OSHA Health and Safety Act of 1970)	Exposure of workers to over an 8-hour shift should be limited to 90 dBA.
STATE	
California Vehicle Code §23130 and 23130.5	Regulates vehicle noise limits on California Highways.
8 CCR §5095 et seq. (Cal-OSHA)	Sets employee noise exposure limits. Equivalent to Federal OSHA standards.
LOCAL	
City of El Segundo Noise ordinance	Establishes construction and operational noise standards..
City of Manhattan Beach Noise ordinance	Establishes construction and operational noise standards..

PUBLIC HEALTH – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS CONFORMANCE*
Construction Health Risks	**MITIGATION**	**None**	**YES**
	Large construction equipment potentially contributes to existing violations of state 24-hour PM_{10} standards. **MITIGATION:** ☑ To minimize PM_{10} emissions, the Project Owner shall require its construction contractors to minimize emissions from diesel powered earthmoving equipment. Condition **AQ-C3.** Grading and excavation activities potentially produce dust which can be transported off-site by wind. **MITIGATION:** ☑ To control airborne fugitive dust, the Project Owner shall water or apply chemical dust suppressants to disturbed areas, apply gravel or paving to traffic areas, and wash wheels of vehicles or large trucks leaving the site. Condition: **AQ-C2, AQ-C4**. *References: FSA Air Quality, pp. 4.1-51.*		
Cancer Risks	**Insignificant**	**None**	**YES**
	The conservative screening level health risk assessment for non-criteria air pollutants conducted under California Air Pollution Control Officer's Association guidelines finds a maximum exposure to the highest level of carcinogenic project pollutants for 70 years has a cancer risk of 0.94 in a million, below the 1 in a million benchmark for a potential health impact. *Reference: AFC App. 5.16-1; FSA Public Health, p. 4.7-8.*		
Non-Cancer Risks	**Insignificant**	**None**	**YES**
	The health risk assessment for non-criteria air pollutants conducted under California Air Pollution Control Officer's Association guidelines finds an exposure to the highest level of project pollutants produces a chronic hazard index of 0.02 and an acute hazard index of 0.01. Both are well below a threshold hazard index of 1.0, and thus not a significant health impact. *References: AFC App. 5-16-11; FSA Public Health, p. 4.7-7.*		

PUBLIC HEALTH – GENERAL

Operating the proposed power plant would create combustion products and possibly expose the general public and workers to these pollutants as well as the toxic chemicals associated with other aspects of facility operations. The purpose of this public health analysis is to determine whether a significant health risk would result from public exposure to these chemicals and combustion by-products routinely emitted during project operations. The issue of possible worker exposure is addressed in the **WORKER SAFETY** section. Exposure to

electric and magnetic fields (EMF) is addressed in the **TRANSMISSION LINE SAFETY AND NUISANCE** section.

The exposure of primary concern in this section is to pollutants for which no air quality standards have been established. These are known as non-criteria pollutants, toxic air pollutants, or air toxins. Those for which ambient air quality standards have been established are known as criteria pollutants. The criteria pollutants are also identified in this section because of their potentially significant contribution to the total pollutant exposure in any given area. Furthermore, the same control technologies may be effective for controlling both types of pollutants when emitted from the same source.

Construction Health Risks

Construction-phase impacts are those from human exposure to (a) the windblown dust from site grading and other construction-related activities and (b) emissions from the heavy equipment and vehicles to be used for construction.

The procedures for minimizing such dust generation are addressed in the **AIR QUALITY** section while the requirements for soil remediation are specified in the **WASTE MANAGEMENT** section.

The Applicant has agreed to a Condition of Certification that addresses construction equipment emissions. The measures to mitigate these emissions have been specified in Conditions **AQ-C3**. Since chronic health impacts are usually not expected from equipment emissions within the relatively short construction periods, only acute health effects could be significant with respect to the toxic exhaust emissions of concern in this analysis. Mitigation measures specified in Condition **AQ-C3** are sufficient to reduce these potential acute health effects to insignificance.

Cancer Risks

According to present understanding, cancer from carcinogenic exposure results from biological effects at the molecular level. Such effects are currently assumed possible from every exposure to a carcinogen. Therefore, Energy Commission staff and other regulatory agencies generally consider the likelihood of cancer as more sensitive than the likelihood of non-cancer effects for assessing the environmental acceptability of a source of pollutants. This accounts for the prominence of theoretical cancer risk estimates in the environmental risk assessment process.

For any source of specific concern, the potential risk of cancer is obtained by multiplying the exposure estimate by the potency factors for the individual carcinogens involved. Health experts generally consider a potential cancer risk of one in a million as the *de minimis* level, which is the level below which the related exposure is negligible (meaning that project operation is not expected to result in any increase in cancer). Above this level, further mitigation could be recommended after consideration of issues related to the limitations of the risk assessment process.

ESPR conducted a screening level health risk assessment for the project-related non-criteria pollutants of potential significance. This assessment was conducted according to procedures specified in the 1993 California Air Pollution Control Officer's Association (CAPCOA) guidelines for sources of this type. The screening level assessment uses conservative assumptions to avoid underestimating actual risks. The cancer risk estimates from this analytical approach represent only the upper bound on this risk. The actual risk would likely be much lower. Thus, when a screening level analysis is less than 1 in a million, the potential cancer risk is insignificant and additional, more refined analysis is not warranted.

A risk estimate of 0.94 in a million was calculated for all the project's carcinogens from this screening level analysis. A more refined analysis would likely yield a lower estimate. This screening level estimate suggests that the project's cancer risk would be negligible and is significantly less than the 10 in a million which staff considers as a trigger for recommending mitigation above the applied toxic-best available control technology or T-BACT. This means that the proposed emission controls measures are adequate for the project's operations-related toxic emissions of primary concern in this analysis. This risk estimate is also below both the 1 in a million that SCAQMD considers significant for this type of project and the 10 in a million requiring public notification. (AFC 5.16-1; FSA Public Health, p. 4.7-7.)

Non-cancer Risk

The ESPR health risk assessment also reviewed non-criteria pollutants with respect to non-cancer effects. A chronic hazard index of 0.02 was calculated for the project's non-carcinogenic pollutants considered together. Their acute hazard index was calculated to be 0.01. These indices are well below the levels of potential health significance (hazard index 1.0), indicating that no significant health impacts would likely be associated with the project's non-criteria pollutants. (AFC 5.16-44; FSA Public Health, p. 4.7-7.)

Cumulative Impacts

No significant sources of the toxic pollutants of concern in this analysis are proposed within six miles of project. This means that the project's emissions and existing background concentrations would make up any exposures of a cumulative nature in the immediate project area.

Finding

With the implementation of the Conditions of Certification in other sections of this Decision, the project conforms with applicable laws related to public health, and all potential adverse impacts to public health will be mitigated to insignificance and no Conditions of Certification are issued in this section.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

PUBLIC HEALTH

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Air Act, §109 and 301(a). 42 USC §7401 et seq. and 40 CFR 50	Established air quality standards to protect the public health from exposure to air pollutants.
Clean Air Act §112(g), 42 USC §7412, and 40 CCR 63	Requires review of new or modified sources prior to promulgation of the standard and establishes emissions standards for HAP from specific source types including gas turbines. ESPR will not be a major source of HAP and hence is not subject to these provisions at this time.
STATE	
Health and Safety Code §25249.5 et seq. (Safe Drinking Water and Toxic Enforcement Act -– Proposition 65)	Requires posting of facilities that have chemicals known to cause cancer and public notification of significant risks.
Health and Safety Code §39650-39625	Provides for a special statewide program directed by the ARB to evaluate the risks associated with emissions of chemicals designated as TAC and to develop and mandate methods to control these emissions.
Health and Safety Code §44300 et seq. (Air Toxics "Hot Spots" Information and Assessment Act – AB2588)	Requires facilities that emit listed criteria or toxic pollutants to submit emissions inventories to the local air district. Such facilities may also be required to conduct a health risk assessment.
LOCAL	

SOCIOECONOMICS – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Employment	**None**	**None**	**YES**
	Construction: The construction workforce, peaking at 422 workers and averaging between 200 to 300 workers, is a de minimus percentage of the construction workforce in Los Angeles County; thereby, creating no employment or population impacts. The project will benefit local employment directly. Operation: The permanent operation workforce for the existing power plant complex is 51; only one or two new employees will be required to operate the new project. Even if the new employees come from outside the study area, their small number causes no employment or population impact. *References: AFC p. 5.10-2-4, 16-21; FSA Socioeconomics p. 4.8-5.*		
Housing	**None**	**None**	**YES**
	Construction: Most of the construction workforce, peaking at 422 workers during the 20-month construction period, is expected to commute to the project. There are sufficient housing resources for any non-commuting workers including residential housing, hotels, and motels. Operation: The operation workforce, consisting mostly of existing employees, is expected to commute to the project. There are sufficient housing resources for any new permanent employees to relocate to the project without impacting housing in the study area. References*: AFC p. 5.10-4, 20-22; FSA Socioeconomics p. 4.8-5.*		
Schools	**None**	**None**	**YES**
	Construction: Most of the construction workforce is expected to commute to the project. There would be no impact to the schools in the El Segundo Unified School District. Operation: One to two new families of new fulltime operation employees may move into the project area and enter local schools without causing an impact to existing schools. A one-time school impact fee will be assessed on the project. References: *AFC p. 5.10-5, 23; FSA Socioeconomics p. 4.8-5.*		

Utility/Public Services	**CONDITION**	**None**	**YES**
	Construction: Construction is not expected to create an additional demand for utilities, including landfill disposal or wastewater treatment. Operation: The operation of the power plant is not expected to create an additional demand for public services. **CONDITION:** ☑ The Project Owner shall pay one-time development fees to the City of El Segundo for fire, police and library services. Condition: **SOCIO-1** *References: AFC p. 5.10-6, 7, 22; FSA* Socioeconomics p. 4.8-11,12.		
Economy/ Government Finance	**None**	**None**	**YES**
	Construction: The total construction payroll for the power plant is estimated to be $60 to $65 million. The cost for locally purchased materials and supplies is estimated to be approximately $2 - 3 million. Operation: Operation payroll is approximately $1.6 million per year. Capital cost is $350 - 400 million. The project is expected to provide $2.5 million in local tax revenues. *Reference: AFC p. 5.10-7; FSA* Socioeconomics pp. 4.8-6, 7.		
Environmental Justice	**None**	**None**	**YES**
	Minority/Low Income Population: Within a six-mile study area, revised census data shows the minority population exceeds 60 percent, which is higher than the State average (53.3) but less that the Los Angeles County average (69.0). Low-income (poverty threshold) population is approximately 10.1 percent. Disproportionate Impacts: There are no significant project-related unmitigated adverse environmental or public health impacts. Potential air quality, public health, and hazardous materials handling impacts to the public have been mitigated to less than significant through the Conditions of Certification in this Decision. The location of the project at an existing power plant site causes no significant land use impact. There are no significant cumulative project impacts, nor significant adverse impacts that fall disproportionately upon minority or low-income populations. *Reference: AFC p. 5.10-7, 23, 24; FSA* Socioeconomics p. 4.8-6-11.		

SOCIOECONOMICS – GENERAL

The socioeconomic impact analysis evaluates the potential direct and cumulative project-induced impacts on community services and/or infrastructure including schools, medical and protective services and related community issues such as environmental justice.

Los Angeles County has a very large population and has grown for many years. According to census data, population grew by 1.4 million between 1980 and 1990, and at a slower rate, 600,000 from 1990 to 2000. According to the Southern California Association of Governments forecasts (SCAG), the County population will grow by more than a million residents in each of the next two decades. As relatively central communities that were effectively built out by 1980, population growth rates in El Segundo and Manhattan Beach have been more gradual than that of the County.

Leading industrial categories in Los Angeles County are services, with 33 percent of all jobs, trade with 22 percent of all jobs, manufacturing with 15 percent, and government with 14.5 percent. While construction, at 3.2 percent, does not represent a major proportion, 133,000 workers, including approximately 10,000 workers in heavy construction, and 90,000 in special trades, represents a large substantial labor force for project construction. According to SCAG estimates, Los Angeles County employment grew by 7.5 percent from 1994 to 2000.

While El Segundo only has about 10,000 employed residents, there are approximately 100,000 persons employed in the City. The manufacturing sector responsible for about 70 percent of the jobs. Aerospace and technology firms predominate, but the large Chevron refinery is the most expansive land use in the City. Airport related offices, hotels, and services are also a significant economic factor in El Segundo.

The existing El Segundo Power Plant complex employs 51 people. Businesses and industrial uses near the project site include the Chevron refinery, Los Angeles Department of Water and Power's Scattergood plant, the Hyperion Wastewater Treatment facility, and a service station at Vista Del Mar and 45th.

Employment

Construction will occur over a 20-month period. The peak construction labor requirement for the power plant and associated pipeline is estimated at 422 workers, and is expected to occur during the 11th and 12th months of construction. The number of workers is expected to exceed 300 workers for eight months and exceed 200 workers for a 13-month period, months four through 16 of the process. The primary task for the first 4 to 6 months would be the demolition of elements of the existing plant that will be replaced.

Los Angeles County has a large construction labor force with an ongoing demand for their services, including major public works and private projects. As a result, there is a supply of workers in the trades required to construct the plant. Employment of up to 422 construction workers at the site would not result in any problems with labor availability for other construction projects.

The permanent employment associated with the proposed project (53 workers) would include two additional employees. This will not have a significant impact on the Los Angeles County labor force. (AFC p 5.10-16; FSA Socioeconomics p. 4.8-5.)

Housing

As of January 2000, Los Angeles County had 3,272,000 housing units, including 180,000 vacant units, a 5.5 percent vacancy factor. El Segundo had a housing stock of 7,362 units, and a 5.8 percent vacancy rate. Of the El Segundo housing stock, 47 percent were single-family units, 12 percent were in buildings with two-four units, and 41 percent were in buildings with five or more units. Manhattan Beach had 15,293 units in January 2000, including 74 percent single-family units. Vacancy rate was 4.8 percent. Neither El Segundo nor Manhattan Beach has a significant supply of mobile homes. According to 1990 estimates, El Segundo had an inventory of 1,400 hotel and motel rooms (El Segundo General Plan, page 2-10).

As stated previously, construction of the proposed project is not expected to result in workers moving to the area for construction or permanent jobs. However, if for some reason a few workers did temporarily relocate, there was a housing vacancy rate of 4 to 6 percent in El Segundo, Hawthorne, and other nearby cities in 2000. Los Angeles County is also a dynamic community with constant movement and relocation of population, so there is a turnover of housing supply on a constant basis. Construction of the project will not cause any significant impact on housing.

Of the employees needed for operation of the project, it is estimated that virtually all of the plant's workers would commute from within the study area. Any employees hired from outside the study area would likely relocate to within a one-hour commuting distance of the project site. Such relocation would not create a significant impact on available housing within the study area. (AFC p. 5.10-4, 20-22; FSA Socioeconomics pp. 4.8-7, 8.)

Schools

The El Segundo Unified School District provides K-12 education for the community. The closest school is El Segundo High School, at 640 Main Street, approximately one-mile northeast of the project site. Elementary and middle schools are about 1.5 miles from the site. Manhattan Beach has a separate school district, as do many of the surrounding communities.

Temporary workers are not expected to move to and/or bring families to El Segundo or nearby communities during the construction period. Thus, there is not expected to be any impact on the need for school facilities. One-time school impact fees may be assessed once plans are submitted to the El Segundo Building Department. (AFC p. 5.10-27; FSA Socioeconomics p. 4.8-5)

Utility/Public Services

Southern California Gas provides natural gas to the project site, and the new plant will replace an existing plant. No expansion of the natural gas service to the site will be necessary. Southern California Edison provides electricity to the site and community. The primary local telephone provider is SBC.

The City of El Segundo provides water and sewer service within the City limits, and will provide potable water to the project. Sanitary sewer discharge from the existing plant is to the sewer system operated by the City of Manhattan Beach. Reclaimed water will be acquired from the West Basin Municipal Water District, and the Applicant will continue to use cooling water from Santa Monica Bay through the existing intake structure servicing the site.

Fire protection is provided by the El Segundo Fire Department, which has 54 firefighters and paramedics operating from two fire stations. The closest station, # 1, normally has 10 staff on duty per shift. Response time to the site is approximately three to five minutes. With a major refinery in town, the El Segundo Fire Department has an environmental safety division that coordinates with local industries to develop emergency response plans. Manhattan Beach Fire Department is also available via mutual assistance.

Police protection is provided by the El Segundo Police Department, with 69 authorized sworn officers plus support staff. On-duty patrol staff ranges from three to eight officers. Response time to the project site is under four minutes. The Manhattan Beach Police Department is of comparable size and will provide mutual aid if required.

The closest hospital with full emergency services is the Robert F. Kennedy Medical Center in Hawthorne, approximately four miles northeast of the site. There are industrial medical clinics in El Segundo and several other medical centers five to 10 miles from the project site.

CONDITION:

- ☑ The Project Owner shall pay one-time development fees to the City of El Segundo for fire, police, school, and library services. Condition: **SOCIO-1.**

Economy/Government Finance

The existing El Segundo Generating Station is a significant fiscal factor for the City of El Segundo, paying both property taxes and natural gas franchise fees that are substantial revenue sources for the City. According to estimated value, the current plant pays approximately $1 million annually in property taxes, of which the largest amount (48 percent) goes to schools and colleges, 12 percent goes to the County general fund and approximately nine percent, or $90,000 would go to the City of El Segundo. Annual natural gas franchise or usage fees are also paid to the City.

Construction of the proposed project will generate one-time sales tax receipts. Because the majority of supplies and equipment will be purchased outside of the City of El Segundo and Los Angeles and Orange Counties, limited local sales tax will be generated by the project. According to the Applicant's estimates, about $2 to 3 million worth of material and equipment would be purchased locally. Construction payroll is estimated to be about $60 to 65 million. On-going operational payroll is projected at approximately $1.6 million (AFC, page 5.10-21). Thus, the project will result in both one-time and ongoing economic benefits to local governments and businesses.

The assessed value of the redeveloped El Segundo Generating Station is estimated to be $350-400 million. Based on the expectation that approximately $250 million of improvements will represent net gain in assessable value (subtracting old elements that will be removed), the City of El Segundo will receive $227,000 annually in additional property tax revenue. The County General Fund would receive $300,000, and the Schools will receive $1.2 million additional. Franchise fees to El Segundo for natural gas would increase by some unknown amount, depending on the rate and the proportion of time the new units are on-line, which is expected to be higher than for the current units.

Under a law recently signed by the Governor, AB 81, the responsibility for property tax assessment of the ESPR property and other large power plant properties will shift from the County Assessor to the State Board of Equalization by making them "state assessed properties." This will require annual reassessment at fair market value, and provide that property tax collected be distributed exclusively to the taxing jurisdictions within the Tax Rate Area in which the facility is located. (AFC p. 5.10-7; FSA Socioeconomics p. 4.8-6, 7.)

Property Values

Intervenors Murphy/Perkins and the City of Manhattan Beach contend that the project will adversely affect local property values. Intervenor Michelle Murphy requested two Commission staff witnesses to testify on Socioeconomics and asked on cross-examination whether there is a correlation between property values and the degree of pollution in that neighborhood. Staff testified that studies show that one factor, such as air pollution alone, does not solely affect property values. Rather, property vales are affected by cumulative effect of such issues as proximity to schools, and neighborhood amenities, as well as air quality. (RT 2/20/03 24:4-30:6.)

The Commission finds that this Decision fully mitigates any potential impacts of the project, which combined with Staff's testimony, leads us to conclude that the project will not have an adverse effect on local property values. Thus, no mitigation in the form of compensation, or otherwise, is appropriate for this project.

Environmental Justice

Presidential Executive Order 12898, entitled "Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The order requires the US Environmental Protection Agency (EPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

For all siting cases, the Energy Commission follows the U.S. Environmental Protection Agency's guidance in conducting a two-step environmental justice analysis. The analysis assesses:

- Whether the population in the area potentially affected by the proposed project is more than 50 percent minority and/or low-income, or has a minority or low-income population percentage that is meaningfully greater than the percent of minority or low income in the general population, or other appropriate unit of geographic analysis; and
- Whether significant environmental impacts are likely to fall disproportionately on the minority and/or low-income population.

Commission staff determined the affected area for this environmental justice analysis to be the area within a six-mile radius of the proposed project site. This area corresponds to the area analyzed for potential air quality and public health impacts.

Updated census block data were reviewed to assess the demographic profile within that six-mile radius of the proposed power plant site. On the basis of this data, the area within that six-mile radius is 60.9 percent minority population.

Federal guidance does not give a percentage of population threshold to determine when a low-income population becomes recognized for an environmental justice analysis. The Energy Commission uses the same greater than 50 percent threshold that is used for minority populations, as well as a "meaningfully greater" percentage population. Staff found only 10.1 percent of the population below the poverty level in local census tracts.

However, even though low-income and minority populations exist in the area around the proposed project, this Decision finds there are no identified significant, project-related, unmitigated adverse human health or environmental effects. Therefore, no significant adverse impacts to minority or low-income populations are expected to occur. The **AIR QUALITY, PUBLIC HEALTH** and **HAZARDOUS MATERIALS** sections of this Decision indicate that potential risks to all segments the public can be mitigated to a less-than-significant level through use of minimized hazardous materials, engineering controls, operational controls, administrative controls, and emergency response planning. Additionally, no significant adverse cumulative impacts are associated with the proposed power plant project. Therefore, no significant adverse cumulative impacts to minority or low-income populations are expected. (AFC p. 5.10-7, 23, 24; FSA Socioeconomics pp. 4.8-6-11.)

Ladera Heights
Windsor Hills
Marina del Rey
Del Aire
El Segundo
Power Project
Legend
El Segundo Power Project
Cities
U.S. Highway / State Route
Railroads
Counties
Six Mile Buffer
Census 2000
% People of Color by Census Block
0 - 24.9%
25.0% - 49.9%
50.0% - 74.9%
75.0% -100%
Torrance
Clifton
Six Mile Radius

Cumulative Impacts

Los Angeles County is an area that has a relatively high level of development of public and private projects, including highway projects, new commercial development, and new residential development. There are on-going projects that would occur concurrently with the El Segundo Power Redevelopment Project. The only potential impact from a cumulative socioeconomic point of view could be a possible shortage of workers in some trades, thus creating an influx of new population. This new population could have impacts on housing and schools. However, because of the size of the County and the construction labor force, no cumulative impacts are anticipated.

Similarly, there were no cumulative impacts identified from operation of the proposed project, as most permanent project personnel will be hired from the area and would not likely relocate. Consequently, no significant cumulative impacts on the socioeconomics of the study area are anticipated to occur due to operation. (AFC p. 5.10-24; FSA Socioeconomics p. 4.8-12.)

Findings

The El Segundo Power Redevelopment Project would not cause a significant adverse direct or cumulative impact on housing, employment, schools, public services or utilities. The project would have a temporary benefit to the City of El Segundo and adjacent areas in terms of an increase in local jobs and commercial activity during the construction of the facility. The construction payroll and project expenditures would also have a positive effect on local and County economies. The estimated benefits from the project include increases in the affected area's property and sales taxes, employment, and sales of services, manufactured goods, and equipment. Overall, the project will have a positive socioeconomic impact on the El Segundo area.

The project conforms to applicable laws related to socioeconomic matters and all potential socioeconomic impacts will be insignificant.

CONDITIONS OF CERTIFICATION

SOCIO-1 Prior to the start of commercial operations, the project owner shall pay the City of El Segundo the following one-time fees:

- Police service mitigation fee of $0.11 per gross square foot of building area;
- Fire service mitigation fee of $0.14 per gross square foot of building area;
- Library service mitigation fee of $0.03 per gross square foot of building area;
- Traffic mitigation fee for new development, in an amount to be determined by the City of El Segundo Public Works Director upon receipt of a Traffic Mitigation Fee Determination Form.

The gross square foot of building area and the amount of the one-time fees shall be determined by the City of El Segundo at the time the project owner submits the site plans.

Verification: Prior to the start of commercial operation, the project owner shall submit verification to the CPM that payment of any required public service mitigation fees have been submitted to the City of El Segundo. The project owner shall provide proof of payment of the Traffic Mitigation Fee in the next Monthly Compliance Report following payment.

NOTE: The Applicant and the City of El Segundo have reached a side agreement for the Applicant to perform the following analysis and request the Commission's inclusion of the agreement as a Condition of Certification.

SOCIO-2 Prior to any ground disturbance activities, the project owner shall prepare a fiscal impact analysis for the project that includes analysis of the actual revenues and costs associated with the project. The revenue analysis shall include an analysis of the total property tax, franchise tax, utility user tax, sales and use tax, business license fees, building permit fees, and other revenues generated by the facility as identified in the City of El Segundo's Fiscal Impact Model. The cost analysis shall include a discussion of the cost to City services (i.e., police, fire, public works) for ongoing service to the project. The fiscal impact analysis shall compare the revenue and costs over a minimum period of five years following the start of commercial operations.

Verification: At least 30 days prior to any ground disturbance activities, the project owner shall transmit the analysis to the City of El Segundo for review and comment and to the Energy Commission Compliance Project Manager (CPM) for review and approval.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

SOCIOECONOMICS

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Executive Order 12898	Executive Order 12898, "Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The Order requires the US Environmental Protection Agency (EPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.
STATE	
California Government Code sec. 65995-65997	Includes provisions for levies against development projects in school districts. The local Unified School District will implement school impact fees based on new building square footage.
LOCAL	
City of El Segundo	Development impact fees for fire, police, and library services, based upon gross square footage of the development project.

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TRAFFIC & TRANSPORTATION – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Congestion	**MITIGATION**	**MITIGATION**	**YES**
	Construction: Commuting construction workers, estimated to peak at 422 workers, but average 200 - 300 over the 20-month construction period, will add to existing congestion on some local streets. Construction workers will park at dispersed off-site lots and be bussed to the site. Truck deliveries of construction equipment and supplies, mostly during non-commute hours and also from dispersed staging areas, is estimated to peak at 29 deliveries per day during the peak months, which is within the design limits of the Interstate freeways and local streets. Construction of three in-street pipelines could create temporary traffic congestion, which can be mitigated by traffic control measures. A potential cumulative traffic impact could arise from the simultaneous construction of the project and other projects in the vicinity. **MITIGATION:** ☑ The Project Owner shall develop an off-site construction worker parking and materials staging plan. Condition: **TRANS-4** ☑ The Project Owner's shall prepare a Traffic Control Plan to assure that added peak commute traffic and in-street pipeline construction does not create unacceptable congestion impacts. To achieve this goal, the Project Owner will stagger arrival and departure times, minimize lane closures and use traffic control, and assure access to residences and businesses during pipeline construction. Condition: **TRANS-5**. Operation: Since the project replaces an existing power plant, the Project Owner expects no significant added truck deliveries for materials associated with this project's operation. Two new permanent operating employees will be added for the project. Neither operation deliveries nor commuting will impact traffic on local streets or Interstate freeways. *References: AFC p. 5.11-3-6; 10-13, 15; FSA Traffic & Transportation pp. 4.9-11-16.*		

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Safety	**MITIGATION**	**None**	**YES**
	Construction: Construction will require the use of large vehicles, occasionally including oversize or overweight trucks. Additionally, there will be deliveries to both the power plant site and the pipeline sites of hazardous construction substances, such as gasoline, diesel fuel, oils, solvents, cleaners, paints, etc. **MITIGATION:** ☑ Caltrans permits control vehicle size and weight. Condition: **TRANS-1**. ☑ California Highway Patrol and Caltrans permits control transport of hazardous substances. Condition: **TRANS-3**. ☑ Encroachment permits shall be obtained and construction-impacted roadways will be restored to their pre-construction condition. Condition: **TRANS-2** and **TRANS-7**. Operation: There will be no significant added truck deliveries to the power plant site of hazardous materials, such as sulfuric acid, sodium hypochlorite, sodium hydroxide, gasoline, etc. Deliveries of hazardous materials will be over pre-arranged routes selected for their safety features, including the absence of obstructions and curves, and minimal railroad traffic. Aqueous ammonia will be delivered by pipeline; if the pipeline is temporarily out of service, deliveries will be made by truck. **MITIGATION:** ☑ Hazardous materials haulers must be specially licensed by the California Highway Patrol. Condition: **TRANS-3;** See also **HAZARDOUS MATERIALS** section. References: AFC p. 5.11-11-15; FSA Traffic & Transportation, pp. 4.9-9-16.		
Parking	**MITIGATION**	**None**	**YES**
	Construction: Off-site parking is necessary for construction workers due to the limited space at the power plant site. **MITIGATION:** ☑ The Project Owner shall develop an off-site construction worker parking and materials staging plan. Condition: **TRANS-4** Operation: Adequate on-site parking is available for power plant personnel. *Reference: AFC p. 5.11-11-14; FSA Traffic & Transportation, pp. 4.9-12.*		

TRAFFIC – GENERAL

The construction of the power plant causes additional trips by construction workers and delivery trucks to and from the site, increasing daily traffic volumes on the freeways and local

streets. The potential impact of the project is measured by the LOS (Level of Service) of the surrounding roadway segment based upon average daily traffic volume. LOS is measured in a range from LOS A to LOS F. A LOS of A refers to little or no congestion, whereas LOS F is heavy congestion with significant delays and significantly reduced travel speeds. (AFC p. 5.11-3; FSA Traffic & Transportation, p. 4.9-9.)

Congestion

Construction:

Since the project site, itself, cannot accommodate construction workers and the laydown of materials and equipment, the Applicant proposes multiple off-site parking and laydown areas in the surrounding area. Construction workers will be bussed from parking lots located at the Fed Ex site, the Los Angeles International Airport Pershing site, and County/State Beaches located north of the project. The following locations may be used as laydown staging areas:

- Kramer – This area (site 1) may be used for storage of equipment to be installed in ESPR, and is located approximately 2.2 miles east of the ESGS.
- FedEx – This area (site 2) may be used for storage of equipment to be installed in ESPR. It is located approximately 2.5 miles northeast of the ESGS.
- LAX Pershing – This area (site 3) may be used for storage of equipment to be installed in ESPR. It is located approximately 1.8 miles north of the ESGS.
- Chevron Marine Terminal – This area (site 8) may be used for storage of equipment to be installed in ESPR and is immediately north of the ESGS.

Commuting Workers

The 20-month construction phase of the project will require a peak workforce of approximately 422 workers per day. An estimate of the number of daily trips by construction workers is based upon a worst-case assumption that all workers will drive alone (i.e., no carpooling assumed, no public transit use) to/from the off-site parking lots during peak hours, which would result in 844 employee commute trips. The average workforce is expected to be between 200 - 300 workers.

The preferred commuting route will depend on the residence location of construction workers. Based upon the overall population distribution in the greater Los Angeles area, the Applicant assumed that 50% of the project construction workforce will be commuting from the east, 20% from north of LAX airport, 25% from areas to the south, and 5% from local areas (i.e., El Segundo).

The those intersections or roadways which have either a pre-existing LOS F, or which become LOS F during either the morning or evening commute hours with the addition of project traffic are shown above. The intersections of Sepulveda Boulevard at El Segundo Boulevard and Vista Del Mar at Rosecrans Avenue drop from LOS E to LOS F during the morning and evening peak traffic, respectively, under both the LAX/Pershing and County/State Beach parking location scenarios with the addition of project-related trips.

No other study intersections or roadway segments are significantly impacted (i.e. cause a location to be worse than relevant standard) by the project under existing plus project conditions with each parking site scenario. To minimize the effect of traffic on the local roadways, the Applicant proposes to develop a traffic control plan (TCP).

When operational, the project is expected to add two additional full-time employees above the current operations employee levels. This increase in staffing represents an insignificant increase in traffic levels as a result of the on-going operation the power plant. (AFC p. 3-6; 10-13; FSA Traffic & Transportation p. 4.9-10, 11, 15.)

Truck Traffic

During construction, truck deliveries of heavy equipment, construction materials (such as concrete, wire, pipe, cable, fuel, etc.), consumables and miscellaneous items are expected to occur between 6:00 AM and 6:00 PM, but generally not during peak commute hours. At the peak month of construction (month 6), 29 delivery trucks per day are expected to access the project site. This averages approximately 3 trips per hour. The addition of 3 trucks will represent a negligible increase in traffic volumes along proposed routes of travel. The proposed designated truck routes for the project include Interstates 405 (I-405) for trucks traveling north or south and 105 (I-105) for those truck trips originating east of the project.

Trucks using I-405 would exit on to I-105 traveling west. From I-105, all truck traffic would follow the same route. Truck traffic would exit I-105 on to Imperial Highway. The trucks would then proceed west on Imperial Highway and south via Vista Del Mar to the project entrance. (AFC 5.11-11-13; FSA Traffic & Transportation p. 4.9-11, 15.)

Port/Rail/Truck Activity

The Applicant has indicated that heavy equipment would be transported to the area by rail or ship. Both rail service and port facilities are available in the area for the Applicant to use. However, neither of these facilities would allow for shipment directly to the plant site. Therefore, this equipment will still need to be offloaded at either the rail terminal or port facility and be placed on trucks for final delivery to the plant site. These trucks will be required to obtain the necessary oversize and heavy haul trip permits from the California Department of Transportation (Caltrans) and other relevant jurisdictions. (FSA Traffic & Transportation p. 4.9-11, 15.)

New Pipeline Construction

The project will require the construction of new water, sewer, and ammonia pipelines which, by being buried beneath certain streets, will temporarily affect traffic flows. No additional electricity transmission lines or natural gas lines will be needed as a result of the project. The existing transmission lines and adjacent switchyard will be used. Existing gas lines have sufficient capacity for total plant operation. Connections to the existing natural gas lines already exist for Units 1 and 2, and no off-site upgrades are needed. The workforce for the project site will also be involved in new pipeline (i.e. water, sewer and ammonia pipelines) construction, so the number of workers and vehicle trips will not increase above the current worst case estimate.

Water Pipelines

Construction of new potable and reclaimed water supply lines are proposed for the project. These supply lines will begin at the intersection of Eucalyptus Drive and El Segundo Boulevard. The pipeline will be installed in a common trench that will extend approximately 1.5 miles, routed west along El Segundo Boulevard, north on Richmond Street, west on Grand Avenue, and south on Vista Del Mar. Immediately north of the project site, the new water supply pipelines will be routed under Vista Del Mar at an overpass currently used by the adjacent Chevron Refinery for routing pipe. Construction of these water pipelines will take place within the street right-of-way and temporarily affect traffic flow.

Effluent Water Discharge Line

A proposed sanitary waste pipeline will begin on the project property, be routed to the southern project boundary, and then extend for approximately 200 feet to an existing manhole at the intersection of The Strand and 45th Street in the City of Manhattan Beach. Construction of the pipeline will take place within the street right-of way and temporarily impact traffic flow.

To ensure that the effects of pipeline construction activity are not significant, the Applicant will develop a traffic control plan. Pipeline construction traffic mitigation measures should include but not be limited to:

- Advance notice to affected property owners;
- Coordination with business(es) requiring heavy daily truck traffic;
- For multi-lane roadways, at least one lane will remain open in each direction;
- Lower speed limits through the construction/work zones;
- Adequate signing and appropriate traffic control devices;
- Adequate illumination on the work zone at night or during inclement weather.
- Construction work limitations to off-peak or evening hours;
- Temporary pedestrian walkways, if needed;
- Restoration of roadways to original condition.

Aqueous Ammonia Pipeline

A proposed pipeline carrying aqueous ammonia will begin at a junction in the Chevron Refinery and be routed for approximately 0.5 miles to the north boundary under Vista Del Mar via the underpass currently used by the Chevron Refinery to route pipelines. The pipeline will be routed under Vista Del Mar just north of the power plant complex. This pipeline will be added to others in an existing trench, which functions somewhat like a road underpass. Traffic on Vista Del Mar will not be affected. The pipeline will then be routed south along an existing retaining wall to the aqueous ammonia storage tank. (AFC p. 5.11-14; FSA Traffic & Transportation, pp. 4.9-13-15.)

MITIGATION:

☑ The Project Owner shall develop an off-site construction worker parking and materials staging plan. Condition: **TRANS-4**.

☑ The Project Owner shall prepare a Traffic Control Plan to assure that added peak commute traffic and in-street pipeline construction does not create unacceptable congestion impacts. To achieve this goal, the Project Owner will stagger arrival and departure times, minimize lane closures and use traffic control, and assure access to residences and businesses during pipeline construction. Condition: **TRANS-5**.

Power Plant Operation: The proposed project is expected to add two new full-time employees above the current operations employee levels. This increase in staff represents an insignificant increase in traffic levels as a result of the on-going operation the power plant.

Deliveries to the project site are expected for on-going operation of the plant. The incremental change in the number of delivery trips to the plant site is expected to be nominal and will generally occur during non-commute periods. Therefore, the resulting LOS on local roadways would remain unchanged from the existing LOS.

The transportation and handling of hazardous substances associated with the project can increase roadway hazard potential. Aqueous ammonia will be supplied via the new pipeline from the nearby Chevron Refinery, instead of being delivered by truck. If the aqueous ammonia pipeline is temporarily out of service, deliveries will be made by truck. Potential impacts from the delivery of other hazardous material to the project by truck can be mitigated to insignificance by compliance with Federal and State standards established to regulate the transportation of Hazardous Substances (see Condition of Certification **TRANS-3**).

The California Department of Motor Vehicles specifically licenses all drivers who carry hazardous materials. Drivers are also required to check for weight limits and conduct periodic brake inspections. Commercial truck operators handling hazardous materials are also required to take instruction in first aid and procedures on handling hazardous waste spills. Drivers transporting hazardous waste are required to carry a manifest, which is available for review by the California Highway Patrol at inspection stations along major highways and interstates.

The California Vehicle Code and the Streets and Highways Code (Sections 31600 through 34510) are equally important to ensure that the transportation and handling of hazardous materials are done in a manner that protects public safety. Enforcement of these statutes is under the jurisdiction of the California Highway Patrol.

The handling and disposal of hazardous substances are also addressed in the **HAZARDOUS MATERIALS** and **WASTE MANAGEMENT** sections. (AFC p. 5.11-15; FSA Traffic & Transportation, p. 4.9-11, 15, 16.)

Safety

Construction: Construction will require the use of large vehicles, occasionally including oversize or overweight trucks. Additionally, there will be deliveries to the power plant site of hazardous construction substances, such as gasoline, diesel fuel, oils, solvents, cleaners, paints, etc. (AFC p. 5.11-14; FSA Traffic & Transportation, p. 4.9-11.)

MITIGATION:

- ☑ Caltrans permits control vehicle size and weight. Condition: **TRANS-1**.
- ☑ California Highway Patrol and Caltrans permits control transport of hazardous substances. Condition: **TRANS-3**.
- ☑ Encroachment permits shall be obtained and construction-impacted roadways will be restored to their pre-construction condition. Condition: **TRANS-2** and **TRANS-7**.

Operation: There will be truck deliveries to the power plant site of hazardous materials, such as sulfuric acid, sodium hypochlorite, sodium hydroxide, gasoline, etc. If the aqueous ammonia pipeline is temporarily out of service, deliveries will be made by truck. Deliveries of hazardous materials will be over pre-arranged routes selected for their safety features, including the absence of obstructions and curves, and minimal railroad traffic. (AFC p. 5.11-15; FSA Traffic & Transportation, p. 4.9-15, 16.)

MITIGATION:

- ☑ Hazardous materials haulers must be specially licensed by the California Highway Patrol. Condition: **TRANS–2** (See also **HAZARDOUS MATERIALS** section.)

Parking

Construction: The size of the construction workforce will require the workers to park in designated off-site areas with shuttle service provided to and from the project site. The traffic

impact evaluation assumes that the construction employee parking will be at one or more of the following locations:

- Fed Ex site (northeast El Segundo);
- LAX Pershing site (west portion of the LAX property); and
- County/State Beach area (Hyperion, Grand Avenue, Dockweiler, and /or Marina del Rey located along the coast north of the project).

The Applicant is working with the County of Los Angeles to determine if some of the beach parking lots located north of the project site can be used to accommodate construction parking. The County has an obligation to give priority for public beach access, but does have a procedure for processing parking requests. The County will review the request for use of the beach parking lots and may grant access to one or more lots if the project parking does not compromise access to the beach. The Applicant is also pursuing other off-site parking options in addition to the beach parking lots. No matter which parking lots are selected, the Applicant will ensure that the workforce uses these lots, and it will provide shuttle service for the workers between the remote parking lots and the project site (see condition of certification **TRANS-4**). Therefore, there is no impact. (FSA Traffic & Transportation, p. 4.9-12.)

The Applicant agrees not to use unspecified open space or other commercial parking lots for construction worker parking for the project.

MITIGATION:

☑ The Project Owner shall develop an off-site construction worker parking and materials staging plan. Condition: **TRANS-4.**

Operation: Adequate on-site parking is available for the two new power plant personnel.

Cumulative Impacts

Potentially, development projects in the LAX, El Segundo and Manhattan Beach area could create a cumulative traffic impact if combined with project traffic. The list of projects included in Table 5.20-1 of the AFC represents transportation projects located within a five-mile radius of the project site, a one-mile radius of proposed pipelines, and projects of potential regional significance.

Energy Commission staff reviewed the traffic volume from all cumulative projects, plus the power plant project and determined there would likely be increases in the congestion levels on area roadways and intersections. However, the construction schedules for these projects may not overlap with this project construction schedule. The impacts associated with the construction phase of the power plant project are short-term and the operational phase impacts will be insignificant due to the slight increase in employees (i.e., 2 new full-time employees) above current conditions, thus no significant impacts are expected under cumulative conditions. (AFC p. 5.11-16; FSA Traffic & Transportation, p. 4.9-16, 17.)

Findings

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to traffic and transportation and all potential adverse traffic and transportation impacts will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

OVERWEIGHT & OVERSIZE VEHICLES

TRANS-1 The project owner shall comply with Caltrans and other relevant jurisdictions limitations on vehicle sizes and weights. 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, the project owner shall submit copies of any permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

ENCROACHMENT PERMITS

TRANS-2 The project owner or its contractor shall comply with Caltrans and other relevant jurisdictions limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

Verification: In Monthly Compliance Reports, the project owner shall submit copies of permits received during the reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

LICENSED HAZARDOUS MATERIALS HAULERS

TRANS-3 The project owner shall ensure that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of hazardous materials.

Verification: The project owner shall include in its Monthly Compliance Reports, copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous substances.

OFF-SITE PARKING AND STAGING PLAN

TRANS-4 During construction of the power plant and all related facilities, the project shall develop a parking and staging plan for all phases of project construction to enforce a policy that all project-related parking occurs on-site or in designated off-site parking areas.

Verification: At least 60 days prior to start of site mobilization, the project owner shall submit the plan to the City of El Segundo and other jurisdictions affected by site selection, such as the City and/or County of Los Angeles for review and comment, and to the CPM for review and approval.

TRAFFIC CONTROL PLAN

TRANS-5 The project owner shall consult with the Cities of El Segundo, Manhattan Beach and Los Angeles, and prepare and submit to the CPM for approval a construction traffic control plan and implementation program which addresses the following issues:

- Timing of heavy equipment and building materials deliveries;
- Redirecting construction traffic with a flag person;
- Signing, lighting, and traffic control device placement if required;
- Need for construction work hours and arrival/departure times outside of peak traffic periods;
- Ensure access for emergency vehicles to the project site;
- Temporary travel lane closure;
- Access to adjacent residential and commercial property during the construction of all pipelines;
- Specify construction related haul routes; and
- Identify safety procedures for exiting and entering the site access gate.

Verification: At least 30 days prior to site mobilization, the project owner shall provide to the CPM a copy of the referenced documents.

AIRCRAFT HAZARD MARKINGS

TRANS-6 The HRSG stacks shall have all the lighting and marking required by the Federal Aviation Authority (FAA) so that the stacks do not create a hazard to air navigation. The project owner shall submit to the FAA Form 7460-1, Notice of Proposed Construction or Alteration and supporting documents on how the project plans to comply with stack lighting and marking requirements imposed by the FAA.

Verification: At least 30 days prior to the start of construction, the project owner shall provide copies of the FAA Form 7460-1 with copies of the FAA response to Form 7460-1, to the CPM and the City of El Segundo Planning Department.

ROADWAY REPAIRS

TRANS-7 Following completion of project construction, the project owner shall repair any damage to the segment of Vista Del Mar and other roadways affected by construction activity along with the primary roadways identified in the traffic control plan for construction traffic to the road's pre-project construction condition.

Prior to the start of construction, the project owner shall photograph, videotape or digitally record images of Vista Del Mar and the roadways that will be affected by pipeline construction and heavy construction traffic. The project owner shall provide the Compliance Project Manager (CPM), and the Cities of El Segundo, Manhattan Beach and Los Angeles with a copy of the images for the roadway segments under their jurisdiction. Also prior to start of construction, the project owner shall notify those cities about the schedule for project construction. The purpose of this notification is to postpone any planned roadway resurfacing and/or improvement projects until after the

project construction has taken place and to coordinate construction related activities associated with other projects.

Verification: Within 30 days after completion of the redevelopment project, the project owner shall meet with the CPM and the Cities of El Segundo, Manhattan Beach, and Los Angeles to determine and receive approval for the actions necessary and schedule to complete the repair of identified sections of public roadways to original or as near original condition as possible. Following completion of any regional road improvements, the project owner shall provide to the CPM a letter from the Cities of El Segundo, Manhattan Beach and Los Angeles if work occurred within their jurisdictional public right of way stating their satisfaction with the road improvements.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRAFFIC & TRANSPORTATION

APPLICABLE LAW	DESCRIPTION
FEDERAL	
49 CFR §171-177	Governs the transportation of hazardous materials, including the marking of the transportation vehicles.
14 CFR §77.13(2)(i)	Requires Applicant to notify FAA of any construction greater than an imaginary surface as defined by the FAA.
14 CFR 77.17	Requires Applicant to submit Form 7460-1 to the FAA. ESPR has received approval.
14 CFR §§77.21, 77.23 & 77.25	Regulations that outline the obstruction standards which the FAA uses to determine whether an air navigation conflict exists.
STATE	
California State Planning Law, Government Code §65302	Requires each city and county to adopt a General Plan consisting of seven mandatory elements to guide its physical development, including a circulation element.
CA Vehicle Code §35780	Requires approval for a permit to transport oversized or excessive load over state highways.
CA Vehicle Code §31303	Requires transporters of hazardous materials to use the shortest route possible.
CA Vehicle Code §32105	Transporters of inhalation hazardous materials or explosive materials must obtain a Hazardous Materials Transportation License.
California Department of Transportation Traffic Manual, Section 5-1.1	Requires Traffic Control Plans to ensure continuity of traffic during roadway construction.
Streets and Highways Code, Division 2, Chapter 5.5, Sections 1460-1470	Requires Encroachment Permits for excavations in city streets.

LOCAL	
City of El Segundo, Municipal Code	Establishes requirements for the movement of heavy vehicles, designation of truck routes, and construction within public streets.
City of El Segundo, General Plan, Circulation Element	Establishes LOS "D" or better for traffic within the City and requires mitigation of project-related traffic impacts.
City of Manhattan Beach, Municipal Code	Establishes requirements for the movement of heavy vehicles, designation of truck routes, and construction within public streets.
Los Angeles County Regional Transportation Plan	Establishes transportation and congestion goals for the County..

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VISUAL RESOURCES – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Objectionable Appearance	**MITIGATION**	**None**	**YES**
	Construction: Construction equipment at the power plant site will have a temporary, and thus insignificant, visual impact. Operation: The proposed project is located entirely within ESGS, an existing power plant adjacent to a recreational beach use area. Project appearance must be carefully designed to minimize impacts. **MITIGATION:** ☑ The Project Owner shall complete and implement a comprehensive visual enhancement plan. Condition: **VIS-1.** ☑ The Project Owner shall paint or treat components to minimize impacts. Condition: **VIS-5.** ☑ The Project Owner shall install architectural screening. Condition: **VIS-4.** ☑ The Project Owner shall construct the proposed seawall with architectural design treatment. Condition: **VIS-3.** *References: AFC p. 6.5-1-3; FSA pp. 4.11-28*		
View Blockage	**None**	**None**	**YES**
	The new power plant will not block more scenic features than the existing units 1 and 2. Exhaust stack height is being lowered, thus providing an enhancement. Perimeter landscaping along Vista Del Mar Avenue, however, could potentially block scenic views of the coast and ocean, if not properly designed. **MITIGATION:** ☑ The Project Owner shall complete and implement an approved perimeter screening and on-site landscape plan that will provide screening of the facility while preserving view corridors to the ocean. Condition: **VIS-2.** *References: FSA p. 4.11-21-28.*		
Scenic Designation	**None**	**None**	**YES**
	There are no scenic designations related to the project viewshed.		

Lighting	**MITIGATION**	**None**	**YES**
	Construction: Limited construction during nighttime hours will require lighting, which will be temporary, and thus insignificant. Removal of the Fuel Oil Storage tanks could result in increased light exposure from units 3 and 4 to the south. Operation: Power plant lighting could cause nighttime visual impacts, unless mitigated by designing hooded or shielded lighting consistent with worker safety. **MITIGATION**: ☑ The Project Owner shall design and install project lighting to minimize visibility from public viewing areas and to minimize illumination of the vicinity and the nighttime sky. Condition: **VIS-6.** ☑ Project Owner shall ensure construction lighting minimizes night lighting impacts. Condition: **VIS-8.** ☑ Project owner shall modify unit 3 and 4 lighting Condition: **VIS-7.** *References: AFC p. 6.5-4; FSA pp.* 4.11-17.		
Visible Plume	**Insignificant**	**Insignificant**	**YES**
	Visible plumes from exhaust stacks are not expected to be notably different in character and frequency from existing plumes. *Reference: AFC p. 6.5-4; FSA Visual Res., pp. 4.11-18.*		

VISUAL RESOURCES - GENERAL

Visual resources analysis has an inherent subjective aspect. However, the use of generally accepted criteria for determining impact significance and a clearly described analytical approach aid in developing an analysis that can be readily understood.

The CEQA Guidelines define a "significant effect" on the environment to mean a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including . . . objects of historic or aesthetic significance (Cal. Code Regs. tit.14, § 15382).

Agreed-to Conditions

Over the course of more than two years, the parties involved in this proceeding and many other interested constituents met, debated, and ultimately agreed upon a project description and a set of conditions of certification that resolved issues. The result was stipulated testimony that contained significant harmony with a few dissenting views. No party to the proceeding provided testimony that opposed the Conditions of Certification proposed by the parties.

However, several Intervenors expressed concerns over landscaping details in their initial written testimony. CEC staff proposed in its rebuttal written testimony changes to **VIS-2**,

most notably the establishment of a Landscape Committee. The Commission believes that all parties agreed to this change, thus allowing Visual Resources concerns to be stipulated at the evidentiary hearings.

Objectionable Appearance

Construction: Construction of the proposed power plant would cause temporary visual impacts due to the presence of equipment, materials, and workforce. These impacts would occur at the proposed power plant site and construction laydown areas over a 24 month period of time. Demolition and construction will involve the use of heavy construction equipment, temporary storage and office facilities, and temporary laydown/staging areas. These structures and pieces of equipment will be stored on land adjacent to the project site in an area already exhibiting industrial visual character. Thus, power plant construction will result in a temporarily adverse but not significant visual impact.

Operation: The project region is situated on the western edge of the Santa Monica Bay coastline in the City of El Segundo adjacent to the City of Manhattan Beach. The region is industrial and adjacent to a residential beach community and a recreational beach area. The project will be built within the existing El Segundo Generating Station (ESGS). The project is a replacement of two of the four generating units at ESGS. The facility is adjacent to Vista Del Mar Avenue in the City of El Segundo and 45th Street in the City of Manhattan Beach. ESGS can be viewed from a number of residences in Manhattan Beach as well as from the beach in Manhattan Beach and El Segundo and from Vista Del Mar Avenue in El Segundo.

The site is industrial in appearance, exhibiting complex forms and lines and geometric shapes. The existing generating units and two large fuel oil storage tanks dominate the site. Within the generating station the units are painted blue and yellow and the exhaust stacks are light gray. The immediate project vicinity includes an industrial marine terminal for offloading oil from ships to the north and the Chevron oil refinery to the east, beaches to the west, and residences to the south. Overall visual quality of the ESGS site is low. (FSA p. 4.11-11.)

The major components of the project include two combustion turbine generators, two heat recovery steam generators (HRSG), a steam turbine, generator lead poles, a new seawall, piping, instruments, pumps, and other equipment. The most notable feature of the project, is the HRSG exhaust stacks (205 feet high), which would be the most visible. The new exhaust stacks, however will replace existing exhaust stacks (224 feet high) that serve units 1 and 2 resulting in a reduction in exhaust stack height.

The project also involves the removal of two fuel oil tanks that dominate the southern portion of the ESGS facility. These fuel oil tanks currently block views of the beach, of the northern coastline of Santa Monica Bay, and of the generating units for several homes adjacent to and along 45th Street in Manhattan Beach.

The project includes a complex and comprehensive landscaping plan for the entire ESGS facility. Besides perimeter landscaping, a landscaped berm will be added to the southern

boundary of the facility to enhance views along 45th Street from the current view of the fuel oil tanks and the industrial facility.

A controversial topic regarding appearance was whether it was more objectionable to have an open, visible facility or a covered, smooth exterior facility. The parties reached agreement on this issue with a Condition of Certification that requires architectural treatment of the new units with banners.

Viewer Exposure

The power plant site can be viewed from all directions. From the west, the site is visible from Santa Monica Bay and by users of the beach or bike path immediately adjacent to the site. From the North, beachgoers view the site and will have uninterrupted views of the new facility because units 1 and 2 to be replaced are located on the north side of the site. Motorists driving south on Vista Del Mar Avenue can view the upper portions of the existing facility directly above their line of sight south along Vista Del Mar Avenue. From the east the only views of ESGS exist for users of Vista Del Mar as it passes adjacent to ESGS. The facility can also be seen from the Chevron refinery. The refinery, however, blocks further views from the East. In the south, residences at the northern edge of Manhattan Beach, particularly those along 45th Street can see varying portions of the facility depending upon distance and height above sea level. Users of the beaches south of the facility can see portions of the units.

2A - Existing View

2B - Simulated Interim View (After removal of fuel oil tanks)

2C - Simulated View of Staff Recommended Landscaping

The removal of the fuel oil storage tanks at the south end of the facility will result in changes to the line of sight for residences and some beachgoers. The installation of a landscaped berm, however, will significantly reduce the changes to line of sight, though it will result in a vastly different view for some residences and for vehicles and pedestrians going down 45th Street to the beach. Those constituents will see vegetation where they currently see the large, curved, green side of the southern fuel oil tank.

New transmission poles on the facility will be in the same locations as existing poles and

approximately the same height. During construction, activities on the tank farm site could be seen from residences to the south of the facility.

In summary, the most notable change to viewer exposure that would be caused by the project is the removal of the fuel oil storage tanks. Likewise, the new landscaped berm is a noticeable change to viewer exposure. Additionally, the perimeter landscaping and sea wall along the bike path result in a change in viewer exposure. The new facility at the north end of the property replaces an existing facility and actually results in a lower height profile. Most of these latter changes appear to be enhancements since they decrease visibility (lower stack height) or result in a more aesthetically pleasing view (landscaping).

Due to the long-term nature of visual exposure that will be experienced from residences, and the sensitivity with which people regard their places of residence, residential viewers are considered to have high viewer concern. Recreational viewing is also rated high. Viewer concern is rated moderate to high for motorists on Vista Del Mar, which include a combination of tourists, recreationists, residents, commuters, and others.

The viewshed of the plumes would encompass the immediate project vicinity and extend to the roadways and viewing areas within a couple of miles.

Key Observation Points

Various Key Observation Points (KOPs) were selected by the Applicant and by the Energy Commission staff's. The viewshed can be broken down into three general areas: a coastal industrial zone, a coastal open space, and coastal residential/ commercial. KOPs were used by the Energy Commission staff in the latter two areas.

The following paragraphs briefly summarize the concluding assessments of overall visual sensitivity at four KOPs. Overall visual sensitivity takes into account existing landscape visual quality, viewer concern, and overall viewer exposure.

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KOP 1 Dockweiler Beach

KOP 1 depicts the before and after view toward the site from Dockweiler Beach State park from a distance of approximately ½ mile.

Existing View

Simulation View

ESGS views are unimpeded. Visual Quality is high, Visual Concern is high, and Visibility and Viewer Exposure are high. Overall visual sensitivity is high. *FSA pp. 4.11-10.*

KOP2 Manhattan Beach State Park

KOP 2 depicts the before and after view toward the site from Manhattan Beach State park south of the project.

After removal of the tank farm and the implementation of the landscape screening, the view will appear generally as below:

Visual Quality is high. Viewer Concern is high, and overall Viewer Exposure is moderate. Overall visual sensitivity is moderate to high. *FSA pp. 4.11-12*.

KOP 3 Highland Avenue

KOP 3 depicts the after view toward the project site from Highland Avenue at a distance of approximately ½ mile.

Visual Quality is moderate, Viewer Concern is moderate to high, and Visibility and Viewer Exposure is moderate to high. Overall visual sensitivity is moderate to high. *FSA pp. 4.11-27.*

KOP 9 45th Street

KOP 9 depicts the existing view, showing one of the fuel tanks to be removed, and residences on 45th Street.

Visual Quality is moderate to high, Viewer Concern is high, and Visibility and Viewer Exposure to the project site would be low, but to the existing tank farm is very high. Overall visual sensitivity is high. *FSA pp. 4.11-13-14.*

Because the proposed project involves the replacement of existing units with new units the overall visual changes are generally insignificant. The parties to the proceeding reached agreement on several issues that resulted in agreement upon the following conditions of certification with which the Commission concurs. For example, there was general acceptance of landscape screening elements on the power plant, as conceptually depicted below.

Additionally, since the project includes removal of the tank farm, views will be changed as shown below, including before and after vegetative screening.

MITIGATION:

- ☑ The Project Owner shall complete and implement a comprehensive visual enhancement plan. Condition: **VIS-1.**
- ☑ The Project Owner shall paint or treat components to minimize impacts. Condition: **VIS-5.**
- ☑ The Project Owner shall install architectural screening. Condition: **VIS-4.**
- ☑ The Project Owner shall construct the proposed seawall with architectural design treatment. Condition: **VIS-3.**

California Coastal Act Compliance

Section 30251 of the California Coastal Act (CCA) sets forth visual requirements for "permitted development." The Executive Director submitted a letter dated March 5, 2002, to the Energy Commission regarding the project's compliance with the CCA. The Applicant has

maintained several objections to the actions taken by the California Coastal Commission. The letter, generally speaking, describes the project as non-compliant with the California Coastal Act without mitigation. The letter also recommends that the Commission require visual enhancement measures. A representative of the California Coastal Commission attended the pre-hearing conference and evidentiary hearings.

Since the Coastal Commission's letter, the Applicant, Energy Commission staff, Coastal Commission staff, local cities, affected homeowners, and public have diligently reviewed the possible visual treatments that could be applied to the project and the ESGS property to minimize potential visual effects. The results of this effort are a number of consensus Conditions of Certification which effectively call for feasible measures to mitigate or enhance the visual effects of the project. Moreover, by these Conditions, the Coastal Commission will participate in the review of the Visual Enhancement Plan and the Landscaping Plan. The Energy Commission finds that, with the required Conditions of Certification, the project appears to meet the concerns of the Coastal Commission letter and complies with the California Coastal Act, and specifically, Section 30251.

View Blockage

View blockage describes the extent to which any previously visible landscape features are blocked from view by the project. Blockage of higher quality landscape features by lower quality features causes adverse impacts.

The new power plant will not block more scenic features than the existing units 1 and 2. Exhaust stack height is being lowered, thus actually providing an enhancement. Perimeter landscaping along Vista Del Mar Avenue, however, could potentially block scenic views of the coast and ocean if not carefully designed.

MITIGATION:

- ☑ The Project Owner shall complete and implement an approved perimeter screening and on-site landscape plan that will provide screening of the facility while preserving view corridors to the ocean. Condition **VIS-2.**

Scenic Designation

There are no state designated scenic highways within the project viewshed. Therefore, the project would not have a substantial adverse effect on scenic resources within a state scenic highway corridor.

Lighting

Construction: Limited construction during nighttime hours will require lighting, which will be temporary, and therefore insignificant. Removal of the Fuel Oil Storage tanks could result in increased light exposure from units 3 and 4 to the south.

Operation: Power plant lighting could cause nighttime visual impacts, unless mitigated by designing hooded or shielded lighting consistent with worker safety.

MITIGATION:

- ☑ The Project Owner shall design and install project lighting to minimize visibility from public viewing areas and to minimize illumination of the vicinity and the nighttime sky. Condition**: VIS-6.**
- ☑ Project Owner shall ensure construction lighting minimizes night lighting impacts. Condition**: VIS-8.**
- ☑ Project owner shall modify Units 3 and 4 lighting. Condition**: VIS-7**.

Visible Plumes

Modeling and analysis of potential changes to exhaust stack plume parameters concluded that there is no potential for significant impacts from HRSG exhaust stack plumes.

Cumulative Impacts

Cumulative impacts to visual resources would occur where project facilities or activities (such as construction) occupy the same field of view as other built facilities or impacted landscapes. It is also possible that a cumulative impact could occur if a viewer's perception is that the general visual quality of an area is diminished by the proliferation of visible structures (or construction effects such as disturbed vegetation), even if the new structures are not within the same field of view as the existing structures. The significance of the cumulative impact would depend on the degree to which (1) the viewshed is altered; (2) visual access to scenic resources is impaired; (3) visual quality is diminished; or (4) the project's visual contrast is increased.

In this case, the proposed project would minimally alter the view shed. The most significant changes are enhancements: reduction in stack height, perimeter landscaping and fuel oil tank removal combined with a landscaped berm. Therefore, the cumulative visual effects of project structures on the viewshed would not be significant.

Findings

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to visual resources and all potential adverse visual resource impacts will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

VIS-1: **Facility Visual Enhancement Plan.** Before starting construction, the project owner shall complete a comprehensive visual enhancement plan that includes architectural screening, landscaping, painting, lighting, and other measures that result in an overall enhancement of views of the facility (i.e. the power plant site) from areas accessible to the public. The plan shall be made available for review and comment by the

Executive Director of the Coastal Commission and for review and approval by CPM. The plan shall include:

Architectural screening: All industrial equipment below elevation 125' (i.e., below the elevation of the outlet dampers on the facility's exhaust stacks) and visible from the beach, coastal waters, Vista Del Mar Avenue, and other areas accessible by the public shall be screened using panels, wire mesh, louvers or other forms of architectural screening. The screening shall be opaque or semi-transparent and have a non-glare finish, and the color shall be harmonious with the facility's setting on a public beach. If the project owner proposes, and the Energy Commission concurs, that it is infeasible to shield portions of the facility using architectural screening, the project owner may instead propose other measures such as landscaping, berms, or fencing to provide the necessary screening. Any such proposal must be based on the definition of feasibility in California Coastal Act (Public Resources Code Section 30108) and is subject to review and comment by the Executive Director of the Coastal Commission, and review and approval by the Energy Commission.

Landscaping: Where used to screen the facility, vegetation shall be selected and maintained to provide year-round screening (e.g., evergreen species). Preference shall be given to native species and/or species requiring little or no irrigation, or at a minimum, non-invasive species. Soils shall be tested, amended as needed or replaced to ensure plant survival.

Other structural screening: Where berms, fencing, or other structural elements are selected as the primary method to screen the facility, the structures shall harmonize with the facility's setting on a public beach. If berms are used, they shall be vegetated and maintained with evergreen, native, and/or species requiring little or no irrigation. If fencing is used, it shall include a non-glare finish and be painted in a neutral color.

The Facility Visual Enhancement Plan shall include photographs showing existing conditions and simulated post-construction conditions from Key Observation Points (KOPs) around the facility (these may be the same KOPs that were used to develop the Staff Assessment). The plan shall also include anticipated costs for completing and maintaining the various visual enhancement measures and a detailed schedule for completing construction of these components.

Seawall Design Plan. Before starting construction, the project owner shall complete a plan of the seawall design for review and comment by the Executive Director of the Coastal Commission, the City of Manhattan Beach, and the City of El Segundo, and review and approval by the CPM. This plan shall include:

Final design: The seawall along the west side of the facility shall be textured and finished in a neutral color harmonious with its location adjacent to a public bike path and beach. If painted, graffiti-resistant paint shall be used.

Landscaping: Where used to enhance the seawall design, vegetation chosen shall be selected or maintained to provide year-round screening (e.g., evergreen species).

Preference shall be given to native species and/or species requiring little or no irrigation.

This seawall design plan shall include photographs showing the existing conditions and simulated post-construction conditions from observation points along the bike path adjacent to the seawall, from the beach, and from other points where the seawall is highly visible. The plan shall also include anticipated costs for completing and maintaining the seawall and a schedule for construction.

Verification: At least 120 days prior to ground disturbance, the project owner shall submit the required Facility Visual Enhancement Plan and Seawall Design Plan to the Executive Director of the Coastal Commission and the Cities of Manhattan Beach and El Segundo for comment, and to the CPM for review and approval. If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, the project owner shall prepare and submit to the Coastal Commission staff, the Cities, and CPM a revised submittal.

VIS-2: Perimeter screening and on-site landscaping. The project owner shall prepare and implement an approved perimeter screening and on-site landscape plan.

Trees and landscaping along the eastern edge of the project site shall be designed to balance view corridors to the ocean with screening of the facility. The landscape plan shall be provided to the CPM for review and approval, and to the Executive Director of the California Coastal Commission, the City of El Segundo and the City of Manhattan Beach for review and comment. The CPM will consider timely comments from these parties, especially those regarding the balance struck in the landscape plan between view corridor preservation and screening of project components, in determining whether to approve the plan.

The project owner shall establish a Landscape Committee to develop the final landscape plan that will be submitted to the CPM for review and approval, and other parties for review and comment. The Landscape Committee will be comprised of two voting members from the City of El Segundo, two voting members from the City of Manhattan Beach, and two members (one vote) representing the project owner. Energy Commission and Coastal Commission staff will participate on the Committee in an advisory role. The project owner shall submit to the CPM for review and approval a detailed schedule for the Landscape Committee meetings that will ensure that the final landscape plan is provided to the CPM in accordance with the timeline established in the condition.

The screening shall, at a minimum, utilize landscape opportunities on all four boundaries of the project site. Landscape screening shall include: (a) continuous tree canopies on the eastern roadside perimeter to enhance visual unity of the Vista del Mar road corridor, compatibility of the ESPR project with its coastal setting, and at least partial long-term screening of upper portions of the HRSGs; (b) tree and shrub plantings along Vista del Mar to screen views of the structures, while preserving view corridors to the Bay; (c) plantings along 45th Street to provide long-term screening of the tank farm site; and (d) tree planting on the western site perimeter to screen upper

portions of Units 3 and 4 from the bike path. Landscape screening shall also include planting on the path (west) side of all new concrete walls constructed along the existing bike path. The plan shall comply with City of El Segundo Zoning codes (Title 15, Chapter 2, Sec. 15-2-14) pertaining to on-site landscaping. The final landscape plan shall reflect the agreed upon removal of existing urea tanks on the west side of the project site.

Final plant selection shall be made in consultation with the Compliance Project Manager (CPM), Coastal Commission staff, and the Cities of Manhattan Beach and El Segundo. Suitable irrigation shall be installed to ensure survival and desired rate of growth. The landscape screening and irrigation system shall be monitored for a period of five years to ensure survival. During this period all dead plant material shall be replaced.

To achieve year-round screening, evergreen species shall be used. Spacing of trees shall be sufficiently dense to ensure substantial screening by the tree canopy at maturity.

Prior to the start of construction, the project owner shall submit a landscape plan to the representatives of California Exotic Pest Plant Council, The Executive Director of the California Coastal Commission and the Cities of Manhattan Beach and El Segundo for review and comment, and to the CPM for review and approval. The plan shall include, but not be limited to:

1) A detailed landscape, grading, and irrigation plan, at a reasonable scale, which includes a list of proposed tree, plant, and shrub species and installation sizes, and a discussion of both the suitability of the plants for the site conditions and mitigation objectives, and conformance with the specific provisions of the Coastal Commission decision, including its 1b and 2b specifying preference for native, non-invasive, and drought tolerant species. A list of potential plant species that would be both viable and non-invasive in this location shall be prepared by a qualified professional landscape architect familiar with local growing conditions, with the objective of providing the widest possible range of species from which to choose. The final planting plan shall include an all-inclusive list of plants to be used in order to ensure exclusion of potentially invasive species.

2) A demonstration of how the screening conditions shall be met, including:
   a) evidence provided by a qualified landscape architect that the specified species are both viable and available;
   b) graphic documentation on the plan and through digital photo simulations of Bay view corridors and power plant screening which would exist from Vista del Mar and the residential area east of Highland that has views of the project site after project construction; and
   c) a description of tall and short shrub planting zones along Vista del Mar, such that screening of the existing and proposed power plants is maximized, while the aforementioned Bay view corridors are retained.

3) Elevation views or visual simulations of the landscape screening at maturity, in order to show the extent of screening that the landscaping is expected to achieve from the west side of the project, from 45th Street and from Vista del Mar.

4) A detailed schedule for completion of the installation.

5) Maintenance procedures for the entire project site, including any needed irrigation and a plan for routine and regular debris removal as needed to preserve a neat and well-maintained appearance, for the life of the project.

6) A procedure for monitoring and replacement of all unsuccessful plantings for the life of the project.

7) A chart and key plan showing conformance with City of El Segundo landscape regulations.

8) Soil tests shall be performed on both on-site and imported soil where landscaping is to take place. Soil shall be amended on the basis of those tests if needed to ensure long-term viability of plantings.

The property owner shall meet the City of El Segundo's requirements for Vehicle Use Area (VUA) landscaping in the tank farm area by providing the required trees on the existing containment berm and other areas immediately adjacent to the portion of the tank farm area to be used for paved staging, not including the area to be striped for vehicle parking.

The Landscape Plan shall be consistent with the Landscape Concept Plan presented at Evidentiary Hearings, with modifications for VUA landscaping, revisions to depict the 45th Street landscape berm, and modifications to accord with item #2, above.

The project owner shall not implement the plan until the project owner receives written approval of the plan from the CPM.

Verification: At least 30 days prior to the first scheduled Landscape Committee meeting, the project owner shall submit the Committee schedule to the CPM for review and approval. At least 120 days prior to ground disturbance, the project owner shall submit the perimeter screening and onsite landscape plan to the Executive Director of the Coastal Commission and the Cities of Manhattan Beach and El Segundo for comment, and the CPM for review and approval. If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, the project owner shall prepare and submit to the Coastal Commission staff, the Cities, and the CPM a revised submittal.

The project owner shall implement the landscape plan prior to start of commercial operation. The project owner shall notify the CPM within seven days after completing installation of the landscape plan that the planting and irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in the Annual Compliance Report.

VIS-3: Design treatment of seawall. The project owner shall construct the proposed seawall with architectural design treatment to reduce visual monotony, enhance design quality and interest, and discourage graffiti. Techniques may include pre-cast or cast-in-place texturing, split-faced concrete block, or other methods feasible to produce a textured surface.

Prior to the start of construction, the project owner shall submit a design plan for the seawall, consistent with the Landscape Concept Plan, to the Executive Director of the Coastal Commission and City of El Segundo for review and comment, and to the CPM for review and approval. The treatment plan shall include:

1) Specification, and 11" x 17" color elevations, of the treatment proposed for use on the seawall;

2) A detailed schedule for completion of construction; and,

3) A procedure to ensure proper maintenance, including graffiti removal, for the life of the project.

Seawall construction shall not commence until the design plan has been approved by the CPM.

Verification: At least 120 days prior to start of construction, the project owner shall submit the seawall design plan to the Executive Director of the Coastal Commission and City of El Segundo for review and comment and to the CPM for review and approval.

If the CPM notifies the project owner of any revisions that are needed before the CPM will approve the plan, the project owner shall submit a revised plan to the CPM.

Not less than 30 days prior to start of commercial operation, the project owner shall notify the CPM that the seawall is ready for inspection.

The project owner shall provide a status report regarding wall maintenance in the Annual Compliance Report.

VIS-4: Architectural screening of power plant. The project owner shall install architectural screening to cover the outer framework of the HRSG structures of the new proposed Units 5 through 7 and reduce visibility of the mechanical equipment at elevations between 10 and 125 feet of the superstructures, except where infeasible due to excessive loading on support structures or where operation or safety requirements do not allow covering of a surface area. Such screening shall conform to the requirements

of the Energy Commission's decision. Such screening shall use as a baseline the Applicant's Visual Enhancement Proposals as of June 24, 2002, and preferably minimize or avoid gaps between banners.

The Project Owner shall have the burden to show infeasibility or incapability of screening by submittal of such information in the Architectural Screening Plan.

Prior to the start of construction, the project owner shall submit an architectural screening plan to the Executive Director of the California Coastal Commission (as a part of the facility Visual Enhancement Plan described in Condition **VIS-1**), and the Cities of El Segundo and Manhattan Beach for review and comment, and to the CPM for review and approval. The screening plan shall include:

1) Detailed plans and specifications sufficient to enable the CPM and Chief Building Official (CBO) to determine adequacy and performance of the proposed screening. Determination of adequacy includes confirmation of consistency with the terms of the Energy Commission's decision. Determination of adequacy also requires sufficient evidence that the screening can be installed to be stable, uniform, able to withstand anticipated wind loads, and attractively mounted, without sagging, tearing, unsightly discoloration, or adverse visual effects from the mounting system itself; and with sufficient durability to allow good performance between maintenance cycles. Required performance data shall include design information of sufficient detail and specificity to establish confidence in the design's ability to perform as desired, or to clearly establish limitations on the feasibility of particular measures.

2) Sufficient information to fully document and explain any areas where screening is infeasible or not possible. The information shall further include supporting engineering drawings analysis and calculations or specific safety or operational constraints or regulations.

3) 11" x 17" color simulations at life-size scale of the treatment proposed for use on project structures.

4) A detailed schedule for completion of the treatment.

5) A procedure to ensure proper treatment maintenance for the life of the project.

Verification: Not later than 120 days prior to start of construction, the project owner shall submit the final architectural screening plan and details to the Executive Director of the Coastal Commission and the Cities of El Segundo and Manhattan Beach for review and comment, and to the CPM for review and approval.

If the CPM notifies the project owner of any needed revisions before the CPM will approve the plan, the project owner shall submit a revised plan to the CPM.

Not less than thirty 30 days prior to the start of commercial operation, the project owner shall notify the CPM that the architectural screening is ready for inspection.

The project owner shall provide a status report regarding screening maintenance in the Annual Compliance Report.

VIS-5: Structure surface painting and treatment. Prior to the start of commercial operation, the project owner shall paint or treat project structures visible to the public, such that their colors minimize visual intrusion and contrast by blending with the landscape; their surfaces do not create glare; and they are consistent with local laws, ordinances, regulations, and standards.

The project owner shall consult with representatives of the Cities of El Segundo and Manhattan Beach to determine if specific treatment or painting options that may improve the aesthetic appearance of the project are desired, and provide a report to the CPM.

Prior to the start of construction, the project owner shall submit to the Executive Director of the Coastal Commission and the Cities of El Segundo and Manhattan Beach for review and comment, and to the CPM for review and approval, a specific treatment plan whose proper implementation will satisfy these requirements. The treatment plan shall include:

a) Specification, and 11" x 17" color simulations at life size scale, of the treatment proposed for use on project structures, including structures treated during manufacture;
b) A list of each major project structure, building, tank, transmission line tower and/or pole, and fencing/walls specifying the color(s) and finish proposed for each (colors must be identified by name and by vendor brand or a universal designation);
c) Two sets of brochures and/or color chips for each proposed color;
d) Samples of each proposed treatment and color on each material to which they would be applied that would be visible to the public;
e) A detailed schedule for completion of the treatment; and
f) A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated on-site, until the project owner receives notification of approval of the treatment plan by the CPM.

Verification: The project owner shall submit its proposed treatment plan at least 90 (ninety) days prior to ordering the first structures that are color treated during manufacture.

If revisions are required, the project owner shall provide the CPM with a revised plan within 30 (thirty) days of receiving notification that revisions are needed.

Prior to commercial operation, the project owner shall notify the CPM that all buildings and structures are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

VIS-6: Project lighting. Prior to the start of commercial operation, the project owner shall design and install new permanent lighting for Units 5, 6 and 7, such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project, the vicinity, and the nighttime sky is minimized. To meet these requirements the project owner shall ensure that:

a) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary;

b) All lighting shall be of minimum necessary brightness consistent with worker safety;

c) Wherever feasible and safe, lighting shall be kept off when not in use; and

d) A lighting complaint resolution form shall be used by plant operations to record all lighting complaints received and document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.

Verification: At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and comment written documentation describing the lighting control measures and fixtures, hoods, shields proposed for use, and incorporate the CPM's comments in lighting equipment orders.

Prior to the first turbine roll, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If the CPM notifies the project owner that modifications to the lighting are needed to minimize impacts, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed.

The project owner shall report any lighting complaints and documentation of resolution in the Annual Compliance Report, accompanied by any lighting complaint resolution forms for that year.

VIS-7: Site lighting. Prior to demolition of existing storage tanks, the project owner shall modify Unit 3 and 4 permanent lighting, such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project, the vicinity, and the nighttime sky is minimized. To meet these requirements the project owner shall ensure that:

a) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary;

b) All lighting shall be of minimum necessary brightness consistent with worker safety;

c) The project owner shall implement where feasible and practical modifications of circuits in order to allow turning off specific lights when not in use; and

d) A lighting complaint resolution form shall be used by plant operations to record all lighting complaints received and document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.

Verification: At least 60 days prior to ordering of any new permanent exterior lighting for Units 3 and 4, the project owner shall submit to the CPM for review and comment written documentation describing the lighting control measures and fixtures, hoods, shields proposed for use, and incorporate the CPM's comments in lighting equipment orders.

Prior to demolition of the tanks, the project owner shall notify the CPM that the lighting modifications to Unit 3 and 4 have been completed and are ready for inspection. If the CPM notifies the project owner that modifications to the lighting are needed to minimize impacts, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed.

The project owner shall report any complaints about permanent lighting and provide documentation of resolution in the Annual Compliance Report, accompanied by any lighting complaint resolution forms for that year.

VIS-8: Construction Lighting. Prior to site mobilization, 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.
b) All fixed position lighting shall be shielded, hooded, and directed downward to minimize backscatter to the night sky and prevent light trespass (direct lighting extending outside the boundaries of the construction area).
c) Wherever feasible and safe, lighting shall be kept off when not in use and motion detectors shall be employed.
d) A lighting complaint resolution form shall be maintained by plant construction management, to record all lighting complaints received and to document the resolution of that complaint.
e) All construction-related lighting shall be completely shielded or screened so as not to be visible to residents of 45th Street in Manhattan Beach. Construction lighting in the tank farm area shall be limited to the hours of 7:30 a.m. to 6:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. Saturday, except as necessary for safety or security purposes.

Verification: Within seven days after the first use of construction lighting, the project owner shall notify the City of Manhattan Beach and the CPM that the lighting is ready for inspection.

If the CPM notifies the project owner that modifications to the lighting are needed to minimize impacts, 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.

The project owner shall report any lighting complaints and documentation of resolution in the Monthly Compliance Report, accompanied by any lighting complaint resolution forms for that month.

VIS-9: Temporary landscaping and 45th Street Berm. Temporary landscaping shall be installed prior to the start of ground disturbing activities at the site in those opportunity areas that do not create a hindrance to construction activities. Soils shall be tested, amended as needed or replaced to ensure plant survival. Temporary landscaping shall be maintained for the duration of construction, and shall be designed to the extent feasible to be retained permanently as part of the perimeter landscaping plan required in Condition of Certification **VIS-2**. Installation of the 45th Street berm shall be initiated concurrent with construction of the new tank farm access road.

Prior to start of ground disturbance, the project owner shall submit a temporary perimeter landscape plan and final berm plan to the Cities of Manhattan Beach and El Segundo and the Executive Director of the Coastal Commission for review and comment, and to the CPM for review and approval. The plans shall include, but not be limited to:

a) A detailed landscape, grading and irrigation plan, at a reasonable scale, which includes an all-inclusive list of proposed tree, plant, and shrub species and installation sizes, and a discussion of the suitability of the plants for the site conditions and mitigation objectives. A list of potential plant species that would be viable and non-invasive in this location shall be prepared by a qualified professional landscape architect familiar with local growing conditions, with the objective of providing the widest possible range of species from which to choose. The plan shall demonstrate how the screening shall be met, including:
b) Elevation views or visual simulations of the landscape screening at one year's growth in order to show the extent of screening that the landscaping is expected to achieve from the west side of the project, 45th Street and from Vista del Mar.
c) A detailed schedule for completion of the installation.
d) Maintenance procedures for the entire project site, including any needed irrigation and a plan for routine and regular debris removal as needed to preserve a neat and well-maintained appearance, for the life of the project; and
e) A procedure for monitoring and replacement of unsuccessful plantings.

The project owner shall not implement the plan until the project owner receives written approval from the CPM.

Verification: At least 60 days prior to start of ground disturbance, the project owner shall submit the temporary perimeter landscape plan and final berm plan to representatives of California Exotic Pest Plant Council, the Executive Director of the Coastal Commission and Cities of Manhattan Beach and El Segundo for comment, and to the CPM for review and approval. If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, the project owner shall prepare and submit to the CPM a revised plan.

The project owner shall notify the CPM within seven days after completing installation of the 45th Street berm that the berm is ready for inspection. The project owner shall notify the CPM

within seven days after completing installation of the temporary landscape screening that the planting and irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous month of construction in the Monthly Compliance Report.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

VISUAL RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	
NA	There are no applicable Federal LORS for the section of visual.
STATE	
California Coastal Act, Section 30251	Describes view and visual enhancement requirements for permitted development
LOCAL	
City of El Segundo Coastal Plan and Zoning Code	Provides goals and requirements pertaining to the appearance and enhancement of visual quality.
City of Manhattan Beach General Plan	The policies of the City of Manhattan Beach do not apply to the project. However, a General Plan policy and goal indicate the City's intent with regard to the potentially affected Manhattan Beach residential area south of the project site.

WASTE MANAGEMENT – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Excavation	**MITIGATION**	**None**	**YES**
	Prior Environmental Site Assessments show the presence of contaminants in the soil and groundwater under the existing power plant complex. Thus, it is probable that contaminated soil and water will be encountered during the demolition of the existing foundations and excavation for the project's new foundation. **MITIGATION:** ☑ The Project Owner and contractor, if necessary, will obtain a hazardous waste generator identification number. Condition: **WASTE-1** ☑ The Project Owner shall employ a registered engineer and prepare a waste management plan and a site remediation plan. Conditions: **WASTE-3** to **WASTE-6** ☑ Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Conditions: **WASTE-5** and **WASTE-6.** *References: AFC p. 5.14-1, 7-17; FSA Waste Mgt., p. 4.12-3-5.*		
Construction Wastes	**MITIGATION**	**None**	**YES**
	Power plant construction will generate typical construction wastes, such as lumber, plastic, scrap metal, glass, excess concrete, empty containers, and packaging. These construction wastes are either recycled or disposed at a Class III landfill. **MITIGATION:** ☑ The Project Owner shall prepare a waste management plan to assure the appropriate handling of wastes. Condition: **WASTE-3**. *References: AFC Table 5.14-4; FSA Waste Mgt. p. 4.12-5.*		
Non-hazardous Wastes	**Insignificant**	**None**	**YES**
	Typical non-hazardous operation wastes include a small volume of maintenance-related trash, office trash, empty containers, broken or used parts, used packaging materials, and used air filters. These non-hazardous wastes will be routinely collected by a licensed hauler and disposed at a Class III landfill. *Reference: AFC Table 5.14-5; FSA Waste Mgt., p. 4.12-5.*		

Hazardous Wastes	**MITIGATION**	**None**	**YES**
	Hazardous wastes will include recyclable materials such as used oil, filters, rags, etc. Non-recyclable hazardous wastes include oil absorbents, welding materials, paints, used grit, weak acids, used batteries, and asbestos and are properly disposed at Class I landfills. **MITIGATION:** ☑ The Project Owner shall prepare a waste management plan. Condition: **WASTE-3.** ☑ The Project Owner shall report any potential enforcement action related to waste management. Condition: **WASTE-2.** *Reference: AFC p. 5.14-8, 9-17; FSA Waste Mgt., p. 4.12- 6.*		
Disposal Capacity	**None**	**None**	**YES**
	The capacities of available Class I and Class III landfills far exceed the construction and operation wastes generated by this project. *Reference: AFC p. 5.14-3, 24: FSA Waste Mgt., p. 4.12- 6.*		

WASTE MANAGEMENT - GENERAL

Different types of wastes will be generated during the construction and operation of the proposed project and must be managed appropriately to minimize the potential for adverse human and environmental impacts. These wastes are designated as hazardous or non-hazardous according to the toxic nature of their respective constituents. This analysis assesses the adequacy of the waste management plan with respect to handling, storage and disposal of these wastes in the amounts estimated for the project.

Excavation

A Phase I Environmental Site Assessment (ESA) was prepared in 1997 (CH2M Hill 1997). The purpose of the ESA was to determine the potential for the presence or likely presence of any hazardous substances or petroleum products under conditions that may indicate a release or threat of a release from present or past activities. The Phase I ESA identified total petroleum hydrocarbons (TPH) and volatile organic compounds (VOCs) and metals in soils and in groundwater.

The Phase I ESA provided the basis for additional sampling and analysis of soil and groundwater performed as part of several Phase II ESAs and other site assessments to further define the extent of existing contamination. The results of these investigations and a new investigation are summarized in a 1998 report (Woodward-Clyde 1998). This report identified remediation issues for several identified localized areas at the power plant complex. The contaminants identified include TPH, VOCs, semi-volatile organic compounds (SVOCs), and metals in soil and groundwater.

Energy Commission staff has reviewed the Phase I and II ESAs and has concerns about the lack of remedial investigations conducted beneath existing structures which are to be demolished. Angle borings beneath these structures were not obtained and thus

investigations will not occur until the structures are removed. Staff has requested and Applicant has agreed to provide a Remedial Investigation Workplan (RI Workplan) prior to demolition. This plan would include a detailed site characterization plan with soil and groundwater sampling and analysis to determine the extent and nature of contamination existing beneath these structures. The RI Workplan would be provided to the Los Angeles County Fire Department, the California Department of Toxic Substances Control (DTSC), the LARWQCB, the City of El Segundo Fire department, and to the CEC CPM for review and approval. If contaminated soil or groundwater is found to exist, the project owner would contact representatives of the above-named agencies for further guidance and possible oversight.

Site preparation will also include dewatering of the soil after removal of the foundations of existing Units 1 and 2. Groundwater levels will be lowered as much as 14 feet below average levels. Because TPH and VOCs have been detected in groundwater, treatment to meet the waste discharge requirements of the LARWQCB will be required prior to discharge to Santa Monica Bay. A pump test will be performed according to a test protocol developed by the Applicant to ensure adequate treatment and flow rates.

Demolition, dewatering, and construction are expected to generate both solid and liquid hazardous wastes. Hazardous wastes associated with Asbestos Containing Materials (ACM), lead-based paint, contaminated soil, and groundwater are expected. Much ACM has already been removed (about 60 percent of the identified ACM) but the quantity of materials containing lead-based paint is unknown (ESPR 2000a, AFC p.5.14-8). Estimates of ACM and lead-based paint materials are as high as 163,000 sq. feet of materials. During demolition, as much as 40,000 cubic yards of soil will be excavated and managed. More may be encountered in other areas including soils beneath the footprints of Units 1 and 2 and other structures to be demolished. All excavated soil will be characterized and managed according to the Applicant's Draft Waste Management Plan and Hazardous Materials and Hazardous Waste Management Plan. If soils are classified as hazardous wastes, the City of El Segundo Fire department and the Los Angeles County Hazardous Materials Division will be notified. The soil will be transported to a soil recycling facility or a Class I landfill. It is also estimated that dewatering will generate as much as 13 to 65 million gallons of contaminated groundwater for treatment and discharge according to the permit conditions of an NPDES permit. (AFC p. 5.14-1, 7-17; FSA Waste Mgt., p. 4.12-3-5.)

MITIGATION:

- ☑ The Project Owner and contractor, if necessary, will obtain a hazardous waste generator identification number. Condition: **WASTE-1**
- ☑ The Project Owner shall employ a registered engineer and prepare a waste management plan and a site remediation plan. Conditions: **WASTE-3** to **WASTE-6**
- ☑ Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Conditions: **WASTE-5** and **WASTE-6.**

Construction Wastes

Preparation and construction of the power plant will generate both hazardous and non-hazardous wastes. The non-hazardous component of the construction-related wastes will include waste paper, wood, glass, scrap metal, and plastics, from packing materials, waste lumber, excess concrete, insulation materials, and non-hazardous chemical containers. Management of these wastes will be the responsibility of the contractors. These wastes will be segregated, where practical, for recycling. Those that cannot be recycled will be placed in covered containers and removed on a regular basis by a certified waste handling contractor for disposal at a Class II or III facility.

The relatively small quantities of hazardous materials to be generated during this construction phase will mainly consist of used oil, waste paint, spent solvents, materials, used batteries, and cleaning chemicals. These wastes will be recycled or disposed of at licensed hazardous waste treatment or disposal facilities. The construction contractor will be considered the generator of the hazardous waste produced during construction and will be responsible for compliance with applicable federal and state regulations regarding licensing, personnel training, accumulation limits, reporting requirements, and record keeping. The Applicant has in place a waste management plan to assure the appropriate handling of wastes. (AFC Table 5.14-4; FSA Waste Mgt., p. 4.12-5.)

MITIGATION:

- ☑ The Project Owner shall prepare a waste management plan to assure the appropriate handling of wastes. Condition: **WASTE-3**.

Non-Hazardous Wastes

Under normal operating conditions, the typical, solid non-hazardous wastes will include routine maintenance-related trash, office wastes, empty containers, broken or used parts, and used packaging materials and air filters. Some of the wastes will be recycled to minimize the quantity to be disposed of in a landfill. The non-recyclables will be disposed of at a non-hazardous waste disposal facility. The volume of non-hazardous wastes from the proposed and similar gas-fired facilities is typically small and readily accommodated within area disposal facilities. For the proposed facility, such wastes are expected to be negligible compared to the capacity available Class III landfills. (AFC Table 5.14-5; FSA Waste Mgt., p. 4.12-5, 5.)

Hazardous Wastes

The hazardous waste quantities generated by the project will be minimal. The operations-related hazardous wastes will include spent air pollution control catalysts, used oil and air filters, used cleaning solvents, and used batteries. Some of these wastes will be recycled. The non-recyclables will be disposed of in a Class I disposal facility. (AFC p. 5.15-8, 9-17; FSA Waste Mgt., p. 4.12-6.)

MITIGATION:

- ☑ The Project Owner shall prepare a waste management plan. Condition: **WASTE-3.**
- ☑ The Project Owner shall report any potential enforcement action related to waste management. Condition: **WASTE-2**.

Disposal Capacity

The Project Owner provided a listing of the three area non-hazardous (Class II or III) waste disposal facilities (Corona, Simi Valley & Orange County) available for use by proposed project (AFC Table 5-14-1). The listing includes information on remaining capacity, location, and anticipated closure year. This information shows that the volume of the waste from project construction and operation would be insignificant relative to available disposal capacity.

In its written comments on the PMPD, the Los Angeles County Department of Public Works commented that a "shortfall in permitted daily landfill capacity may be experienced in the County within the next few years." The Department asks that measures which would mitigate this potential impact, together with the potential cumulative impact, be discussed. The City of El Segundo also commented on the need to discuss handling of demolition wastes that may contain some hazardous element. Condition of Certification **WASTE-3** requires a Waste Management Plan which includes not only identification of the amount and types of wastes, but also methods of managing each waste, including storage, treatment methods, testing methods, methods of transportation, disposal requirements and sites, and recycling and waste minimization/reduction plans. As affected local agencies, both Los Angeles County and the City of El Segundo would be included in the review and comment on the proposed Plan, which must be approved prior to site mobilization. Thus, the comments have been addressed in a Waste Management Plan creation process which will include these specific concerns.

The Project Owner also provided a listing of the three major Class I landfills in California available for the disposal of hazardous wastes from the proposed and similar projects. These are Safety Kleen (Buttonwillow) in Kern County, Chemical Waste Management (Kettleman Hills) in Kings County, and Laidlaw in Imperial County. There is a total of more than twenty million cubic yards of disposal space within these landfills. Thus, adequate disposal space would be available with respect to all hazardous wastes generated during the operational life of the proposed project. (AFC p. 5.14-3, 24; FSA Waste Mgt., p. 4.12-6.)

In its written comments on the PMPD, the Los Angeles County Department of Public Works also commented that the existing hazardous waste management (HWM) infrastructure in this County is inadequate to handle waste currently being generated. All of the hazardous waste sites identified above are not in Los Angeles County, and thus the proposed disposal of hazardous project wastes would not affect Los Angeles County. Moreover, construction will generate relatively few hazardous wastes, and most of the larger-volume operation wastes are recyclable.

Cumulative Impacts

As described above, there is adequate capacity in the disposal facilities available with respect to the hazardous and non-hazardous wastes associated with the proposed project. Therefore, the wastes from the construction and operation of the proposed project and its related facilities will not significantly impact the capacity of these landfills and will not create a cumulative impact. (FSA Waste Mgt., p. 4.12-6, 7.)

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to waste management and all potential adverse impacts related to waste management will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

WASTE GENERATOR IDENTIFICATION NUMBER

WASTE-1: The project owner and, if necessary, its construction contractor, shall each obtain a hazardous waste generator identification number from the Department of Toxic Substances Control prior to generating any hazardous waste.

Verification: The project owner shall notify the CPM via the monthly compliance report of its receipt and keep a copy of the identification number on file at the project site.

WASTE MANAGEMENT ENFORCEMENT ACTION

WASTE-2: Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

Verification: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the manner in which project-related wastes are managed.

WASTE MANAGEMENT PLAN

WASTE-3: Prior to the start of both site mobilization and project operation, the project owner shall prepare and submit to the CPM for review and approval, and to local agencies, if applicable, for review and comment, a waste management plan for all wastes generated during construction and operation of the facility, respectively. The plans shall contain, at a minimum, the following:

- A description of all waste streams, including projections of frequency, amounts generated and hazard classifications; and
- Methods of managing each waste, including storage, treatment methods and companies contracted with for treatment services, waste testing methods to assure

correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/reduction plans.

Verification: No less than 30 days prior to the start of site mobilization, the project owner shall submit the demolition and construction waste management plan to and to local agencies, if applicable, for review and comment, and the CPM. The operation waste management plan shall be submitted no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 20 days of notification by the CPM (or mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to planned management methods.

REGISTERED PROFESSIONAL ENGINEER/GEOLOGIST

WASTE-4: The project owner shall have a Registered Professional Engineer or Geologist, with experience in remedial investigation and feasibility studies, available for consultation during soil excavation and grading activities. The Registered Professional Engineer or Geologist shall be given full authority to oversee any earth moving activities that have the potential to disturb contaminated soil.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit the qualifications and experience of the Registered Professional Engineer or Geologist to the CPM for approval.

CONTAMINATED SOIL EXCAVATION

WASTE-5: If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Registered Professional Engineer or Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and file a written report to the project owner and CPM stating the recommended course of action. Depending on the nature and extent of contamination, the Registered Professional Engineer or Geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the Registered Professional Engineer or Geologist, significant remediation may be required, the project owner shall contact representatives of the Los Angeles Regional Water Quality Control Board, the Glendale Regional Office of the California Department of Toxic Substances Control the CPM, and other local agencies, if applicable, for guidance and possible oversight.

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

REMEDIAL INVESTIGATION WORKPLAN

WASTE-6: Before demolition of either the fuel oil tanks or the existing generator buildings and any other building, respectively, the project owner shall prepare a Remedial Investigation Workplan (RI Workplan). This plan shall include a detailed site characterization plan with soil and groundwater sampling and analysis to determine the extent and nature of contamination existing beneath these structures. The RI Workplan shall be provided to the Glendale Regional Office of the California Department of Toxic Substances Control, the Los Angeles Regional Water Quality Control, and the City of El Segundo Fire Department, and other local agencies, if applicable, for review and comment, and to the CEC CPM for review and approval. If contaminated soil or groundwater is found to exist, the project owner shall contact representatives of the above-named agencies for further guidance and possible oversight. In no event shall the project owner proceed with site preparation or construction activities at any location on the site where hazardous waste contamination is found to be present until that location is either remediated or shown to pose an insignificant risk to humans and the environment as demonstrated to the satisfaction of the LARWQCB, DTSC, and the CPM.

Verification: At least sixty (60) days prior to commencement of fuel tank demolition or structure demolition, respectively, the project owner shall provide the RI Workplan to the Glendale Regional Office of the California Department of Toxic Substances Control, the Los Angeles Regional Water Quality Control Board, the City of El Segundo Fire Department, other agencies, if applicable, and the CEC CPM. Within thirty (30) days of completion of the sampling and analysis and prior to the initiation of any construction activities, the project owner shall provide the results of the sampling and analysis to the Glendale Regional Office of the California Department of Toxic Substances Control, the Los Angeles Regional Water Quality Control Board, the City of El Segundo Fire Department, other agencies, if applicable, and the CPM for review and guidance on possible remediation.

RUNOFF CONTAINMENT

WASTE-7 Before demolition of the fuel oil tanks, the existing generator buildings and any other building, the project owner shall ensure that the appropriate portion of the site is surrounded by a berm or other solid structures capable of containing any runoff from that portion of the site and preventing this runoff from leaving the site. In no event shall the project owner proceed with site preparation or construction activities at any location on the site where hazardous waste contamination is found to be present until that location has such containment in place to the satisfaction of the CPM.

Verification: At least thirty (30) days prior to commencement of site preparation activities, the project owner shall provide written plans on containment to the CPM for review and approval.

HAZARDOUS WASTE SURVEY

WASTE-8 Prior to modification or demolition of existing structures, the project owner shall complete and submit a survey of all Asbestos-Containing Materials (ACM) and Regulated Building Materials (RBM) that contain lead-based paint to the El Segundo

Fire Department for review and comment and to the CPM for approval. After receiving approval, the project owner shall remove all ACM and RBM from the site prior to demolition.

Verification: No less than sixty (60) days prior to commencement of structure demolition, the project owner shall provide the survey to the El Segundo Fire Department for review and comment, and to the CPM for review and approval. The project owner shall inform the CPM, via the monthly compliance report, of the data when all ACM and RBM were removed from the site.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WASTE MANAGEMENT

APPLICABLE LAW	DESCRIPTION
FEDERAL	
42 U.S.C. §§6901-6992k, RCRA Subtitle C and D	Regulates non-hazardous and hazardous wastes. Laws implemented by the State.
40 CFR 260, et seq.	Implements regulations for RCRA Subtitle C and D. Implemented by the US EPA by delegating to the State.
Federal Clean Water Act, 33 U.S.C. §1251 et seq.	Regulates wastewater discharges to surface waters of the US. NPDES program administered at the State level.
STATE	
Public Resources Code §40000 et seq. (California Integrated Waste Management Act)	Implements RCRA regulations for non-hazardous waste.
Water Code §13000, et seq. (Porter-Cologne Water Quality Control Act	Regulates wastewater discharges to surface and groundwater of California. NPDES program implemented by State Water Resources Control Board.
22 CCR §66262.34	Regulates accumulation periods for hazardous waste generators. Typically hazardous waste cannot be stored on-site for greater than 90 days.
Health & Safety Code §25100 et seq. (California Hazardous Waste Control Law)	Regulates hazardous waste handling/storing. Implemented by the El Segundo Fire Department, Hazardous Materials Division.
LOCAL	
City of El Segundo, General Plan & Municipal Code, Title 6, Chapter 6.22	Requires El Segundo Fire Department to administer hazardous waste management and disposal procedures.

WATER QUALITY & SOILS – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Erosion &, Sedimentation	**MITIGATION**	**None**	**Yes**
	Grading and excavation may also create the potential for transport of loosened soils by rainwater or on-site release of fluids. Existing, permanent catchment basins in the facility and temporary containment barriers at the construction-site can control potential sedimentation impacts to Santa Monica Bay. Grading and excavation activities potentially produce dust that can be transported off-site by wind. **MITIGATION:** ☑ Prior to site clearing and grading, the project owner shall prepare erosion control and stormwater pollution prevention plans to contain and process runoff on-site and to prevent or contain any spill or leak of construction materials onto soils or into runoff waters. Condition: **WATER QUALITY-1** and **WATER QUALITY-2** ☑ Prior to power plant operation the owner shall develop an Erosion and Sedimentation Control Plan (ESCP) for the operational phase of the project. Condition: **WATER QUALITY-4** ☑ To control airborne fugitive dust, the project owner shall water disturbed areas and apply chemical dust suppressants, apply gravel or paving to traffic areas, wash wheels of vehicles of large trucks leaving the site. Condition: **AQ-C2** *References: AFC § 5.5- 2; FSA Soil & Water, pp. 4.13-36-37.*		
Prior Contamination: Soil or Water	**MITIGATION**	**None**	**Yes**
	All excavated soil will be characterized and managed according to the Waste Management Plan and the Hazardous Materials and Hazardous Waste Management Plan. If soils are classified as hazardous wastes, the City of El Segundo Fire department and the Los Angeles County Hazardous Materials Division will be notified. Contaminated soils will be transported to a soil recycling facility or a Class I landfill. Impacted groundwater may be encountered during demolition-site preparation and construction phase dewatering. The LARWQCB and DTSC will be notified should there be a determination of contamination. **MITIGATION:** ☑ Contaminated soils will be tested and, if appropriate, treated or disposed of at a Class I landfill. Conditions: **WASTE-5** and **WASTE-6** *References: AFC pp. 5.14-8-9, Tables 5.14-2, 5.14-3, 5.14-3, Appendix S, Appendix N-3; FSA Waste Management 4.12-4-6, 9*		

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Drainage & Water Pollution	**MITIGATION**	**None**	**Yes**
	Stormwater drainage over compacted or graveled surfaces has the potential to impact off-site waterways or sensitive habitats by carrying contaminants deposited on the surface or by channeling volumes of fast moving water. The project will continue established site practices as required by the NPDES Permit for the facility. ESPR will not release any substance onto the power plant site soils that will degrade either surface water quality or groundwater quality. ESGS has existing storage for any hazardous and acutely hazardous materials in secure areas and/or in tanks with catchment basins to retain spills or ruptures. (See **HAZARDOUS MATERIALS.**) **MITIGATION:** ☑ The project owner will handle, treat, and discharge runoff in accordance with its Storm Water Pollution Prevention Plan and NPDES permit. Conditions: **WATER QUALITY-3.** *References: AFC p. 6.13-1, 5; FSA Soil & Water, pp. 4.12-9, 10.*		
Wastewater	**MITIGATION**	**None**	**Yes**
	Wastewater will be generated at the plant in various systems, including circulating water system, evaporative cooler blowdown, heat recovery steam generator blowdown, plant drains, storm water runoff, etc. ESPR will collect all plant wastewater streams at the onsite retention pond and conduct analyses prior to discharge in accordance with its existing NPDES permit. **MITIGATION**: ☑ The project owner will handle, treat, and wastewater in accordance with its existing NPDES permit, revised to include the project. Conditions: **WATER QUALITY-5.** ☑ The project owner shall perform quarterly sampling of the retention pond and provide analytical data summary reports. Condition: **WATER QUALITY-6** *References: AFC p. 6.13-1; FSA Soil & Water, p. 4.12-8.*		

WATER QUALITY – GENERAL

This section analyzes potential effects on water quality and soil resources that could result from construction and operation of the project, specifically focusing on the potential for erosion and sedimentation and degradation of surface and groundwater quality.

Flooding is addressed in the **GEOLOGY** section of this decision. Solid waste and contaminated soil disposal is discussed in the **WASTE MANAGEMENT** section.

Erosion & Sedimentation

Earthmoving activities associated with construction of the proposed project can expose and disturb the soil, leaving soil particles vulnerable to being blown into the air or to being moved by rainwater or spilled liquids. Stormwater runoff, coupled with earth disturbance activities, can potentially cause onsite erosion, potentially resulting in off-site erosion and sedimentation possibly impacting surface waters.

The project is located within a currently developed power generating complex which is largely paved and equipped with drainage gutters and catch basins to collect stormwater runoff.

The power plant and on-site facilities are located within the Oceano soil mapping association, which is composed of sandy soils including beach sands. Very slow runoff, rapid permeability, and high susceptibility to wind erosion characterize these soils. As a result, this soil has low water capacity and chemical properties for nutrient retention.

The majority of the site has been previously graded and is covered with asphalt. An exception is the steep slope between the power units and Vista Del Mar, which is landscaped with vegetation. The steep slope between the power units and Vista Del Mar is 1 (horizontal) to 1 (vertical), and is kept stable via 3 retaining walls that are approximately 6 feet high. Grading for the proposed Units 5, 6, & 7 would be relatively flat, close to existing grade, and sloped to drain toward the site stormwater system. The proposed final elevation would be approximately 20 feet above MLLW.

During initial phases of construction, excavated soils will be temporarily stored in the tank farm area prior to replacement. Following construction, the site will remain paved, and stormwater will continue to flow into the existing stormwater management system for treatment at the oil/water separator before discharge into Santa Monica Bay with the cooling water. The project will make use of the existing tank farm as a component construction area, which is already graded and paved with a containment berm and a drainage system in place.

Offsite staging and construction worker parking areas will be managed using Best Management Practices (BMPs) as designated in the Sediment and Erosion Control Plan. Worker parking and equipment storage will occur at one or more of eight potential offsite locations designated as sites 1 through 8: Kramer, FedEx, LAX Pershing, Marina del Rey Boat Launch, Dockweiler Beach State Park, Hyperion, Grand Avenue, and Chevron Marine Terminal. Of these, Marina del Rey Boat Launch (site 4), Dockweiler Beach State Park (site 5), Hyperion (site 6), and Grand Avenue (site 7) will be solely for worker parking.

The use of the remaining areas will be limited to parking and/or equipment storage, as described below. Assembly or sub-assembly may be performed at any of the following sites:

- Kramer. This area (site 1) may be used for storage of equipment to be installed in the ESPR, and is located approximately 2.2 miles east of the ESGS.

- FedEx. This area (site 2) may be used for parking and for storage of equipment to be installed in the ESPR. It is located approximately 2.5 miles northeast of the ESGS.

- LAX Pershing. This area (site 3) may be used for parking and for storage of equipment to be installed in the ESPR. It is located approximately 1.8 miles north of the ESGS.

- Chevron Marine Terminal. This area (site 8) may be used for storage of equipment to be installed in the ESPR, and is immediately north of the ESGS.

Construction will be regulated under a Sediment and Erosion Control Plan, a construction-related Storm Water Pollution Prevention Plan (SWPPP) and a General Storm Water Permit for Construction. For project operation, an existing SWPPP is being modified to account for site alterations and discharge as regulated under the existing NPDES Permit for the facility.

CONDITIONS:

☑ Prior to site clearing and grading, the project owner shall prepare erosion control and stormwater pollution prevention plans to contain and process runoff on-site and to prevent or contain any spill or leak of construction materials onto soils or into runoff waters. Conditions: **WATER QUALITY-1** and **WATER QUALITY-2**

☑ Prior to power plant operation the owner shall develop an Erosion and Sedimentation Control Plan (ESCP) for the operational phase of the project. Condition: **WATER QUALITY-4**

☑ To control airborne fugitive dust, the project owner shall water disturbed areas and apply chemical dust suppressants, apply gravel or paving to traffic areas, wash wheels of vehicles of large trucks leaving the site. Condition: **AQ-C2**

Prior Soil Contamination

Excavation at the power plant site or along the pipeline route will possibly unearth soils contaminated by prior disposal practices or accidental spills or leaks. If contaminated soil is encountered during construction, such contamination will be assessed using procedures that allow for identification of best disposal options. If the soil is classified as hazardous (according to RCRA and CCR Title 22), the soil will be hauled to a Class I landfill or other appropriate soil treatment and recycling facility. (FSA Soil & Water, p. 4.12-4, 10.)

Site preparation will also include dewatering of the soil after removal of the foundations of existing Units 1 and 2. Groundwater levels will be lowered as much as 14 feet below average levels. Because TPH and VOCs have been detected in groundwater, treatment to meet the waste discharge requirements of the LARWQCB will be required prior to discharge to Santa Monica Bay.

MITIGATION:

☑ Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Conditions: **WASTE-3 to WASTE-6**.

Drainage & Water Contamination

The storm water runoff associated with industrial activity at the existing ESGS is managed in accordance with the site's existing NPDES permit. The storm water runoff that is collected from *outside* bermed or graded storm water collection areas (uncontaminated runoff) is allowed to follow natural drainage patterns. ESGS is currently permitted for storm water treatment and discharge under an existing NPDES Permit and associated operating plans. The proposed project will not make changes to the general storm water drainage system. (FSA Soil & Water, pp. 4.13-6, 14.)

MITIGATION:

- ☑ The project owner will handle, treat, and discharge runoff in accordance with its NPDES permit. Conditions: **WATER QUALITY-2 & WATER QUALITY-3**.

Wastewater

The waste streams that will be generated by the project are similar to existing waste streams, which include boiler blowdown and plant and equipment drains that are currently being treated and discharged in compliance with water quality limits as specified under the existing NPDES Permit.

MITIGATION:

- ☑ The project owner will handle, treat, and discharge wastewater in accordance with its NPDES permit. Condition: **WATER QUALITY-2.**
- ☑ The project owner shall perform quarterly sampling of the retention pond and provide analytical data summary reports. Condition: **WATER QUALITY-6**.

Cumulative Impacts

No other projects are proposed in the vicinity of the power plant and, thus, the project will not result in any cumulative environmental impacts from construction or operational activities.

Findings

With the implementation of the Conditions of Certification, as described in Soil & Water Resources, the project conforms to applicable laws related to water quality and all potential water quality impacts will be mitigated to insignificance.

CONDITIONS OF CERTIFICATION

WATER QUALITY-1: Prior to site mobilization, demolition, and/or construction related ground disturbance activities, including linear facilities, the project owner shall develop a Storm Water Pollution Prevention Plan (SWPPP) for the project as required under the NPDES General Stormwater Construction Activity Permit. A copy of the SWPPP and the Notice of Intent (NOI) submitted to the LARWQCB as required under the NPDES General Stormwater Construction Activity Permit regulations shall be provided to the CPM for review and approval. The SWPPP shall include the actual drainage and

facility design for all on- and off-site ESPR project facilities for construction, and shall be designed according to the most recent applicable guidelines and checklists set forth by the State Water Resources Control Board Division of Water Quality. The SWPPP shall demonstrate compliance with all applicable Standard Urban Stormwater Mitigation Plan (SUSUMP) requirements. The project owner shall submit the construction SWPPP to the City of El Segundo for review and comment, and provide the CPM with a copy of a transmittal letter that requests the City provide copies of their comments to both the project owner and to the CPM.

Verification: Sixty days prior to the start of any site mobilization activities and/or ground disturbing activities associated with demolition or construction of the project (including demolition of tanks or Units 1 and 2) or any linear element, the project owner shall submit copies of the construction SWPPP, the NOI, and the transmittal letter to the CPM for review and approval. The SWPPP must be approved, and the transmittal letter and NOI copies received by the CPM prior to the start of site mobilization activities**.**

WATER QUALITY-2: Prior to site mobilization, demolition, and/or construction related ground disturbance activities, including linear facilities, the project owner shall develop an Erosion and Sedimentation Control Plan (ESCP) for the construction phase of the project. A copy of the ESCP for construction shall be provided to the CPM for review and approval. The ESCP shall address the actual drainage and facility design for all on- and off-site ESPR project facilities for construction, and shall address all issues detailed in the Staff Recommended Mitigation section of this FSA. The ESCP shall demonstrate compliance will all applicable SUSUMP requirements. The project owner shall submit the construction ESCP to the City of El Segundo for review and comment, and provide the CPM with a copy of a transmittal letter that requests the City provide copies of their comments to both ESPR and to the CPM.

Verification: Sixty days prior to the start of any site mobilization activities and/or ground disturbing activities associated with demolition or construction of the project or any linear element, the project owner shall submit the ESCP and a copy of the transmittal letter to the CPM for review and approval. The ESCP must be approved, and the transmittal letter received by the CPM prior to the start of site mobilization activities**.**

WATER QUALITY-3: Prior to power plant operation, the owner shall develop a SWPPP as required under the NPDES stormwater discharge permit for operation of the project. The SWPPP shall include the actual drainage and facility design for all on- and off-site ESPR project and linear facilities showing the details of the stormwater and sediment run-off and run-on to the ESPR project facilities during operation. The SWPPP shall be designed according to most recent guidelines and checklists set forth by the State Water Resources Control Board Division of Water Quality. This plan shall document that the existing and proposed project stormwater facilities have adequate capacity as required by the City of El Segundo. The SWPPP shall be consistent with all other permit and design documents, and shall demonstrate compliance with all applicable SUSUMP requirements. The project owner shall include in this plan the installation of secondary containment for the entire site, excluding off-site and linear facilities. The containment design shall have design documentation and specifications for the berms or other walled structures. The project owner shall submit the operational SWPPP to

the City of El Segundo for review and comment, and provide the CPM with a copy of a transmittal letter that requests the City provide copies of their comments to both the project owner and to the CPM. The operational SWPPP shall be approved, and the transmittal letter received by the CPM prior to the start of operation.

Verification: Sixty days prior to the start of operation, the project owner shall submit copies of the SWPPP and the transmittal letter to the CPM for review and approval. The SWPPP must be approved, and the transmittal letter received by the CPM prior to power plant operation.

WATER QUALITY-4: Prior to power plant operation, the owner shall develop an Erosion and Sedimentation Control Plan (ESCP) for the operational phase of the project. The ESCP shall include the actual drainage and facility design for all on- and off-site ESPR project and linear facilities showing all of the details of stormwater and sediment run-off and run-on to the ESPR project facilities during operation. The ESCP shall address all issues detailed in the Staff Recommended Mitigation section of this FSA. The ESCP shall be consistent with all other permit and design documents, and shall demonstrate compliance with all applicable SUSUMP requirements. The project owner shall include in this plan the installation of secondary containment for the entire site, excluding off-site and linear facilities. The containment design shall have design documentation and specifications for the berms or other walled structures. The project owner shall submit the operational ESCP to the City of El Segundo for review and comment, and provide the CPM with a copy of a transmittal letter that requests the City provide copies of their comments to both ESPR and to the CPM. The operational ESCP shall be approved, and the transmittal letter received by the CPM prior to the start of operation.

Verification: Sixty days prior to the start of operation, the project owner shall submit a copies of the ESCP and the transmittal letter to the CPM for review and approval. The ESCP must be approved, and the transmittal letter received by the CPM prior to power plant operation.

WATER QUALITY-5: The project owner shall maintain in effect the National Pollutant Discharge Elimination System (NPDES) Permit from the LARWQCB for the life of the ESPR project. The project owner shall comply with all provisions of the NPDES Permit, and shall notify the CPM of any proposed or actual changes made to this permit and provide copies of materials related to permit amendment, modification, and renewal, and of any changes to the project design or operational plan necessary to comply with the NPDES permit changes. All exceedences, permit violations, and enforcement actions shall be reported and discussed in the annual Compliance Report to the CPM. All NPDES enforcement actions against the project shall be reported to the CPM by letter within 30 days of the project being notified by LARWQCB. The project shall not operate without the NPDES permit in place.

Verification: Within 30 days following receipt of a new, amended, or modified NPDES Permit from the LARWQCB, the project owner shall submit a copy of the new permit to the CPM. The Annual Compliance report shall include a copy of NPDES compliance monitoring reports submitted to the LARWQCB, reporting NPDES permit exceedences,

violations, and enforcement actions taken against the project owner, and a discussion of the measures taken by the project owner to bring the project into compliance with the NPDES permit. The CPM shall be notified by letter of NPDES permit enforcement actions within 30-days of the project being notified by the LARWQCB. The project owner shall notify the CPM in writing of any changes made to this permit, and of any changes to the project design or operational plan necessary to comply with NPDES permit revisions.

WATER QUALITY-6: The project owner shall perform quarterly sampling of the retention pond and provide analytical data summary reports consistent with those required by the NPDES permit in the Annual Compliance Report to the CPM. These samples shall be collected and analyzed for parameters consistent with the NPDES permit monitoring requirements for the retention pond, and all exceedences and violations, and actions taken to avoid their reoccurrence shall be discussed in detail.

Verification: The quarterly reporting and discussion shall be included in the Annual Compliance Report to the CPM for the life of the project.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WATER QUALITY & SOILS

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Water Act; 33 U.S.C. §1251 et seq.	Regulates discharges of wastewater and stormwater. Applies to wastewater discharged from cooling tower basins and stormwater runoff. These discharges are subject to NPDES permits obtained through the RWQCB at the state level.
STATE	
Porter Cologne Water Quality Control Act, Water Code §13000 et seq.	Established jurisdiction of nine RWQCBs to control pollutant discharges to surface and groundwater.
SWRCB Water Quality Order Nos. 91-13-DWQ and 92-08-DWQ	Regulates industrial stormwater discharges during construction and operation. These discharges subject to NPDES permits obtained through the RWQCB.
Safe Drinking Water and Toxic Enforcement Act (Prop. 65)	Prohibits the discharge of any substance known to cause cancer or birth defects to sources of drinking water.
LOCAL	
RWQCB	Responsible for controlling water quality.

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WATER RESOURCES – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Water Supply Policy	**CONDITION**	**NONE**	**YES**
	The project will use ocean water for power plant cooling purposes. Reclaimed water will be utilized for other high volume uses. State water policy disfavors the use of inland fresh water for power plant cooling. **CONDITION:** ☑ The project owner shall use reclaimed water for all in-plant process water needs except where excepted or not feasible. Conditions: **WATER RES-1 and WATER RES-2** *References: AFC p. 5.5-9; FSA Soil & Water Resources, pp. 4.13-38*		

WATER RESOURCES – GENERAL

The project will use ocean water through the existing once-through cooling system. Potable and service water for the project will be provided by the City of El Segundo and the Metropolitan Water District of Southern California (approximately 104 AFY). Reclaimed water, to be used for make-up and steam injection, will be provided by the West Basin Municipal Water District at approximately 120 AFY. Project owner has agreed to evaluate, during final design, other uses of reclaim water.

Water Supply Policy

California Water Code section 13550 *et seq*., and SWRCB Resolution 75-58 identify the use of potable or fresh inland water for power plant cooling as unreasonable use and only to be used if other sources or other methods of cooling would be environmentally undesirable or economically unsound. ESPR fully complies with these requirements by using ocean water for one-through cooling.

During the AFC process, parties expressed concern about the amount of inland water to be used at the project site. In light of these concerns, the project owner agreed to use reclaimed water for all high volume water needs, other than the once through cooling system. Fresh water will be used at the plant for drinking water and other sanitary uses. The project owner agreed to conduct an evaluation, as part of final project design, of other potential uses of reclaimed water in the facility.

Potable Water Use

Several parties expressed concerns over the scarcity and importance of potable water in Southern California. Using reclaimed water as a replacement for potable water uses is beneficial to potable water resources. ESPR will used reclaimed water for make-up feed water and combustion turbine steam injection water, the two largest uses of water at the facility other than cooling the steam condensers, which relies upon sea water. The project

will actually result in a reduction in potable water consumption at the El Segundo Generating Station with those reclaimed uses. However, the Applicant agreed to a Condition of Certification that requires the use of reclaimed water for all in-plant process water needs, except certain excluded uses and where the project owner can demonstrate such use is not feasible. This condition eliminated the parties' concerns over potable water consumption.

The parties also agreed upon a condition requiring that only the sources of water contained within the project description (i.e., potable water from the City of El Segundo and reclaimed water from West Basin Municipal Water District) would be used at the site and that the project owner would be required to document and report various data related to water use.

CONDITION:

☑ The project owner shall use reclaimed water for all in-plant process water needs except where excepted or not feasible. Conditions: **WATER RES-1 and WATER RES-2.**

Cumulative Impacts

ESPR's use of sea water for cooling and reclaimed water for major in-plant process water needs eliminates the potential for cumulative impacts. The proposed project actually reduces potable water consumption at the generating station. Therefore, no cumulative impacts are identified in this section.

Findings

With the implementation of the Conditions of Certification, as described in Water Resources, the project conforms to applicable laws related to water resources and all potential water resource impacts will be mitigated to insignificance.

CONDITION OF CERTIFICATION

WATER RES-1: The project owner shall use reclaimed water for all in-plant process water needs, except those specifically excluded uses, unless it can be demonstrated that its use is not compatible with any particular application. Specifically excepted from using reclaimed water are fire control water, sanitary water, potable water, and once-through cooling water. The project owner shall submit a Reclaimed Water Use Plan (RWUP) that includes a detailed revised project design, operational plan, water balance, and heat balance for the use of reclaimed water for review and approval by the CPM prior to the start of any site mobilization activities for the project or any linear element. This RWUP shall be consistent with all applicable LORS, including Title 22 California Code of Regulations.

All in-plant water needs that the project owner claims cannot be met using reclaimed water, other those excepted, shall be identified and a discussion of the infeasibility of reclaimed water use for these needs shall be included in the RWUP for review and approval by the CPM. Site mobilization activities shall not begin without a CPM approved RWUP.

Verification: The project owner shall submit the RWUP to the CPM for review and approval sixty day prior to the start of any site mobilization activities associated with the project or any linear elements. The RWUP must be approved by the CPM before the start of site mobilization.

WATER RES-2: Only potable water from the City of El Segundo or reclaimed water from the West Basin Municipal Water District shall be used by the project for uses other than once-through cooling. The process water supply shall be reclaimed water. A backup water supply has not been included in the project design or operational plan, and the project shall not operate during periods when reclaimed or potable water is not available in sufficient quantities from the primary supply sources. The project owner shall report the periods of non-operation due to unavailability of water from any source in the Annual Compliance Report.

The project owner shall install on-site metering and recording devices and record on a monthly basis all water used by the ESPR, except water used for once-through cooling, including the amount of reclaimed, and non-reclaimed water used by the project, with the source and amount of all reclaimed and non-reclaimed water identified. The annual summary shall include the monthly range, monthly average, and total amounts of reclaimed and non-reclaimed water identified by amount and source used by the project in both gallons-per-minute and acre-feet. Following the first year of operation, the annual summary shall also include the yearly range and yearly average of reclaimed and non-reclaimed water identified by amount and source used by the project. This information shall be supplied to the CPM in the Annual Compliance Report for review and approval for the life of the project.

Verification: No less than 60 days prior to the start of operation of ESPR, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the pipelines serving and within the project. These metering devices shall be capable of differentiating between uses of these supplies by ESPR in order to report water demand. The project owner shall provide a report on the servicing, testing and calibration of the metering devices and operation in the annual compliance report. The project owner shall submit the required water use summary to the CPM for review as part of the Annual Compliance Report for the life of the project.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WATER RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	
STATE	
State Water Resources Control Board Policy 75 – 78; California Water Code, Sections 461 and 13552, and by Water Commission Resolution 77-1	SWRCB Resolution 75-58, discourages the use of fresh inland water for power plant cooling and prioritizes the source water of power plant cooling water: (1) wastewater discharge to the ocean, (2) ocean water, (3) brackish water from natural sources or irrigation return flow, (4) inland waste waters of low TDS, and, lastly, (5) other inland waters.
LOCAL	

ALTERNATIVES – Summary of Findings

Alternative Sites	THE PRE-EXISTING GENERATING SITE IS PREFERABLE TO ANY ALTERNATIVE No alternative site is preferable to the ESGS site because a key objective of the project is to utilize the existing resources at ESGS more efficiently. The proposed site creates no impacts that cannot be mitigated to a level of insignificance and continues a pre-existing industrial site. *Reference: AFC 4-12; FSA 6.7*
Alternative Design	NO ALTERNATIVE DESIGN IS PREFERABLE The Applicant reviewed alternative air pollution control technologies. Dry low NOx technology and selective catalytic reduction (SCR) were preferable to any other available post-combustion NOx control. CEC Staff proposed an alternative cooling system using reclaimed water from the Hyperion Wastewater Treatment Plant for once-through cooling. The alternative is unnecessary since the proposed project with the annual flow cap condition does not cause a physical change to the environmental setting, and it Is infeasible. *Reference: AFC p. 4-13, p. 31; FSA 6-10; CEC Staff's Cooling Options Report; Applicant's Writ. Test. pp 37-44; Applicant's Rebuttal Test., pp pp.5-28*
Alternative Technology	NO ALTERNATIVE TECHNOLOGY IS PREFERABLE & FEASIBLE Alternative technologies include wind, solar, geothermal, and biomass. Solar technology requires a large amount of land, to produce the same amount of electricity. Geothermal resources are too far away. Biomass facilities are typically smaller than the capacity of the project and typically produce greater emissions than the equivalent gas-fired combustion turbine technology. Wind potentially creates numerous impacts and also requires a large amount of land with reliable and adequate wind energy resources. *Reference: pp; AGC 4-6, pp. 6-11,12*
"No Project" Alternative	THE "NO PROJECT" ALTERNATIVE IS INFERIOR TO PROPOSED PROJECT The "no project" alternative causes the existing plant to remain and fails to provide needed generation inside the Los Angeles Urban Area load center. Units 1 and 2 remain consuming natural gas supplies less efficiently. Exhaust stack height is not reduced. The "no project" alternative would eliminate the expected economic benefits which the proposed project would bring to the local economy. *Reference: AFC 4-4, pp.6-12, 13.*

ALTERNATIVES – GENERAL

The Energy Commission's Power Plant Siting Regulatory Program is a "certified regulatory program" under CEQA. With regard to the "Alternatives" analysis required in a certified siting

proceeding, the CEQA Guidelines (Cal. Code Regs., tit. 14, §15252) state that the environmental documentation shall include either:

- Alternatives to the activity and mitigation measures to avoid or reduce any significant or potentially significant effects that the project might have on the environment, or
- A statement that the agency's review of the project showed that the project would not have any significant or potentially significant effects on the environment and therefore no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment. This statement shall be supported by a checklist or other documentation to show the possible effects that the agency examined in reaching this conclusion."

The Warren-Alquist Act specifies that an Application for Certification of a natural gas-fired power plant "modification" (such as the ESPR project) is not required to provide any information in its application on alternative sites for the proposed facility. (Pub. Resources Code, §25540.6(a) and (b)). However, the Energy Commission's Siting Regulations (Cal. Code Regs., tit. 20, §1765) require that:

> At the hearings...on an application exempt from the [Notice Of Intent] requirements pursuant to Public Resources Code section 25540.6, the parties shall present information on the feasibility of available site and facility alternatives to the Applicant's proposal which substantially lessen the significant adverse impacts of the proposal on the environment.

The Energy Commission staff presented information in its Staff Assessment on the "feasibility of available site and facility alternatives to the Applicant's proposal that substantially lessen the significant adverse impacts of the proposal on the environment" (Cal. Code Regs., tit. 20, §1765). Staff also analyzed whether there are any feasible alternative designs or alternative technologies, including the "no project alternative," that may be capable of reducing or avoiding any potential impacts of the proposed project while achieving its major objectives.

Alternative Sites

Consistent with the CEQA Guidelines, the consideration of alternative sites was guided by whether most project objectives could be accomplished at alternative sites and whether locating the project at an alternative site would substantially lessen any identified potential impacts of the project [Cal. Code Regs., tit. 14 §15126.6(a).]

The primary goal of the proposed project is to repower two older units at ESGS. Thus, alternative sites, by definition would not achieve a primary goal of the project. Moreover, the replacement of Units 1 and 2 brings with it numerous enhancements including lower exhaust stack heights, new modern visual aesthetics, and a new ammonia pipeline to eliminate ammonia truck deliveries. For these reasons, sites not at ESGS would likely not decrease impacts, but probably increase them. Since an alternative site not at ESGS would reduce the ability of the project to meet its basic objectives and potentially increase some potential project impacts, the Commission did not find it appropriate to conduct a more detailed evaluation of potential alternative sites in this industrial area.

Alternative sites within the generating facility lack sufficient space to develop a combined cycle facility of this magnitude. The tank farm area, which might conceivably accommodate the project is not acceptable because of its proximity to the residences and beaches of the City of Manhattan Beach. The tank farm serves as a buffer zone between generating facility and residential land uses to the south.

Industrial land uses are present east of the ESGS. Locating the project in this area would require new transmission lines. The Chevron refinery lacks space to accommodate the project. The project does not require any new transmission lines. Moving the project to a location not on the existing transmission line would result in new transmission lines. The transmission line itself is adjacent to residential and commercial zones.

Locating a similar project at an alternative location would not substantially reduce any of the potential impacts of the project. All of the potential significant impacts of this project have been mitigated to a level of insignificance by the Conditions of Certification of this Decision.

Based on these factors, the Commission concludes that an alternative site would not be preferable to the proposed site, and a more detailed alternative site analysis is not needed. (FSA Alternatives, pp. 6-7.)

Alternative Design

Air pollution control technology was considered with primary emphasis on processes with demonstrated successful performance. Although SCONOX for NOx control has been described as a promising technology, it has limited usage to date. A conventional selective catalytic reduction (SCR) installation with ammonia injection is a proven technology and is supported by the existing ammonia systems on-site for Units 3 and 4 at ESGS. A dry low-NOx system was also selected on the manufacturer's recommendation. (AFC pp.4-13, p. 31)

CEC Staff proposed an alternative cooling design in its Cooling Options Report. This alternative would replace the seawater in the once-through cooling system with reclaimed water piped to and from the Hyperion Treatment Plant (HTP) north of ESGS. The Commission finds the wastewater alternative to be infeasible. The primary problems with the wastewater alternative were: constructing an adequately sized pipeline in the already congested area beneath Vista Del Mar Avenue, ensuring that the cooling medium would have adequate cooling capacity, maintaining and operating a system using the low quality liquid that would theoretically be available from HTP, whether HTP would provide the fluid for the project, discharging the heated fluid into Santa Monica Bay under environmental constraints for bacterial wastes and for thermal discharges, and ensuring that adequate cooling medium was consistently available to allow for reliable operation of the power plant. All of these areas were sufficiently problematic to find the alternative infeasible. Given the Commission's conclusion that the Hyperion wastewater alternative is not feasible, it is clear that the alternative is not a preferable project design. (See **BIOLOGY.**)

Alternative Technology

Energy Commission staff compared various alternative technologies to the proposed project, scaled to meet the project's objectives. One of the key objectives of the project is to replace units 1 and 2 with more efficient generation, expanding the production of electricity while not expanding environmental impacts. This key objective made other alternative technologies infeasible. These other alternative technologies include Solar, Geothermal, Biomass, and Wind.

Solar thermal generation technologies do not provide the continuous reliable power that is one of the key objectives for the project. Solar resources also require large land areas in order to generate electricity. Specifically, utility scale solar projects require between four and ten acres per megawatt depending on the type of system (parabolic trough, parabolic dish, or central receiver systems) (CEC 1996, pp. B.14.1, B.15.1-2). A solar project comparable to the proposed project would require hundreds of acres, much more than the amount of space available for the proposed project. Since solar technology cannot provide continuous reliable power and requires a large land area, it does not provide a feasible alternative to the proposed project.

Geothermal resources are not available in the Los Angeles coastal area. While development of additional geothermal resources in California is possible, geothermal power resources are not available in close enough proximity to ESGS to allow such a project to provide energy to ESGS.

Biomass plants are typically under 50 MW, substantially smaller than the expected capacity of the proposed project. Emissions from biomass projects are also typically greater than from gas-fired projects. For these reasons, biomass power does not provide a feasible alternative to the proposed project.

Windpower requires substantial areas of land with adequate wind resources. Modern wind generators would create a substantial visual signature along the Santa Monica Bay shoreline that could potentially be a significant impact.

"No Project" Alternative

CEQA Guidelines and Energy Commission regulations require consideration of the "no project" alternative. This alternative assumes that the project is not constructed, and compares that scenario to the proposed project. A determination is made whether the "no project" alternative is superior, equivalent, or inferior to the proposed project.

If the proposed project is not built, the existing Units 1 and 2 would remain, the efficiency of ESGS would not improve, and new generation capacity would not be provided to supply the Los Angeles basin load center. The project also offers economic benefits. The "No Project" alternative would also eliminate the expected economic benefits, which the proposed project would bring to the region.

The "No Project" alternative is not superior to the proposed project.

Findings

The Commission has analyzed alternatives to the project design and related facilities, alternative technologies, and the “no project” alternative. Developing the project at an alternative site would defeat a core goal and objective of the project. An alternative site would not substantially lessen the potential impacts of the project, which are mitigated to insignificance by the Conditions of Certification. The Commission does not believe that alternative designs are feasible or offer a necessary or relatively valuable reduction in impacts. The Commission does not believe that alternative technologies present feasible alternatives to the proposed project. The “no project” alternative will not meet need for new reliable electricity and would continue the use of the less efficient units 1 and 2. The "no project" alternative would also cause the loss of local economic benefits. Therefore, the “no project” alternative is inferior to the proposed project.

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EFFICIENCY – Summary of Findings

Local/Regional Energy Supplies	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The project will combust natural gas as its sole fuel. The SoCalGas gas supply infrastructure is extensive, offering access to vast reserves of gas from California, the Rocky Mountains, Canada, and the Southwest. It is therefore highly unlikely that the project could pose an adverse effect on energy supplies and resources. *References: AFC §§ 1.1, 3.1, 3.4.6, 5.19.4.1; FSA Efficiency, pp. 5.3-2-4.*
Energy Consumption Rate	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The project will employ state-of-the-art technology, with an overall fuel efficiency of approximately ~~49.6~~ 55.4 percent. While it will consume substantial amounts of natural gas, 108 billion BTU per day, it will do so in the most efficient manner practicable. *Reference: AFC 5.Figure 3.4-1; FSA Efficiency, pp. 5.3-2-4.*

EFFICIENCY - GENERAL

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., Appendix F).

El Segundo Power II LLC will construct and operate a nominal 630 MW combined cycle merchant power plant to generate baseload and peaking power, selling directly to customers through bilateral contracts on the spot and term markets. The project will consist of two General Electric (GE) PG7241FA combustion turbine generators (CTGs) with evaporative inlet air coolers and steam injection producing approximately 172 to 183 MW each, two heat recovery steam generators (HRSGs) with duct burners, and one 288 MW reheat steam turbine generator, arranged in a two-on-one combined cycle train, totaling approximately 630 MW. The gas turbines and HRSGs will be equipped with dry low-NOx combustors and selective catalytic reduction (SCR) to control air emissions. The project includes demolition and removal of El Segundo Generating Station (ESGS) Units 1 and 2, a pair of 1950s vintage 175 MW steam boiler units (AFC §§1.1, 1.2, 1.3.2, 3.1, 3.4.1, 3.10.2, 4.2, 4.3, 4.5.1; FSA 5.3-1-3).

Local/Regional Energy Supplies

The project will burn natural gas from the existing Southern California Gas Company (SoCalGas) pipeline that currently serves the ESGS. The SoCalGas gas supply infrastructure is extensive, offering access to vast reserves of gas from California, the Rocky Mountains, Canada, and the Southwest. It is therefore highly unlikely that the project could pose a substantial increase in demand for natural gas in California.

The natural gas fuel will be supplied by the existing 20-inch diameter pipeline by which SoCalGas serves the ESGS. SoCalGas claims that this line should provide adequate access to natural gas fuel. There is no real likelihood that the project will require the development of additional energy supply capacity. Therefore, the project will not pose a substantial increase in demand for natural gas in California.

Energy Consumption Rate

ESPR will utilize two General Electric model PG7421FA combustion turbines. Modern gas turbines embody the most fuel-efficient electric generating technology available today. From published data, this machine typically provides efficiency values between 40-42 percent. With evaporative inlet air coolers, steam injection and two HRSGs with duct burning, overall plant efficiency is nominally rated at 56.5 percent. ESPR will burn natural gas from Southern California Gas at a nominal heat rate of rate of 7500 Btu/Kw hour (full duct firing). (AFC 5.20-1; FSA Effic., p. 5.3-4)

No standards apply to the efficiency of the project since ESPR has not proposed that the project be considered as a Qualifying Facility cogeneration project.

Cumulative Impacts

There are no nearby power plant projects that hold the potential for cumulative energy consumption impacts when aggregated with the project. Construction and operation of the project will not bring about indirect impacts, in the form of additional fuel consumption, that would not have occurred but for the project. While the project will consume substantial amounts of energy, it will do so in the most efficient manner practicable. It will not create significant adverse effects on energy supplies or resources, and will not consume energy in a wasteful or inefficient manner. Therefore, no cumulative impacts on energy resources are likely and the project will not present significant adverse impacts. (FSA 5.3-6.)

Finding

Without Conditions of Certification, the project conforms to applicable laws related to efficiency; and all potential adverse impacts regarding the efficient consumption of energy will be mitigated to insignificance by other Conditions of Certification of this Decision.

CONDITIONS OF CERTIFICATION

None.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

EFFICIENCY

APPLICABLE LAW	DESCRIPTION
STATE	
Title 14, California Code of Regulations, § 15126.4(a)(1)	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., Appendix F).

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FACILITY DESIGN – Summary of Findings and Conditions

Engineering - General	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To protect public health and safety as well as the viability of the project, the applicable power plant equipment, pipelines, and other non-transmission line structures shall be designed and constructed in accordance with the 2001 California Building Standards Code, or its successor. The Chief Building Official shall review and approve the relevant design criteria and plans submitted by ESPR and conduct all necessary inspections. **CONDITION:** ☑ ESPR shall construct the project using the most recent California Building Standards Code with the oversight and approval of the Chief Building Official; shall assign California registered engineers to the project; and shall pay necessary in-lieu permit fees. Conditions: **GEN-1** through **GEN-8**. *Reference: FSA Fac. Design, pp. 5.1-2-6.*
Engineering Geology	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To fully describe the geologic conditions of the power plant site, ESPR shall prepare an Engineering Geology Report pursuant to the California Building Code. During site grading, a designated Engineering Geologist shall monitor for any adverse soil or geologic conditions. Conditions: **GEO-1** through **GEO-4.** **CONDITIONS:** ☑ ESPR shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site and pipeline route. Condition: **GEO-5**. ☑ ESPR shall conduct a detailed slope stability analysis of the project site and linear facilities prior to the completion of the final design for the project. Condition: **GEO-3.** *Reference: FSA Fac. Design, pp. 5.1-2-6.*

Civil Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To ensure erosion and sedimentation control, among other things, ESPR shall submit a site grading and drainage plan. (See also **WATER QUALITY-1**) To ensure proper conditions for foundations and other features, any adverse soil or geologic conditions shall be reported and corrected during site grading. **CONDITIONS:** ☑ ESPR shall submit grading plans and erosion/sedimentation control plans, perform inspections and submit as-built plans for approval. Conditions: **CIVIL-1** & **CIVIL-4**. ☑ If appropriate, the resident engineer shall stop construction if unknown, adverse geologic conditions are encountered. Condition: **CIVIL-2.** *Reference: FSA Fac. Design, pp. 5.1-14-15.*
Structural Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Major structures and equipment are those necessary for power production, costly or time-consuming to repair, those used for the storage of hazardous materials, or those that may become potential health and safety hazards if not constructed to applicable engineering LORS. The AFC lists the design criteria essential to ensuring that the project is designed in a manner that protects the environment and public health and safety. **CONDITION:** ☑ For earthquake safety of major structures, foundations, supports, anchorages, and tanks, ESPR will submit appropriate lateral force calculations, designs and plans to the Chief Building Official for approval. In addition, to ensure the safety of storage tanks, some of which contain hazardous materials, ESPR will submit plans and specifications to the Chief Building Official for approval. Conditions: **STRUC-1** through **STRUC-4**. *Reference: FSA Fac. Design, pp. 5.1-15-18.*
Mechanical Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The mechanical systems include not only the power train with its major components but also water and wastewater treatment facilities, pressure vessels, piping systems and pumps, storage tanks, air compressors, fire protection systems, heating and ventilation, and water and sewage. The AFC lists and describes the mechanical codes and design criteria applicable to these systems. **CONDITION:** ☑ To ensure the safety of piping and pressure vessels, some of which transport or store hazardous materials, ESPR will submit plans and specifications to the Chief Building Official for approval. Heating and air conditioning equipment, as well as plumbing, will be reviewed and inspected by the Chief Building Official. Conditions: **MECH-1** through **MECH-4**. *Reference: FSA Fac. Design, pp. 5.1-19.*

Electrical Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Major electrical features of the project, other than transmission, include generators, power control wiring, protective relays, grounding systems, and site lighting. The AFC lists and describes the electrical codes and design criteria applicable to these systems. **CONDITION:** ☑ For electric systems or components of 480 volts or higher, ESPR shall submit plans to the Chief Building Official for approval. Condition: **ELEC-1.** *Reference: FSA Fac. Design, pp. 5.1-2-6.*

FACILITY DESIGN – GENERAL

The Warren-Alquist Act requires the commission to "prepare a written decision….which includes:

(a) Specific provisions relating to the manner in which the proposed facility is to be designed, sited, and operated in order to protect environmental quality and assure public health and safety, [and]

(d)(1) Findings regarding the conformity of the proposed site and related facilities…with public safety standards…and with other relevant local, regional, state and federal standards, ordinances, or laws…" (Pub. Resources Code, § 25523).

Facility Design encompasses the civil, structural, mechanical and electrical engineering aspects of the project. The Facility Design analysis verifies that the project has been described in sufficient detail to provide reasonable assurance that it can be designed and constructed in accordance with all applicable laws and regulations, and in a manner that protects environmental quality and assures public health and safety.

This analysis also examines whether special design features should be considered during final design to deal with conditions unique to the site which could influence public health and safety, environmental protection or the operational reliability of the project. This analysis further identifies the design review and construction inspection process and establishes conditions of certification that will be used to ensure compliance with applicable laws and regulations and any special design requirements.

Engineering - General

Under Section 104.2 of the California Building Code (CBC), the building official is authorized and directed to enforce all the provisions of the CBC. For all energy facilities certified by the Energy Commission, the Energy Commission is the building official and has the responsibility to enforce the code. In addition, the Energy Commission has the power to render

interpretations of the CBC and to adopt and enforce rules and supplemental regulations to clarify the application of the CBC's provisions.

The Energy Commission's design review and construction inspection process is developed to conform to CBC requirements and ensure that all facility design conditions of certification are met. As provided by Section 104.2.2 of the CBC, the Energy Commission appoints experts to carry out the design review and construction inspections and act as a delegated Chief Building Officer (CBO) on behalf of the Energy Commission. These delegate agents typically include the local building official and independent consultants hired to cover technical expertise not provided by the local official. The project owner, through permit fees as provided by CBC Sections 107.2 and 107.3, pays the costs of the reviews and inspections. While building permits in addition to the Energy Commission certification are not required for this project, the project owner pays in-lieu permit fees, consistent with CBC Section 107, to cover the costs of reviews and inspections.

The Energy Commission has developed Conditions of Certification to ensure compliance with applicable laws and regulations and protection of the environment and public health and safety. Some of these conditions address the roles, responsibilities and qualifications of ESPR's engineers responsible for the design and construction of the project. Engineers responsible for the design of the civil, structural, mechanical, and electrical portions of the project are required to be registered in California, and to sign and stamp each submittal of design plans, calculations, and specifications submitted to the CBO. These conditions require that no element of construction proceed without prior approval from the CBO. They also require that qualified special inspectors be assigned to perform or oversee special inspections required by the applicable LORS.

While the Energy Commission and the delegated CBO have the authority to allow some flexibility with construction activities, these conditions are written to require that no element of construction of permanent facilities, which is difficult to reverse, may proceed without prior approval of plans from the CBO. For those elements of construction that are not difficult to reverse and are allowed to proceed without approval of the plans, the Applicant shall have the responsibility to fully modify those elements of construction to comply with all design changes that result from the CBO's plan review and approval process.

CONDITIONS:

- ☑ ESPR shall construct the project using the most recent California Building Code with the oversight and approval of the Chief Building Official; shall assign California registered engineers to the project; and shall pay necessary in-lieu permit fees. Conditions: **GEN-1** through **GEN-8**.

Engineering Geology

As described in **GEOLOGY**, seismic zone 4 conditions at the project site require the preparation of an Engineering Geology Report to characterize the geologic conditions. Additionally, there is a potential for slope stability issues at the site, requiring special design considerations.

CONDITIONS:

- ☑ ESPR shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site and pipeline route. Conditions: **GEO-1** & **GEO-2**.
- ☑ The project owner shall conduct a detailed slope stability analysis of the project site prior to the completion of the final design for the project. Condition: **GEO-3**.

Civil Engineering

The existing foundations underlying Units 1 and 2 shall be removed and replaced with foundations adequate for the new units 5, 6, and 7. The power plant and related facilities shall be designed to meet the seismic requirements of the latest edition of the California Building Code.

CONDITIONS:

- ☑ The project owner shall submit grading plans and erosion/sedimentation control plans, perform inspections and submit as-built plans for approval. Conditions: **CIVIL-1, CIVIL-3** & **CIVIL-4**.
- ☑ If appropriate, the resident engineer shall stop construction if unknown, adverse geologic conditions are encountered. Condition: **CIVIL-2**.

Structural Engineering

Major structures, systems and equipment are defined as those necessary for power production and are costly to repair or replace, or that require a long lead time to repair or replace, or those used for the storage, containment, handling of hazardous or toxic materials, or those that may become potential health and safety hazards if not constructed according to the applicable engineering LORS. The AFC lists the civil, structural, mechanical and electrical design criteria and demonstrates the likelihood of compliance with applicable LORS, all of which is essential to ensuring that the project is designed in a manner that protects the environment and public health and safety.

The project will be designed and constructed consistent with the 2001 edition of the CBC, and other applicable codes and standards in effect at the time design and construction of the project actually commence. In the event the design of project is submitted to the Chief Building Official (CBO) for review and approval when the successor to the 2001 CBC is in effect, the 2001 CBC provisions, identified herein, shall be replaced with the applicable successor provisions.

The procedures and limitations for the seismic design of structures by the 2001 CBC are determined considering seismic zoning, site characteristics, occupancy, structural configuration, structural system and height. Different design and analysis procedures are recognized in the 2001 CBC for determining seismic effects on structures. The dynamic lateral force procedure of Section 1631 is acceptable for design. The static lateral force procedure of Section 1630 is allowed under certain conditions of regularity, occupancy and height as determined under Section 1629.

CONDITIONS:

- ☑ For earthquake safety of major structures, foundations, supports, anchorages, and tanks, the Project Owner will submit appropriate lateral force calculations, designs and plans to the Chief Building Official for approval. In addition, to ensure the safety of storage tanks, some of which contain hazardous materials, the Project Owner will submit plans and specifications to the Chief Building Official for approval. Conditions: **STRUC-1** through **STRUC-4**.

Mechanical Engineering

The AFC lists and describes the mechanical codes, standards and design criteria that will be employed in project design documents, procurement specifications and contracts. Design work will be performed in accordance with the appropriate LORS. This approach will assure the project's mechanical systems are designed to the appropriate codes and standards. Condition: **MECH-1** through **MECH-3.**

CONDITIONS:

- ☑ To ensure the safety of piping and pressure vessels, some of which transport or store hazardous materials, ESPR will submit plans and specifications to the Chief Building Official for approval. Heating and air conditioning equipment, as well as plumbing, will be reviewed and inspected by the Chief Building Official. Conditions: **MECH-1** through **MECH-3**.

Electrical Engineering

Major electrical features of the project, other than transmission, include generators, power control wiring, protective relaying, grounding system, cathodic protection system and site lighting. The AFC lists and describes the electrical codes, standards and design criteria that will be employed in project design documents, procurement specifications and contracts (AFC).

CONDITIONS:

- ☑ For electric systems or components of 480 volts or higher, ESPR shall submit plans to the Chief Building Official for approval. Conditions: **ELEC-1**.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to facility design and related engineering fields.

CONDITIONS OF CERTIFICATION

GEN-1: The project owner shall design, construct and inspect the project in accordance with the 2001 edition of the 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 LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (The CBSC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) All transmission facilities (lines, switchyards, switching stations, and substations) are covered by the **Transmission System Engineering** Conditions of Certification.

In the event that the initial engineering designs are submitted to the CBO when a successor to the 2001 CBSC is in effect, the 2001 CBSC provisions identified herein shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

Verification: Within 30 days after receipt of the Certificate of Occupancy, the project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [2001 CBC, Section 109 – Certificate of Occupancy].

GEN-2: Prior to submittal of the initial engineering designs for CBO review, the project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM when requested.

Verification: At least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List, and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in Table 1 below. Major structures and equipment shall be added to or deleted from the Table only with CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Combustion Turbine (CT) Foundation and Connections	2
HP/IP Steam Turbine (ST) Foundation and Connections	1
LP Steam Turbine (ST) Foundation and Connections	1
Combustion Turbine Generator Foundation and Connections	2
Steam Turbine Generator Foundation and Connections	1
Heat Recovery Steam Generator (HRSG) Structure, Foundation and Connections	2
Auxiliary Transformer Foundation and Connections	2
CT Inlet Air Plenum Structure, Foundation and Connections	2
Inlet Air Evaporative Cooler Structure, Foundation and Connections	2
HRSG Exhaust Stack, Foundation and Connections	2
Isolated Phase Bus Duct	2
HRSG Transition Duct from CTG — Structure	2
Secondary Unit Substation/Transformer	2
Electrical/Control Center	2
Condenser Structure, Foundation and Connections	1
Feed Water Pump Foundation and Connections	4
Condensate Pump Foundation and Connections	2
Feed Water Heater Foundation and Connections	2
Air Compressor Foundation and Connections	2
CT Water Injection Skid Foundation and Connections	2
CT Static Starter Skid Foundation and Connections	2
CT Mechanical Accessory Compartment Foundation and Connections	2
Switchgear Equipment Building Structure, Foundation and Connections	2
CT Generator Step-up Transformer Foundation and Connections	2
ST Generator Step-up Transformer Foundation and Connections	1
HRSG Blowdown Tank Foundation and Connections	2
Boiler Circulating Pump Connections	8
Condensate Circulating Pump Foundation and Connections	4
Fuel Gas Heater Foundation and Connections	2
ST Lube Oil Package Foundation and Connections	1
Drain Cooler Foundation and Connections	1

Equipment/System	Quantity (Plant)
Air Receiver Foundation and Connections	1
Air Dryer Foundation and Connections	1
Closed Cycle Cooling Water Heat Exchanger Foundation and Connections	2
Closed Cycle Cooling Water Pump Foundation and Connections	2
Potable Water Systems	1 Lot
Drainage Systems (including sanitary drain and waste)	1 Lot
Building Energy Conservation Systems	1 Lot
Temperature Control and Ventilation Systems (including water and sewer connections)	1 Lot
High Pressure Piping	1 Lot
HVAC and Refrigeration Systems	1 Lot

GEN-3: The project owner shall make payments to the CBO for design review, plan check and construction inspection based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 2001 CBC [Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be as otherwise agreed by the project owner and the CBO.

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

GEN-4: Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer or civil engineer, as a resident engineer (RE), to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24, § 4-209, Designation of Responsibilities).] All transmission facilities (lines, switchyards, switching stations, and substations) are covered by the **Transmission System Engineering** Conditions of Certification.

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

The RE shall:

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

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

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

4. Be responsible for providing the project inspectors and testing agency(ies) with complete and up-to-date set(s) of stamped drawings, plans, specifications and any other required documents;

5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and

6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests as not conforming to the approved plans and specifications.

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

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

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

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

GEN-5: Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the

practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; D) a mechanical engineer; and E) an electrical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.] All transmission facilities (lines, switchyards, switching stations, and substations) are covered by the **Transmission System Engineering** Conditions of Certification.

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all responsible engineers assigned to the project [1998 CBC, Section 104.2, Powers and Duties of Building Official].

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

A: The civil engineer shall:

1. Design, or be responsible for design, stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities requiring design review and inspection by the CBO. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems; and
2. Provide consultation to the RE during the construction phase of the project, and recommend changes in the design of the civil works facilities and changes in the construction procedures.

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

1. Review all the engineering geology reports, and prepare final soils grading report;
2. Prepare the soils engineering reports required by the 1998 CBC, Appendix Chapter 33, Section 3309.5 – Soils Engineering Report, and Section 3309.6 – Engineering Geology Report;

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

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

C: The design engineer shall:

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

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

E: The electrical engineer shall:

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

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

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

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

The special inspector shall:

1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection;

2. Observe the work assigned for conformance with the approved design drawings and specifications;

3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action; and

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

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

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

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

GEN-7: The project owner shall keep the CBO informed regarding the status of engineering and construction. If any discrepancy in design and/or construction is discovered in any work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend the corrective action

required. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this Condition of Certification and, if appropriate, the applicable sections of the CBC and/or other LORS.

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

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

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

GEN-9: Deleted. See General Conditions of Compliance.

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

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

Verification: At least 15 days prior to the start of site grading (or a lesser number of days mutually agreed to by the project owner and the CBO), 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 earthworks and construction in the affected areas when the responsible geotechnical engineer or civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area [1998 CBC, Section 104.2.4, Stop orders].

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

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

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

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

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

Verification: Within 30 days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

STRUC-1: Prior to the start of any increment of construction of any major structure or component listed in **Table 1** of Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings

for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for the following items (from **Table 1**, above):

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

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

The project owner shall:

1. Obtain approval from the CBO of lateral force procedures proposed for project structures;
2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (i.e., highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications [1998 CBC, Section 108.4, Approval Required];
3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures at least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [1998 CBC, Section 106.4.2, Retention of plans and Section 106.3.2, Submittal documents]; and
4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations and specifications shall be signed and stamped by the responsible design engineer [1998 CBC, Section 106.3.4, Architect or Engineer of Record].

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of construction of any structure or component listed in Table 1 of Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO, with a copy to the CPM, the responsible design engineer's signed statement that the final design plans, specifications and calculations conform with all of the requirements set forth in the Energy Commission's Decision.

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

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

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

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

Verification: If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies 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 the CBO's approval.

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

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

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

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

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

MECH-1: Prior to the start of any increment of major piping or plumbing construction, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in Table 1, Condition of Certification GEN 2, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of said construction [1998 CBC, Section 106.3.2, Submittal Documents, Section 108.3, Inspection Requests, Section 108.4, Approval Required; 1998 California Plumbing Code, Section 103.5.4, Inspection Request, Section 301.1.1, Approval].

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

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

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

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of major piping or plumbing construction listed in Table 1, Condition of Certification GEN-2 above, the project owner shall submit to the CBO for design review and approval the final plans, specifications and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

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

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

The project owner shall:

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

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) 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: Prior to the start of construction of any heating, ventilating, air conditioning (HVAC) or refrigeration system, the project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations and quality control procedures for that system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable

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

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes, with a copy of the transmittal letter to the CPM.

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

A. Final plant design plans to include:

1. one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems; and
2. system grounding drawings.

B. Final plant calculations to establish:

1. short-circuit ratings of plant equipment;
2. ampacity of feeder cables;
3. voltage drop in feeder cables;
4. system grounding requirements;
5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems;
6. system grounding requirements; and
7. lighting energy calculations.

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

1. receipt or delay of major electrical equipment;
2. testing or energizing 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 a lesser number of days mutually agreed to by the project owner and the CBO) 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.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

FACILITY DESIGN

APPLICABLE LAW	DESCRIPTION
Title 24, California Code of Regulations, which adopts the current edition of the California Building Standards Code (CBSC); the 2001 CBSC for design of structures; American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code; and National Electrical Manufacturers Association (NEMA) standards.	The applicable LORS for each engineering discipline, civil, structural, mechanical and electrical, are included in the application as part of the engineering appendix, Appendix N.

RELIABILITY – Summary of Findings

Plant Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** ESPR expects to operate at an overall availability in the mid-90 percent range. *Reference: AFC 5.19-1; FSA Reliability, p. 5.4-2*
Maintainability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** ESPR will establish a plant maintenance program typical of the industry. Equipment manufacturers will provide maintenance recommendations with their products and ESPR will base its maintenance program on these recommendations. *Reference: AFC p. 5.19-2; FSA Reliability, pp. 5.4-4.*
Fuel Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The project will burn natural gas supplied from the Southern California Gas Company system. There is an adequate supply of natural gas to meet the project's needs. There is no back-up fuel supply. *Reference: AFC p. 5.19-6-7; FSA Reliability, p. 5.4-4.*
Water Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Water for cooling will be drawn from the Santa Monica Bay through the existing ESGS Unit 1 once-through cooling system. Potable water will be supplied by the City of El Segundo. *Reference: AFC p. 5.19-8; FSA Reliability, p. 5.4-4.*
Natural Disasters	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** There is no credible threat of flooding. Although located within seismic zone 4, the plant will perform as well or better than others in the electric power system by complying with the latest seismic design criteria of the California Building Code. See **FACILITY DESIGN.** *Reference: AFC p.3.2; FSA Reliability, p. 5.4-5.*

RELIABILITY - GENERAL

Presently, there are no laws, ordinances, regulations or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the Energy Commission must make findings as to the manner in which the project is to be designed, sited and operated to ensure safe and reliable operation (Cal. Code Regs., tit. 20, § 1752(c)). In past proceedings, the Commission has taken the approach that a project is acceptable if it does not degrade the reliability of the utility system to which it is to be connected. Thus, a project should exhibit reliability at least equal to that of other power plants on that system.

Plant Availability

The North American Electric Reliability Council (NERC) keeps industry statistics for availability factors. NERC continually polls utility companies throughout the North American continent on project reliability. In 1999, NERC reported an availability factor of 91.49 percent for combined cycle units of all sizes. The gas turbines that will be employed in the project have been on the market for several years, and can be expected to exhibit typically high availability. In fact, these new, large machines can be expected to outperform the fleet of various, mostly older and smaller, gas turbines that make up the NERC statistics. ESPR is intended to operate as a baseload facility with a capacity factor of at least 90%. As a major, new, efficient generating facility located in Southern California Edison's Los Angeles load center, the facility should be in high demand.

Acceptable reliability can be accomplished by providing adequate redundancy of critical components. Equipment availability will be ensured by use of ESPR's quality assurance/ quality control (QA/QC) programs during design, procurement, construction and operation of the plant, and by providing for adequate maintenance and repair of the equipment and systems.

ESPR has provided an outline of the expectations for quality control from the design concept phase through project commissioning. Equipment will be purchased from qualified suppliers that employ an approved QC program. Designs will be checked and equipment inspected upon receipt; installation will be inspected and systems tested. To ensure such implementation, appropriate Conditions of Certification are included in **FACILITY DESIGN**.

Maintainability

A generating facility called on to operate in baseload service for long periods of time must be capable of being maintained while operating. A typical approach for achieving this is to provide redundancy of those pieces of equipment most likely to require service or repair. ESPR plans to provide appropriate redundancy of function for the combined cycle portion of the project. The fact that the project consists of two trains of gas turbine generators/HRSGs provides inherent reliability. Failure of a non-redundant component of one train should not cause the other train to fail, thus allowing the plant to continue to generate, though at reduced output. Further, the plant's distributed control system (DCS) will be built with typical redundancy. Emergency DC and AC power systems will be supplied by redundant batteries, chargers, and inverters. (AFC 1.2, 3.10, 5.19-4; Appendix F; FSA Reliability, pp. 5.4-3, 4.)

ESPR proposes to establish a plant maintenance program based on good utility practices typical of the industry. Equipment manufacturers provide maintenance recommendations with their products; ESPR will base its maintenance program on these recommendations. In light of these plans, the project will be adequately maintained to ensure acceptable reliability. (AFC p. 5.19-2; FSA Reliability, p. 5.4-4.)

Fuel Availability

ESPR will burn natural gas from the Southern California Gas Company (SoCalGas) system. Gas will be received at the plant via a new connection to the existing on-site metering station,

interconnected to SoCalGas' existing 20-inch diameter pipeline. This natural gas system, which provides access to gas from the Rocky Mountains, Canada and the Southwest, represents a resource of considerable capacity. This system offers access to adequate supply of gas. (AFC p. 5-19.6; FSA Reliability, p. 5.4-4.)

Water Availability

ESPR is utilizing reclaimed water in the project wherever feasible on landscaping and "seal water" for cooling equipment seals. Project cooling relies only on sea water from the Santa Monica Bay. Adequate supplies are available. (AFC 5.5-2-4; FSA 4.13-10-11.)

Natural Disasters

Natural forces can threaten the reliable operation of a power plant. High winds, tsunamis (tidal waves) will not likely represent a hazard for this project, but flooding and seismic shaking (earthquake) present credible threats to reliable operation. Although the site elevation is 20 feet above mean sea level, with proper grading and drainage, as well as the new sea wall ESPR has incorporated into its design, there should be no threat of flooding. (FSA p. 5.4-5.)

The site lies within Seismic Zone 4. The project will be designed and constructed to the latest appropriate seismic design criteria of the California version of the Uniform Building Code. By being constructed and built to the latest, upgraded seismic design criteria, this project will likely perform at least as well as, and perhaps better than, existing plants in the electric power system. This Decision contains Conditions of Certification to ensure the project is constructed in conformity with the latest California Building Code. See **FACILITY DESIGN**.

Finding

Without Conditions of Certification, the project conforms to applicable laws related to reliability.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

RELIABILITY

APPLICABLE LAW	DESCRIPTION
None	

TRANSMISSION LINE SAFETY & NUISANCE – Summary of Findings and Conditions

Electric & Magnetic Fields	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** ESGS will not add any new offsite transmission lines or increase the carrying capacity of a specific line. Onsite replacement lines must comply in CPUC requirements. **CONDITION:** ☑ Project owner shall construct on-site transmission lines in accordance with applicable regulations. Condition: **TSLN-1.** *Reference: AFC p. 5.18-27; FSA Pub. Health, pp. 4.10-10.*
Aviation Safety	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The project will not adversely impact aviation safety. *Reference: AFC 5.18-51; FSA 4.10-2*
Radio & TV Interference	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** Transmission line related radio and TV-frequency interference are regulated by both Federal and State regulations. Conditions are set forth herein to ensure that any interference is mitigated whenever interference occurs. **CONDITION:** ☑ ESPR shall measure project-related electric and magnetic fields Condition: **TSLN-1.** *Reference: AFC 5.18-2-11; FSA 4.10-2,3*
Audible Noise	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** There are no design specific federal regulations to limit audible noise from transmission lines. As with radio noise, such noise is limited instead through design and maintenance standards established from industry research and experience. *Reference: AFC 5.18-42-44; FSA 4.10-3,4*
Fire Hazard	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** State regulations set forth guidelines to minimize potential fire hazards as a result of overhead lines. *Reference: FSA 4-10-4*
Shocks	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** State regulations and industrial standards set forth guidelines to prevent hazardous shocks from power lines. *Reference: FSA 4.10-4,5*

TRANSMISSION LINE SAFETY & NUISANCE – GENERAL

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

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

The power generated from ESPR will be transmitted off-site to the Southern California Edison (SCE) 230 kV El Segundo Switchyard located adjacent to ESGS. This transmission will be made using existing SCE transmission line, meaning that no new off-site transmission lines will be built in connection with the proposed project modification. The only new lines would be the two on-site 230 kV overhead connections between the new replacement generating units 5, 6, and 7 and the SCE Switchyard. As replacement lines, these new lines will be located within the same route as the connecting lines for the existing 1950s-vintage units 1 and 2, which are the units to be replaced.

Electric & Magnetic Fields

The possibility of health effects from exposure to electric and magnetic fields has increased public concern in recent years about living near high-voltage lines. Both fields occur together whenever electricity flows, hence the general practice of considering exposure to both as EMF exposure. The available evidence, as evaluated by California Public Utilities Commission (CPUC) and other regulatory agencies, has not established that such fields pose a significant health hazard to exposed humans.

However, the Energy Commission considers it important, as does the CPUC, to note that while such a hazard has not been established from the available evidence, the same evidence does not serve as proof of a definite lack of a hazard. Therefore, in light of present uncertainty, it is appropriate to reduce such fields where feasible, until the issue is better understood.

Since each new or modified line in California is currently required to be designed according to the safety and EMF-reducing guidelines of the utility in the service area involved, their fields are required under existing CPUC policies to be similar to fields from similar lines in that service area. A Condition of Certification has been set forth to verify implementation of the reduction measures necessary.

CONDITION:

- ☑ ESPR shall design and construct on-site replacement lines in compliance with CPUC's GO-95, GO-52, Title 8, Sections 2700 through 2974 of the California Code of Regulations and SCE's EMF-reduction guidelines arising from CPUC 93-11-013. **TSLN-1**.

Aviation Safety

The project will not adversely impact aviation safety and all applicable LORS are in compliance.

Radio & TV Interference

Transmission line-related radio-frequency interference is one of the indirect effects of line operation produced by the physical interactions of line electric fields. The level of such interference usually depends on the magnitude of the electric fields involved. Because of this, the potential for such impacts can be assessed from field strength estimates obtained for the line. Applicable regulations are intended to ensure that such lines are located away from areas of potential interference and that any interference is mitigated whenever it occurs.

CONDITION:

- ☑ ESPR shall measure project-related electric and magnetic fields. Condition: **TSLN-2**.

Audible Noise

There are no design-specific federal regulations to limit the audible noise from transmission lines. As with radio noise, such noise is limited instead through design and maintenance standards established from industry research and experience. These standards have proven effective without significant impacts on line safety, efficiency, maintainability, and reliability. Any noise will usually result from the action of the electric field at the surface of the line conductor and could be perceived as a characteristic crackling, frying, hissing sound, or hum. Since (as with communications interference), the noise level depends on the strength of the line electric field, the potential for occurrence can be assessed from estimates of the field strengths expected during operation. Such noise is generated during wet weather and from lines of 345 kV or higher. It is, therefore, not generally expected at significant levels from lines of less than 345 kV such as the on-site or off-site lines associated with the proposed project.

Fire Hazard

State regulations address fire hazards 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. The project is in compliance with such state regulations, therefore, risk of such fire hazards are minimal. (FSA 4.10-4; General Order 95, CPUC; Title 14, California Code of Regulations, Section 1250, “Fire Prevention Standards for Electric Utilities”).

Shocks

There are no design-specific federal regulations to limit nuisance shocks in the transmission line environment. For modern high-voltage lines, such shocks are effectively minimized through grounding procedures specific in the National Electrical Safety Code and the joint guidelines of the American National Standards Institute and the joint guidelines of the

Institute of Electrical and Electronics Engineers. Nuisance shocks are caused by current flow at levels generally incapable of significant physiological harm. They result mostly from direct contact with metal objects electrically charged by fields from the energized line. Such electric charges are induced in different ways by the line electric and magnetic fields.

Cumulative Impacts

There are no significant cumulative impacts.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to transmission line safety.

CONDITIONS OF CERTIFICATION

TLSN-1: The project owner shall ensure that the proposed on-site replacement lines (associated with Units, 5, 6, and 7) are designed and constructed in compliance with CPUC's GO-95, GO-52, Title 8, Section 2700 Sections 2700 through 2974 of the California Code of Regulations and SCE's EMF-reduction guidelines arising from CPUC Decision 93-11-013.

Verification: Thirty days before the start of line construction, the project owner shall submit to the Commission's Compliance Project Manager (CPM) evidence of their intention to comply with the above requirements.

TLSN-2: The project owner shall ensure that a qualified individual is engaged to measure the strengths of the project-related electric and magnetic in the post-modification period. Measurements should be made at the same points along the perimeter of the SCE Switchyard, within the route of the on-site replacement lines, and the route of the existing off-site SCE lines, for which field strength values were presented by the Applicant.

Verification: The project owner shall ensure that the post-modification measurements are tabulated together with the pre-modification measurements presented by the Applicant. A copy of these measurement results shall be filed with the CPM within 60 days after completion of the measurements.

TLSN-3: Thirty days prior to the start of commercial operations**,** the project owner shall send written notice to all property owners and residents in the City of Manhattan Beach within 1,000 feet of transmission lines between the El Segundo Generating Station and the El Nido Substation of the possible interference impacts associated with the project and procedures for reporting complaints. The project owner shall make every reasonable effort to identify and correct, on a case-specific basis, all complaints of interference with radio or television signals from operation of transmission lines and related facilities. In addition to any transmission repairs, the relevant corrective actions should include, but shall not be limited to, adjusting or modifying receivers, adjusting or repairing, replacing or adding antennas, antenna signal amplifiers, filters, or lead-in cable.

The project owner shall maintain written records for a period of five years, of all complaints of radio or television interference attributable to operation together with the corrective action taken in response to each compliant. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution should be noted and explained. The record shall be signed by the project owner and also the complaint, if possible, to indicate concurrence with the corrective action or agreement with the justification for a lack of action.

Verification: All reports of line-related complaints shall be summarized and included in the Annual Compliance Report to the CPM.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRANSMISSION LINE SAFETY AND NUISANCE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
14 CFR Part 77 – Objects Affecting the Navigation Space	Provides regulates that specify the criteria used by the FAA for determining whether a Notice of Proposed Construction or Alteration is required for potential obstruction hazards.
Title 47 CFR §15.25	Prohibits operation of any devices producing force fields that interfere with radio communications, even if such devices are not intentionally designed to produce radio-frequency energy.
STATE	
CPUC General Order 52	Governs the construction and operation of power and communications lines
CPUC General Order 128	Specifies criteria for underground transmission lines.
Title 14 CCR §1250	Specifies utility-related measures for fire protection.
Title 8 CCR, §2700 et seq.	Establishes requirements and standards for safely installing, operating and maintaining electrical installations and equipment.
LOCAL	
There are no applicable Local LORS for this area.	

TRANSMISSION SYSTEM ENGINEERING – Summary of Findings and Conditions

Grid Planning	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The proposed project's 350 MWs, combined with the existing 280 MWs generated by Units 3 and 4, can be accommodated by SCE's electric transmission grid without creating congestion or requiring additional new facilities under normal and emergency operating conditions. *References: AFC 3.6-1; FSA TSE., 5.5-1-13.*
System Reliability:	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** ESPR's net addition of 280 MW does not require new or modified transmission facilities, beyond the projects interconnection with the existing transmission system. *Reference: AFC 3.6-6; FSA TSE., 5.5-1-13.*

TRANSMISSION SYSTEM ENGINEERING – GENERAL

The Warren-Alquist Act requires the Commission to "prepare a written decision ….which includes:

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

Under California's 1996 Electricity Industry Deregulation legislation, Southern California Edison (SCE), Pacific Gas and Electric Company (PG&E), and San Diego Gas and Electric Company (SDG&E) divested most of their power plants but retained ownership of their electric transmission and distribution systems, under the operating control of the California Independent System Operator (Cal-ISO). Cal-ISO is responsible for ensuring electric system reliability for all participating transmission owning utilities and determines both the standards necessary to achieve reliability and whether a proposed project conforms to those standards. The Energy Commission relies on the Cal-ISO's determinations to make its finding related to applicable reliability standards and the need for additional transmission facilities. The Energy Commission conducts an environmental review of the proposed project. The Energy Commission must also consider any additional transmission facilities recommended by Cal-ISO as part of the "whole of the action" even though the additional facilities are not licensed by the Energy Commission (CCR, tit. 14, §15378).

The El Segundo project is presently within Southern California Edison's (SCE) distribution and transmission service territory. The El Segundo project will result in a net increase in the output of the existing El Segundo Generating Station by 280 MW, with the 350 MW existing Units 1 and 2 replaced by the new Units 5, 6, and 7 with a nominal net output of 630 MW. Units 3 and 4 will be re-rated from 604 MW to 670 MW as a result of the project. New transmission facilities are limited to those on-site that would connect the new generating facilities with the existing on-site El Segundo substation. No new transmission lines will be required for the project. Two new generator lead lines will connect the switchyard to the existing El Segundo substation, located on-site. The 230 kV lead lines will connect the 230 kV transformers in the switchyard with existing 230 kV equipment in the El Segundo substation. While the interconnection and operation of the project will require the replacement of circuit breakers and wave traps in the Southern California Edison transmission network, no significant downstream facilities have been identified as a reasonably foreseeable consequence of the El Segundo project.

Grid Planning

A Facility Study was conducted for the El Segundo project by SCE. The power flow study results indicate that, under stressed conditions, an extensive list of existing line overloads would be slightly increased due to the project. In addition, a limited number of heavily loaded facilities would reach overload conditions with the addition of the project. The study describes four mitigation alternatives for the identified overloads. ESPR has committed to alternative 3. Alternative 3 uses Special Protection Systems and replaces equipment such as wave traps and circuit breakers that are within the fence line of the existing facilities (ESPR 2002, pp. 5 and 6; FSA p. 5.5-5). Thus no new or modified transmission facilities beyond the project's interconnection with the existing transmission system would be required as a result of the power plant addition. The entire project meets NERC, WECC, and Cal-ISO reliability criteria. (FSA p. 5.5-6.)

Operating Reliability & Safety

A system reliability study was performed to determine the effects of connecting a new power plant to the existing electric grid. Based on results of the Facilities Study and a subsequent letter from ESPR, it was determined that the project will not cause significant line overloads under normal conditions. Transmission lines do overload under normal and emergency or outage conditions, which will require mitigation, but significant downstream facilities will not be required.

Cumulative Impacts

While cumulative transmission impacts caused by the combined operation of the project and other proposed projects are possible, these potential impacts are highly speculative because of the uncertainty surrounding project proposed by other generators. Mitigation of such impacts will be the responsibility of other project developers, and any impacts caused by the El Segundo project will be mitigated as previously identified.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to transmission system engineering.

Transmission Systems Engineering

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

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

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

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

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

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

The electrical engineer shall:

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

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

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

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

Verification: The project owner shall submit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days

of receipt. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action required to obtain the CBO's approval.

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

a) receipt or delay of major electrical equipment;
b) testing or energizing of major electrical equipment; and
c) the number of electrical drawings approved, submitted for approval, and still to be submitted.

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

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

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

b) Breakers and 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 from the project.

e) Termination facilities shall comply with applicable SCE interconnection standards.

f) The project owner shall provide:

i) The final Detailed Facility Study (DFS) including a description of facility upgrades, operational mitigation measures, and/or Special Protection System (SPS) sequencing and timing if applicable,
ii) Executed Facility Interconnection Agreement
iii) Verification of Cal-ISO Notice of Synchronization.

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

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

b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[4] and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", NEC, applicable interconnection standards, and related industry standards.

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

d) The DFS operational mitigation measures, SPS, and executed Facility Interconnection Agreement shall be provided concurrently to the CPM and CBO. Substitution of equipment and substation configurations shall be identified and justified by the project owner for CBO approval.

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

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

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

TSE-7: The project owner shall provide the following Notice to the California Independent System Operator (Cal-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 Cal-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 ISO Outage Coordination Department.

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

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

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

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

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

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRANSMISSION SYSTEM ENGINEERING

APPLICABLE LAW	DESCRIPTION
FEDERAL	
There are no applicable Federal LORS	
STATE	
CPUC General Order 95, Rules for Overhead Electric Line Construction.	Formulates uniform requirements for construction of overhead lines
CPUC Rule 21	Provides standards for the reliable connection of parallel generating stations connected to participating transmission owners.
Western Systems Coordinating Council (WSCC)	Provides the performance standards used in assessing reliability of the interconnected system.
North American Electric Reliability Council (NERC)	Provides policies, standards, principles and guides to assure the adequacy and security of the electric transmission system.
LOCAL	
There are no applicable Local LORS for this area.	

WORKER SAFETY – Summary of Findings and Conditions

Fire Protection	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The proposed fire protection system at the site will include fire alarms, detection systems, fire hydrants, water storage, and both primary electric and backup diesel water pumps and hose stations throughout the facility. The system will be designed and operated in accordance with National Fire Protection Association (NFPA) standards and recommendations. Prior to construction and operation of the project, the city of El Segundo Fire Department shall confirm the adequacy of the proposed fire protection systems and plans. **CONDITION:** ☑ ESPR shall submit fire protection plans for the construction and operation of the project. Conditions: **WORKER SAFETY-1**, **WORKER SAFETY-2.** *References: AFC p. 5.17-13 and §3.4.10; FSA pp. 4.14-8, 10.*
Safety & Injury Prevention	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Construction: During the construction phase of the project, workers will be exposed to hazards typical of construction of a cogeneration facility. Construction Safety Orders are promulgated by Cal/OSHA and are applicable to the construction phase of the project. **CONDITION:** ☑ ESPR shall prepare a Construction Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of El Segundo Fire Department. Condition: **WORKER SAFETY-1.** Operation: Prior to operation, ESPR shall prepare the Operations Safety and Health Program, which will include an Injury and Illness Prevention Program, an Emergency Action Program/Plan, a Fire Protection and Prevention Program; and a Personal Protective Equipment Program. **CONDITION:** ☑ ESPR shall prepare an Operations Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of El Segundo Fire Department. Condition: **WORKER SAFETY-1.** *References: AFC §5.17; FSA pp. 4.14-4, 5.*

Noise	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
	Cal-OSHA regulations provide the maximum noise level over an 8-hour work period is 90 dBA. Areas above 85 dBA need to be posted as high noise level areas and appropriate hearing protection will be provided. ESPR will also adopt a hearing conservation program in accordance with Cal-OSHA regulations. **CONDITION:** ☑ Project owner shall institute an occupational noise control program to reduce exposure to high levels of construction noise. Condition: **WORKER SAFETY-1**. ☑ Project owner shall conduct an occupational noise survey to identify noise hazardous areas and, if necessary, prepare mitigation in consultation with Cal/OSHA to reduce noise to prescribed limits. Condition: **WORKER SAFETY-2.** *Reference: AFC 5-12-15-16; FSA 4.14-2-4*

WORKER SAFETY - GENERAL

The requirements for worker safety and fire protection are enforced through Federal, State, and local regulations. The State of California Department of Industrial Relations is charged with the responsibility for administering the Cal/OSHA plan. Effective implementation of worker safety programs at a facility is essential to the protection of workers from workplace hazards. These programs are documented through project-specific worker safety plans. Industrial workers at the proposed facility will operate equipment, handle hazardous materials, and face other workplace hazards that may result in accidents or serious injury. The worker safety and fire protection measures proposed for this project are designed to either eliminate or minimize such hazards through special training, use of protective equipment or implementation of procedural controls. (AFC §5.17; FSA 4.14-1,4.)

Fire Protection

The Energy Commission staff reviewed the information provided in the AFC regarding on-site fire protection, which will be adequate for fighting incipient fires. The proposed fire protection system at the site will include fire alarms, detection systems, fire hydrants, water storage, and both primary electric and backup diesel water pumps and hose stations throughout the facility. Fixed fire suppression systems will be installed at pre-determined fire risk areas. The system will be designed and operated in accordance with National Fire Protection Association (NFPA) standards and recommendations. Sprinkler systems will be installed in the Control/Administration Building and Fire Pump Building, as required by NFPA requirements. Hand-held fire extinguishers will be located in accordance with NFPA 10 throughout the facility.

ESPR will also be required to provide final diagrams and plans of fire protection systems to the Energy Commission and to the City of El Segundo Fire Department, prior to construction

and operation of the project, to confirm the adequacy of the proposed fire protection systems and plans. All Fire Department access roads, water mains, and fire hydrants shall be installed and operational during construction in accordance with Article 87 of the Fire Code. A final inspection by the Fire Department will be required to confirm that the facility meets all the Fire and Building Code requirements. These measures are sufficient to ensure adequate protection of workers and the public from impacts associated with fire hazards posed by the proposed facility.

CONDITION:

- ☑ ESPR shall submit fire protection plans for the construction and operation of the project. Conditions**: WORKER SAFETY-1, WORKER SAFETY-2**.

Safety & Injury Prevention

Industrial environments are potentially dangerous. Workers could be exposed to chemical spills, hazardous waste, fires, moving equipment, and confined space entry and egress problems. It is important to have well-defined facility-specific policies and procedures, training, and hazard recognition and control to minimize work place hazards and to protect workers from unavoidable hazards. Energy Commission staff has reviewed ESPR's proposed measures for protection of workers during construction and operation of the proposed project. These measures are described below. These measures are adequate to protect workers from work place hazards associated with the proposed project and to comply with applicable laws.

Construction: During the construction phase of the project, workers will be exposed to hazards typical of construction of a gas-fired combined cycle facility. Construction Safety Orders are published at Title 8 of the California Code of Regulations beginning with section 1502 (8 CCR § 1502, et seq.). These requirements are promulgated by Cal/OSHA and are applicable to the construction phase of the project. The Construction Injury and Illness Prevention Program will include the following:

- A Construction Safety Program;
- A Construction Personal Protective Equipment Program;
- A Construction Exposure Monitoring Program;
- A Construction Emergency Action Plan; and
- A Construction Fire Protection and Prevention Plan.

Additional programs include General Industry Safety Orders (8 CCR § 3200-6184), Electrical Safety Orders (8 CCR §2299-2974) and Unfired Pressure Vessel Safety Orders (8 CCR § 450-544). The AFC includes adequate outlines of each of the above programs. Prior to construction of the project, detailed programs and plans will be provided pursuant to the Condition of Certification **WORKER SAFETY-1**.

CONDITION:

- ☑ ESPR shall prepare a Construction Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of El Segundo Fire Department. Condition: **WORKER SAFETY-1**.

Operation: Upon completion of construction and prior to operation, ESPR shall prepare the Operations and Maintenance Safety and Health Program pursuant to regulatory requirements of Title 8 of the California Code of Regulations, which will include the following programs and plans:

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

Additional programs also include General Industry Safety Orders (8 CCR § 3200-6184), Electrical Safety Orders (8 CCR §2299-2974) and Unfired Pressure Vessel Safety Orders (8 CCR § 450-544). The AFC includes adequate outlines of each of the above programs. Cal/OSHA will review ESPR's program and provide comments as a result of a consultation request. A Cal/OSHA representative will complete a physical survey of the site, analyze work practices, and assess those practices that may likely result in illness or injury.

CONDITION:

- ☑ ESPR shall prepare an Operations Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of El Segundo Fire Department. Condition: **WORKER SAFETY-2**.

Noise

Construction: ESPR acknowledges the need to protect construction workers from noise hazards as well as the applicable laws and regulations relating to worker health and safety. The California Occupational Safety and Health Administration regulations provide the maximum noise level over an 8-hour work period is 90 dBA. Areas above 85 dBA need to be posted as high noise level areas and appropriate hearing protection will be provided. ESPR will also adopt a hearing conservation program in accordance with the Cal-OSHA § 5097 Hearing Conservation Program.

CONDITION:

- ☑ ESPR shall institute an occupational noise control program to reduce exposure to high levels of construction noise. Condition: **NOISE-3.**

Operation: ESPR recognizes the need to protect plant operating and maintenance personnel from noise hazards, and to comply with applicable laws and regulations. A measure to be implemented for noise-related impacts includes the above-mentioned Hearing Conservation Program.

CONDITION:

- ☑ ESPR shall conduct an occupational noise survey to identify noise hazardous areas and, if necessary, prepare mitigation in consultation with Cal/OSHA to reduce noise to prescribed limits. Condition: **NOISE-7**.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to worker safety.

CONDITIONS OF CERTIFICATION

WORKER SAFETY-1: The project owner shall submit to the Compliance Project Manager (CPM) for approval, a copy of the Project Demolition and Construction Safety and Health Program containing the following:

- A Demolition and Construction Safety Program;
- A Demolition and Construction Personal Protective Equipment Program;
- A Demolition and Construction Exposure Monitoring Program;
- A Demolition and Construction Emergency Action Plan; and
- A Demolition and Construction Fire Protection and Prevention Plan.

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

The Demolition and Construction Fire Protection and Prevention Plan and Emergency Action Plan shall include the following:

1. Methods to maintain fire access roadways and submittal of a fire access layout plan for review by the El Segundo Fire Department and approval by the CPM.
2. Provision of a suitable replacement for the existing fire suppression water reservoir prior to demolishing the existing reservoir.
3. Provision of fire flow calculations to verify that the available water supply proposed will be adequate for emergency operations.
4. A requirement that all temporary fire mains and hydrants shall be adequately braced and tied-down to anticipate the effects of water hammer and that protection from vehicular impact is provided as necessary.

Verification: At least 30 days prior to site mobilization, the project owner shall submit to the CPM for review and approval a copy of the Project Demolition and Construction Safety and Health Program. The project owner shall provide a letter from the City of El Segundo Fire Department stating that they have reviewed and commented on the Demolition and Construction Fire Protection and Prevention Plan and Emergency Action Plan.

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

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

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the Cal/OSHA Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders. The Operation Fire Protection Plan and the Emergency Action Plan shall also be submitted to the City of El Segundo Fire Department for review and comment.

The Project Operations Fire Protection and Prevention Plan and Emergency Action Plan shall address:

1. Provision of remote annunciation for all fire alarm and automatic suppression devices and the placement of remote annunciation at the security station on Vista Del Mar.
2. Provision of a complete fire alarm system and automatic fire sprinklers for the new administration building and any new control buildings.
3. A secondary entrance point for Fire Department operations along the northern boundary of the property.

Verification: At least 30 days prior to the start of operation, the project owner shall submit to the CPM and the City of El Segundo Fire Department a copy of the Project Operations and Maintenance Safety & Health Program.

WORKER SAFETY-3: Before using one of the fuel oil storage tanks as a clean soils storage area, the project owner shall ensure that the integrity of the floor has not been compromised by cracks or holes, the tanks have been thoroughly cleaned, no airborne hydrocarbons are present above the method detection level of a hand-held PID hydrocarbon vapor detector, and that the earth-moving vehicles used are equipped with environmental cabs.

Verification: At least 30 days prior to the start of using the tanks as a storage area, the project owner shall submit to the CPM a report verifying the integrity of the floor, describing

the results of the PID monitoring, and a statement that all earth-moving vehicles used are equipped with properly functioning environmental cabs.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WORKER SAFETY AND FIRE PROTECTION

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Title 29 CFR §651 et seq.	Established the Occupational Safety and Health Act of 1970 to protect the health and safety of workers
Title 29 CFR §1910 et seq.	Contains the minimum occupational health and safety standards for general industry in the U.S.
Title 29 CFR §1926 et seq.	Contains the minimum occupational health and safety standards for construction industry in the U.S.
Title 29 CFR §1952.170-1952-175 et seq.	Gives California full enforcement responsibility for relevant federal occupational health and safety standards.
Title 49 CFR §192	U.S. Department of Transportation Pipeline Safety Regulations. Adopted by the California Public Utility Commission. Governs the California utilities on design, construction, testing, maintenance, and operation of piping systems.

STATE	
Title 8 CCR §5144	Requirements for respiratory protection programs for construction workers.
Title 8 CCR §1920 et seq.	Regulations for fire prevention during construction.
Title 8 CCR §450-560 et seq.	Applicable requirements of the Division of Industrial Safety, including Unfired Pressure Vessel Safety Orders, Construction Safety Orders, Electrical Safety Orders, and General Industry Safety Orders.
Title 8 CCR §1509, 1514-1522, 3203, 3220-3221, 3380-3390, 3401-3411	Outlines employer requirements for preparation of Illness and Injury Prevention Program, Emergency Action Plan, Fire Prevention Plan, and Personal Protective Equipment Program for construction and operations workers.
Health & Safety Code §25915-25919.7	Outlines requirements for Asbestos Management Plan including employee notification and handling procedures. Applies to presence of asbestos in the existing Units 1 & 2.
Labor Code §142.3	Authorizes the Occupational and Safety Health Board to establish safety standards.
Labor Code §6300 et seq.	Establishes the responsibilities of the Divisions of Occupational Health and Safety.
24 CCR §501 et seq.	Building code established to provide minimum standards to safeguard human life, health, property, and public welfare by controlling design, construction, and quality of materials of building.
California Public Utility Commission General Order No. 112-E	Additional restrictions to govern the California utilities on pipeline safety.
APPLICABLE LAW	**DESCRIPTION**
INDUSTRY STANDARDS	
Uniform Fire Code Standards	Contains provisions necessary for fire prevention and information about fire safety, special occupancy uses, special processes, and explosive, flammable, combustible and hazardous materials.

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GENERAL CONDITIONS
INCLUDING
COMPLIANCE MONITORING AND CLOSURE PLAN

INTRODUCTION

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

The Compliance Plan is composed of elements that:

1. set forth the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, delegate agencies, and others;
2. set forth the requirements for handling confidential records and maintaining the compliance record;
3. state procedures for settling disputes and making post-certification changes;
4. state the requirements for periodic compliance reports and other administrative procedures that are necessary to verify the compliance status for all Energy Commission approved conditions;
5. establish requirements for facility closure plans; and
6. specify conditions of certification that follow each technical area that contain the measures required to mitigate any and all potential adverse project impacts associated with construction, operation, and closure to an insignificant level. Each specific condition of certification also includes a verification provision that describes the method of assuring that the condition has been satisfied.

GENERAL CONDITIONS OF CERTIFICATION

DEFINITIONS

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

SITE MOBILIZATION

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

GROUND DISTURBANCE
Ground disturbance is an onsite activity that results in the removal of soil or vegetation, boring, trenching, or alteration of the site surface. This does not include driving or parking a passenger vehicle, pickup truck, or other light vehicle, or walking on the site.

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

CONSTRUCTION
Construction is onsite work to install permanent equipment or structures for any facility. [Warren-Alquist Act section 25105] Construction does **not** include the following:

a. the installation of environmental monitoring equipment;

b. a soil or geological investigation;

c. a topographical survey;

d. any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; or

e. any work to provide access to the site for any of the purposes specified in a., b., c., or d.

START OF COMMERCIAL OPERATION[5]
For compliance monitoring purposes, "commercial operation" is that phase of project development which begins after the completion of start-up and commissioning, where the power plant has reached steady-state production of electricity with reliability at the rated capacity.

COMPLIANCE PROJECT MANAGER RESPONSIBILITIES
A Compliance Project Manager (CPM) will oversee the compliance monitoring and shall be responsible for:

1. ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and conditions of the Energy Commission Decision;

2. resolving complaints;

3. processing post-certification changes to the conditions of certification, project description, and ownership or operational control;

4. documenting and tracking compliance filings; and

5. ensuring that the compliance files are maintained and accessible.

[5] A different definition of "Start of Commercial Operation," may be included in the Air Quality (AQ) section (per District Rules or Federal Regulations). In that event, the definition included in the AQ section would only apply to that section.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints, and amendments.
All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval, the approval will involve all appropriate staff and management.
The Energy Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Energy Commission about power plant construction or operation-related questions, complaints or concerns.

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

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

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

PROJECT OWNER RESPONSIBILITIES
It is the responsibility of the project owner to ensure that the general compliance conditions and the conditions of certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the conditions of certification or the general compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate.

COM-1, Unrestricted Access
The CPM, responsible Energy Commission staff, and delegate agencies or consultants, shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the files and records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally

schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time. All visitors must follow the Owner's standard safety requirements such as wearing appropriate equipment and observing safety rules when inspecting the site.

COM-2, Compliance Record

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

COM-3, Compliance Verification Submittals

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

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

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

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

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

All submittals shall be addressed as follows:

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

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

COM-4, Pre-Construction Matrix and Tasks Prior to Start of Construction

The project owner shall submit to the CPM, prior to commencing construction, a compliance matrix addressing only those conditions that must be fulfilled before the start of construction. This matrix shall be included with the project owner's **first** compliance submittal, and shall be submitted prior to the first pre-construction meeting, if one is held. It will be in the same format as the compliance matrix referenced 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 (e.g., 30, 60, 90 days) for submittal of compliance verification documents to the CPM for conditions of certification are established to allow sufficient staff time to review and comment and, if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

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

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

It is important that the project owner understand that the submittal of compliance documents prior to project certification is at the owner's own risk. In such a situation, 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 Commission Decision. During construction, the project owner or authorized agent shall 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.

COM-5, Compliance Matrix

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

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

8. the project's preconstruction and construction milestones, including dates and status (if milestones are required).

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

COM-6, Monthly Compliance Report

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

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

1. a summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. documents required by specific conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Monthly Compliance Report;
3. an initial, and thereafter updated, compliance matrix which shows 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 which 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 with, 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;
10. any requests, with justification, to dispose of items that are required to be maintained in the project owner's compliance file; and
11. a listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolutions of any resolved complaints, and the status of any unresolved complaints.

COM-7, Annual Compliance Report

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

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

COM-8, Construction and Operation Security Plan

At least 14 days prior to commencing construction, a site-specific Security Plan for the construction phase shall be submitted to the CPM for review and approval. At least 30 days prior to the initial receipt of hazardous materials on-site, a site-specific Security Plan for the operational phase shall be submitted to the CPM for review and approval.

Construction Security Plan

The Construction Security Plan shall include the following:

1. site fencing enclosing the construction area;
2. use of security guards;
3. check-in procedure or tag system for construction personnel and visitors;
4. protocol for contacting law enforcement and the CPM in the event of conduct endangering the facility, its employees, its contractors, or public, conduct which is a pre-incident indicator of endangering the facility, its employees, its contractors, or public, or an emergency; and
5. evacuation procedures.

Operations Security Plan

The Operations Security Plan shall include the following:

1. permanent site fencing and security gate;
2. evacuation procedures;
3. protocol for contacting law enforcement and the CPM in the event of conduct endangering the facility, its employees, its contractors, or public, conduct which is a pre-incident indicator of endangering the facility, its employees, its contractors, or public, or emergency;
4. fire alarm monitoring system;
5. site personnel background checks, including employee and routine on-site contractors [Site personnel background checks are limited to ascertaining that the employee's claims of identity and employment history are accurate]. All site personnel background checks shall be consistent with state and federal law regarding security and privacy;
6. site access for vendors; and
7. requirements for Hazardous Materials vendors to prepare and implement security plans as per 49 CFR 172.800 and to ensure that all hazardous materials drivers are in compliance with personnel background security checks as per 49 CFR Part 1572, Subparts A and B.
8. In addition, the Operations Security Plan shall include one or more of the following in order to ensure adequate perimeter security:
   a) security guards;
   b) security alarm for critical structures;
   c) perimeter breach detectors and on-site motion detectors; and
   d) video or still camera monitoring system.

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

COM-9, Confidential Information

Any information that the project owner deems confidential shall be submitted to the Energy Commission's Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information, that is determined to be confidential shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

COM-10, Department of Fish and Game Filing Fee

Pursuant to the provisions of Fish and Game Code Section 711.4, the project owner shall pay a filing fee in the amount of $850. The payment instrument shall be provided to the Energy Commission's Project Manager (PM), not the CPM, at the time of project certification and shall be made payable to the California Department of Fish and Game. The PM will submit the payment to the Office of Planning and Research at the time of filing of the notice of decision pursuant to Public Resources Code Section 21080.5.

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

Prior to the start of construction, the project owner must provide notification in accordance with **NOISE-1** notifying property owners 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 system with date and time stamp recording. All recorded inquiries shall be responded to within 24 hours. The telephone number shall be posted at the project site and made easily visible to passersby during construction and operation. The telephone number shall be provided to the CPM who will post it on the Energy Commission's web page at:

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

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

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM. Complaints shall be logged and numbered. All complaints shall be recorded on the complaint form, such as Attachment A.

Facility Closure

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

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

Closure Definitions

Planned Closure

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

Unplanned Temporary Closure

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

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

General Conditions for Facility Closure

COM-12, Planned Closure
In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least twelve months prior to commencement of closure activities (or other period of time agreed to by the CPM). The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.
The plan shall:

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

In the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Energy Commission may hold public hearings as part of its approval procedure.
In addition, prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Energy Commission CPM for the purpose of discussing the specific contents of the plan.
As necessary, prior to or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities, until Energy Commission approval of the facility closure plan is obtained.

COM-13, Unplanned Temporary Closure/On-Site Contingency Plan
In order to ensure that public health and safety and the environment are protected in the event of an unplanned temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to

mitigate public health and safety impacts and environmental impacts are taken in a timely manner.

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

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

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

In addition, consistent with requirements under unplanned permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports.
In the event of an unplanned temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure.

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

COM-14, Unplanned Permanent Closure/On-Site Contingency Plan
The on-site contingency plan required for unplanned temporary closure shall also cover unplanned permanent facility closure. All of the requirements specified for unplanned temporary closure shall also apply to unplanned permanent closure.

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

In the event of an unplanned permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall

take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

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

CBO Delegation and Agency Cooperation

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

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

Enforcement

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Energy Commission Decision. The specific action and amount of any fines the Energy Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, oversight, unforeseeable events, and other factors the Energy Commission may consider.

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

Noncompliance Complaint Procedures

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

Informal Dispute Resolution Procedure

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

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

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

Request for Informal Investigation
Any individual, group, or agency may request that the Energy Commission conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and, within seven working days of the CPM's request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report, within 48 hours, followed by a written report filed within seven days.

Request for Informal Meeting
In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within 14 days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

1. immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary;
3. conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and
4. after the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not

been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1230 et seq.

Formal Dispute Resolution Procedure-Complaints and Investigations
If the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et seq. The Chairman, upon receipt of a written request stating the basis of the dispute, may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Energy Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Cal. Code Regs., tit. 20, §§ 1232-1236).

POST CERTIFICATION CHANGES TO THE ENERGY COMMISSION DECISION: AMENDMENTS, insignificant project CHANGES AND VERIFICATION CHANGES

The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to delete or change a condition of certification, modify project design, operation or performance requirements, and to transfer ownership or operational control of the facility.

A petition is required for amendments and for insignificant project changes as specified below. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the CPM, who will file it with the Energy Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209.

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

Amendment
A proposed project modification will be processed as an amendment if it alters the intent or purpose of a condition of certification, has potential for significant adverse environmental impact, or may violate applicable laws, ordinances, regulations or standards. The full Commission must approve formal amendments. The project owner shall file a petition in accordance with Title 20, California Code of Regulations, section 1769 (a).

Change of ownership or operational control also requires that the project owner files a petition, and obtains full Commission approval, pursuant to section 1769 (b).

Insignificant Project Change
If a proposed modification does not alter the intent or purpose of a condition of certification, does not have potential for significant adverse environmental impact, does not violate applicable laws, ordinances, regulations, or standards, or does not result in an ownership change, it will be processed in accordance with Section 1769(a)(2). In this regard, as specified in Section 1769(a)(2), Commission approval is not required.

The CPM shall file a statement that staff has made such a determination with the Commission Docket and mail a copy of the statement to every person on the project's post-certification mailing list.

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 in section 1769 (a) (2). If an objection is received, the petition must be processed as a formal amendment to the final decision and must be approved by the full Commission at a noticed business meeting or hearing.

Verification Change

The proposed change will be processed as a verification change if it involves only the language in the verification portion of the condition of certification. This procedure can only be used to change verification requirements that are of an administrative nature, usually the timing of a required action. In the unlikely event that verification language contains technical requirements, the proposed change must be processed as an amendment. The CPM may initiate a verification change.

COM-6, 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	
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	

ATTACHMENT A
COMPLAINT REPORT/RESOLUTION FORM

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

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

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~~OVERRIDE~~

~~For the sake of consistency between proceedings, this section of the Decision parallels a similar section in the Morro Bay AFC (00-AFC-14) Decision interpreting and implementing the "override" provision of the Warren-Alquist Act, vis-à-vis the Coastal Act.~~

~~Sections 25523(d)(1) and 25525~~

~~As discussed above in **BIOLOGY**, section 25523(**d**)(1) requires the Energy Commission to find whether a proposed facility complies with all applicable laws including, when a facility is proposed in the coastal zone, compliance with the Coastal Act and with local coastal plans. If the Commission finds noncompliance, then section 25525 requires the Energy Commission to "consult and meet with the [Coastal Commission] to attempt to correct or eliminate the noncompliance". If, after that, the proposed facility still does not comply, the Energy Commission may certify the facility only if it determines that the proposed facility "is required for public convenience and necessity and that there are not more prudent and feasible means of achieving such public convenience and necessity."~~

~~Those determinations are solely within the province of the Energy Commission. The Energy Commission gives great weight to the assessment of the Coastal Commission on the compliance of proposed facilities with the Coastal Act (just as the Energy Commission also gives great weight to the assessment of other agencies on the compliance of proposed facilities with the laws that they administer), but the Energy Commission is ultimately responsible for making the determinations, based on the evidence in its record.~~

~~As discussed in the **LAND USE** section of this Decision, based upon our independent analysis of all the evidence of record, we have determined that the project, as conditioned, will conform to all applicable land use laws, ordinances, regulations, and standards, including applicable provisions of the Coastal Act and the City of El Segundo's Local Coastal Program (LCP).~~

~~We have further determined that two Coastal Commission Reports pursuant to Public Resources Code section 30413(b) do not apply in a stand-alone AFC and do not compel the Energy Commission to adopt the recommendations of the Coastal Commission in this case, namely a pre-certification 316(b) study and implementation of the Hyperion Wastewater Cooling Alternative. Instead, based on the weight of evidence, we have independently determined that the project does substantially comply with the Coastal Act by virtue of the post-certification 316(b) study pursuant to Condition **BIO-4** and since the Hyperion Wastewater Cooling Alternative is infeasible and more harmful to the environment.~~

~~However, to remove all doubt regarding the ability of this Decision to allow the project to proceed and out of an abundance of caution, we have performed the "override" analysis and made the findings required by Public Resources Code section 25525 to specifically override any portion of the Coastal Act that might potentially prohibit construction and operation of the project.~~

~~Section 25525 and the Override~~

~~Where the Commission considers the licensing of a project that does not conform to state or local laws, ordinances, regulations, or standards (LORS), the Commission cannot license that project unless it determines "that such facility is required for public convenience and necessity and that there are not more prudent and feasible means of achieving such public convenience and necessity." (Pub. Resources Code § 25525.) This determination must be made based on the totality of the evidence of record and consider environmental impacts, consumer benefits, and electric system reliability. In essence, the statutory override scheme requires separate and different findings, balancing of benefits and impacts, as well as the consideration of feasible alternatives. We address these matters in the following discussion.~~

~~As we have explained in the various sections of this Decision, we have concluded that the El Segundo Redevelopment Project will not create any significant adverse environmental effects. We have also, in each topic area, evaluated the evidence of record and explained our reasoning as to why we were not persuaded that the project would in fact create significant adverse impacts.~~

~~Even were we to have concluded differently concerning the significance of Aquatic Biology impacts as urged by Staff, the Coastal Commission and the environmental Intervenors, the evidence conclusively establishes the benefits attributable to the project, and does not persuasively suggest that the project, as mitigated with our Conditions of Certification, would create an impact so significant as to prevent it being constructed and operated. Therefore, the weight of the evidence of record would compel us to find and conclude that the El Segundo Redevelopment Project provides, on balance, a level of comparative benefit.~~

~~This stems largely from the facts in the evidentiary record that the project will use the existing power plant infrastructure and construct a cleaner, more efficient plant than now exists. The proposed project will have a reduced visual impact; will reduce the rate of marine species entrainment with the flow cap of Condition **BIO-3;** will fund the feasibility study of the aquatic filter barrier (**BIO-2**); and will donate $1 million to the Santa Monica Bay Restoration Commission (**BIO-1**). Moreover, the Energy Commission's current Integrated Energy Policy Report (IEPR) has determined that under certain circumstances, the state may require additional electrical generation as soon as the year 2006, which is approximately when this project would probably come on line. Therefore, state policy currently favors the construction of additional generating capacity.~~

~~Section 25525 (LORS Override)~~

~~Public Resources Code section 25525 provides in pertinent part:~~

> ~~The commission shall not certify any facility when it finds... that the facility does not conform with any applicable state, local, or regional standards, ordinances, or laws, unless the commission determines that such facility is required for public convenience and necessity and that there are not more prudent and~~

> ~~feasible means of achieving such public convenience and necessity. In making the determination, the commission shall consider the entire record of the proceeding, including, but not limited to, the impacts of the facility on the environment, consumer benefits, and electric system reliability.~~

~~This statutory provision, especially when read in conjunction with other provisions of the Public Resources Code (see, e.g., §§ 25001, 25005, 25006), conclusively establishes that the Legislature has declared that the siting of thermal power plants in excess of 50 megawatts is a matter of state interest. For present purposes, this means that the Commission has the authority to supersede the regulatory capacities of other governmental jurisdictions (such as the California Coastal Commission) and, in accordance with section 25525, license a power plant even though it may not comply with all state or local LORS.~~

~~The statute recognizes that a LORS noncompliance does not necessarily equate with the creation of a significant adverse environmental impact under CEQA. The emphasis is simply on a different concern. In order to address the override/noncompliance issue, section 25525 directs us to determine two things: whether a project is required for "public convenience and necessity" and whether there are not "more prudent and feasible means of achieving such public convenience and necessity."[6] These are discussed below.~~

~~*Public Convenience and Necessity*~~

~~While there is no judicial decision interpreting section 25525, numerous decisions address the phrase "public convenience and necessity" as it appears in Public Utilities Code section 1001. This phrase is used in a similar context in both statutes and, absent evidence of legislative intent to the contrary, is presumed to have a similar meaning for present purposes. (*Building Material & Construction Teamsters' Union* v. *Farrell* (1986) 41 Cal.3d 651, 665.) It is well-settled by judicial decisions on Section 1001 that "public convenience and necessity" has a broad and flexible meaning, and that the phrase "cannot be defined so as to fit all cases." (*San Diego & Coronado Ferry Co.* v. *Railroad Commission (1930)* 210 Cal. 504.) In this context, "necessity" is not used in the sense of something that is indispensably requisite. Rather, any improvement which is highly important to the public convenience and desirable for the public welfare may be regarded as necessary. It is a relative rather than absolute term whose meaning must be ascertained by reference to the context and the purposes of the statute in which it is found. (See, *San Diego Ferry* at p. 643.)~~

~~In assessing whether or not the El Segundo Redevelopment Project is required for public convenience and necessity, we must logically first ascertain whether this project is reasonably related to the goals and policies of our enabling legislation. The Warren-Alquist Act expressly recognizes that electric energy is essential to the health, safety, and welfare of the people of California, and to the state's economy. Moreover, the statute declares that it is~~

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[6] ~~Section 25525 specifies that we examine the entire record, and also specifies that we make our determinations based upon the effects of the facility on the environment, consumer benefits, and electric system reliability. We also note that we are not limited to only these three factors, and believe the criteria set forth in the Commission's Decision on the Geysers Unit 16 project remain relevant. (Docket No. 79-AFC-5 (Sept. 30, 1981), Pub. No. P800-81-007; see, pp. 104-105.)~~

~~the responsibility of state government to ensure that the state is provided with an adequate and reliable supply of electrical energy. (Pub. Resources Code § 25001.)~~

~~The evidence of record conclusively establishes that the project will make use of the existing El Segundo Generating Station infrastructure while reducing impacts of the existing plant on the El Segundo and Manhattan Beach communities. The project will generate electrical energy, and that that energy will be consumed in the local area.~~

~~The statute does not, however, focus on public convenience and necessity solely in a limited geographical context. Rather, the focus is on electricity's essential nature to the welfare of the state as a whole. This logically not only includes a specific area, but also recognizes the interconnected nature of the electrical grid and the interdependence of the people and the economy in one sector of the state upon the people and the economy in the balance of the state. The evidence also establishes that the project's duct-firing capability will provide the electrical system with flexible peaking capacity that is necessary to keep the electrical grid stable. Furthermore, the Commission's Integrated Energy Policy Report recognizes the need for increased supplies of electrical energy throughout the state within the next few years.~~

~~We believe the conclusion is inescapable that electrical energy is essential to the functioning of contemporary society. Since the El Segundo Redevelopment Project will provide a portion of the electrical energy supply essential to the well-being of the state's citizens and its economy, we conclude that this project is required for public convenience and necessity within the meaning of section 25525.~~

~~*More Prudent and Feasible Means*~~

~~There is no clear or meaningful distinction between the words "prudent" and "feasible" as used in section 25525.[7] Under the Warren-Alquist Act, the existence of a "prudent and feasible" means of achieving the public convenience and necessity does not prevent an override; only the existence of a "more prudent and feasible" means prevents the Commission from overriding LORS.[8] In making this determination, we must balance a variety of relevant factors, including the project's impacts upon the environment, consumer benefits, and electric system reliability as specified in the statute, while giving substantial but not overwhelming weight to avoiding LORS noncompliance. We have essentially performed an analogous exercise in our~~ **~~ALTERNATIVES~~** ~~discussion. However, in order to more specifically address the enumerated statutory factors, we will briefly recap it here.~~

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[7] ~~We note that CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Pub. Resources Code § 21061.1; see also, 14 Cal. Code of Regs., §15361 which adds "legal" to the list of factors.) However, even using the CEQA definition, it appears that any "prudent" alternative would have to be "feasible" -- or, in other words, any alternative that is *not* "capable of being accomplished in a successful manner with in a reasonable period of time" would not be "prudent."~~

[8] ~~This is different from the CEQA standard which, as we have explained previously, does not require choice of the *best* project alternative as long as a project is acceptable. In the override circumstance, the statute requires that any alternative means of serving public convenience and necessity be *better* than that proposed.~~

~~*Environmental Impacts*~~

~~As explained in each of the preceding portions of this Decision, we have found that the project will not create any significant direct or cumulative adverse environmental impacts. Furthermore, we have specified numerous mitigation measures and Conditions of Certification to ensure that all of the project's impacts are reduced to below levels of significance. In some areas, we have imposed additional mitigation to ensure that the project will comply with applicable standards. In others, we have chosen between differing ways of mitigating identified impacts. In each instance we have based our determinations on what we perceive to be the persuasive weight of the evidence of record.~~

~~Some of the findings noted elsewhere in this Decision regarding the project's benefits to the environment are repeated below:~~

- ~~The project will be located on the site of the existing El Segundo Generating Station and will include removal of the existing tank farm to reduce visual impacts.~~
- ~~The project's reduced stack height and site location will reduce existing visual impacts.~~
- ~~The project's fuel efficiency using duct firing compares favorably with alternative means of producing peaking power.~~
- ~~The project will reduce cooling water intake with a flow cap, thus reducing impingment and entrainment impacts on marine resources.~~
- ~~The project will prepare a feasibility study for the first-time use of an aquatic filter barrier in an open-ocean setting.~~
- ~~The project will contribute $1 million to the Santa Monica Bay Restoration Commission for the projects or studies that aid in the restoration of Santa Monica Bay.~~
- ~~The project will reduce impingement impacts by at least 80 percent and entrainment impacts by at least 60 percent below unmitigated levels in compliance with new federal Clean Water regulations, which also require a new site-specific 316(b) study.~~

~~*Consumer Benefits*~~

~~In addition, the record contains persuasive evidence that the project will result in increased revenue to the City of El Segundo and other local jurisdictions from taxes, employment, and sales of services, manufactured goods, and equipment.~~

~~*Electric System Reliability*~~

~~The project will serve local electrical loads. It will replace 50 year-old generation technology with modern, efficient generation. In addition, the project's duct firing provides the electrical system with flexible peaking capacity that is necessary to keep the grid stable.~~

~~These matters are not seriously disputed. We have examined alternatives and found that no feasible alternative sites or technologies reasonably meet the project objectives. In addition, we have extensively examined alternative cooling options and found that none are feasible at the proposed site. These contentions are essentially the same as those in the **ALTERNATIVES** and **BIOLOGY - Hyperion Wastewater Cooling Alternative**, above. What is most pertinent, for present purposes, is whether or not we are convinced that there is a more prudent and feasible means, when compared with the project, of achieving similar public convenience and necessity.~~

~~As summarized in the **ALTERNATIVES** section, we have conducted a review of alternative technologies, fuels, and the "no project" alternative and found that no feasible technology alternatives such as geothermal, solar, hydroelectric, or wind resources are capable of meeting project objectives. Moreover, the use of alternative generating technologies would not prove efficient, cost-effective or mitigate any significant environmental impacts to levels of insignificance. Plus, no significant environmental impacts would be avoided under the "no project" alternative. The use of a dry cooling alternative reviewed in our record is infeasible on the project site and would cause greater noise and visual impacts to the neighboring communities.~~

~~As discussed in the **BIOLOGY** section, a combination of engineering, environmental, and economic problems associated with the Hyperion Wastewater Cooling Alternative render it infeasible and environmentally more harmful that the project.~~

~~The net result of the potential use of any of the alternative sites or alternative cooling options thus appears to us to be reasonably likely to create potential problems at least comparable to or greater than those encountered by the proposed project. On balance, the various alternative proposals do not, in our estimation, equate with a more prudent and feasible means of achieving public convenience and necessity.~~

~~The record adequately reflects that the Applicant, the Coastal Commission and the Staff have repeatedly discussed methods of satisfying applicable Coastal Act LORS. Nevertheless, the Coastal Commission determined that the specific provisions contained in its two Reports are necessary for the project to comply with the Coastal Act, namely a pre-certification 316(b) study and implementation of the Hyperion Wastewater Cooling Alternative. We have found that these Reports are not mandated in a stand-alone AFC. Notwithstanding, we have attempted to balance the project's benefits against the purposes and provisions of the Coastal Act LORS, with which the Coastal Commission asserts the project does not comply. We have required Condition **BIO-4**, which specifies a post-certification 316(b) study under the direction of the LARWQCB. However, on the basis of our extensive evidentiary record, we cannot concur with the Coastal Commission that the Hyperion Wastewater Cooling Alternative is feasible.~~

~~Therefore, we specifically override any provisions of the Coastal Act that would prohibit construction and operation of the El Segundo Redevelopment Project at the proposed location.~~

~~FINDINGS AND CONCLUSIONS~~

~~Based upon the totality of the evidence of record, and specifically considering the factors enumerated in Public Resources Code section 25525, we make the following findings and reach the following conclusions:~~

1. ~~The El Segundo Redevelopment Project is required for public convenience and necessity.~~

2. ~~We have assessed whether there are more prudent and feasible means of achieving public convenience and necessity by balancing a variety of factors, including the project's environmental impacts, consumer benefits, and electric system reliability.~~

3. ~~The project will not create significant direct or cumulative adverse environmental impacts~~

4. ~~There are no more prudent and feasible means of achieving public convenience and necessity similar to that provided by the project.~~

5. ~~Applicant and Staff have met with representatives of the Coastal Commission in an attempt to resolve any potential LORS noncompliance.~~

6. ~~We have imposed various measures through the Conditions of Certification contained in this Decision to avoid noncompliances with applicable LORS, to achieve compliance with applicable LORS to the extent feasible, and to bring the project into compliance with applicable LORS.~~

~~Therefore, as provided in Public Resources Code section 25525, we conclude that it is necessary to override any provision of the Coastal Act, which would prohibit construction and operation of the project at the site discussed herein.~~

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ADOPTION ORDER

The Commission adopts this Decision on the El Segundo Power Redevelopment Project and incorporates the Presiding Member's Proposed Decision. This Decision is based upon the record of the proceeding (Docket No. 00-AFC-14).

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

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

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

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

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

5. The analysis of record assesses all potential environmental impacts associated with the project.

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

7. ~~As provided in Public Resources Code section 25525, it is necessary to override any provision of the Coastal Act, which would prohibit construction and operation of the project at the site discussed herein.~~

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

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

1. The Application for Certification of the El Segundo Power Redevelopment Project in El Segundo, California, as described in this Decision, is hereby approved, and a certificate to construct and operate the project is hereby granted.

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

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

4. ~~The Commission uses its authority as provided in Public Resources Code section 25525 to override any provision of the Coastal Act which would prohibit construction and operation of the project at the site discussed herein.~~

5. The decision is adopted on (date), consistent with Public Resources Code section 25530 and California Code of Regulations, title 20, section 1720.4.

6. Any petition requesting Commission reconsideration of this Decision (or any determination by the Commission on its own motion to reconsider) shall be filed and served on (date), which is no later than 30 days after the date of adoption. (Pub. Resources Code section 25530.)

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7. Judicial review of certification decisions is governed by Section 25531 of the Public Resources Code.

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

Dated _____, at Sacramento, California.

_____	_____
WILLIAM J. KEESE Chairman	ARTHUR H. ROSENFELD Commissioner
_____	_____
JAMES D. BOYD Commissioner	JOHN L. GEESMAN Commissioner
_____	
JACKALYNE PFANNENSTIEL Commissioner	