CALIFORNIA
ENERGY
COMMISSION

EL SEGUNDO POWER REDEVELOPMENT PROJECT

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

PRESIDING MEMBER'S
PROPOSED DECISION, PART 2

JANUARY 2004
(P800-04-004)

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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; and
- Access to adjacent residential and commercial property during the construction of all pipelines.

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. **MITIGATION:** ☑ The Project Owner shall complete and implement an approved perimeter screening and on-site landscape plan. 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 and vicinity is low to moderate. (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 see the new facility with the replaced units 1 and 2 which are located on the north side. 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)

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 for commuters.

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 very 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 Visibility and Viewer Exposure is moderate to high. 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 is very high. Overall visual sensitivity is high. *FSA pp. 4.11-27.*

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 architectural 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.

MITIGATION:

☑ The Project Owner shall complete and implement an approved perimeter screening and on-site landscape plan. 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.

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 of Bay view corridors which would exist from Vista del Mar 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 to 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 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 portions of Units 5, 6 and 7 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.

Prior to the start of construction, the project owner shall submit to 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 the fronts of 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 the fronts of 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 Land Use Policies and Goals	Provides goals and requirements pertaining to the appearance and enhancement of visual quality in the residences adjacent to the plant.

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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-1.**

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 5-14-2). 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.

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.)

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 LA County Department of Hazardous Materials for review and comment and to the CPM for review and approval, 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 construction waste management plan to the Los Angeles County Department of Hazardous Materials 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 LA County Department of Hazardous Materials, the Los Angeles Regional Water Quality Control Board and 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 Los Angeles County Fire Department, 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 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 Los

Angeles County Fire Department, the Glendale Regional Office of the California Department of Toxic Substances Control, the Los Angeles Regional Water Quality Control Board, 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 Los Angeles County Fire Department, the Glendale Regional Office of the California Department of Toxic Substances Control, the Los Angeles Regional Water Quality Control, 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 San Bernardino Fire Department/City of Redlands 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.

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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 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 7421FA 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).

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 1998 California Building Code, or its successor. The Chief Building Officials of the City of El Segundo 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 Code with the oversight and approval of the local 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, or those used for the storage of hazardous materials. 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 local 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, or handling of hazardous or toxic materials. 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 1998 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 1998 CBC is in effect, the 1998 CBC provisions, identified herein, shall be replaced with the applicable successor provisions.

The procedures and limitations for the seismic design of structures by the 1998 CBC are determined considering seismic zoning, site characteristics, occupancy, structural configuration, structural system and height. Different design and analysis procedures are recognized in the 1998 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 1998 California Building Code (CBC) and all other applicable LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (The CBC 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 1998 CBC is in effect, the 1998 CBC 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 [1998 CBC, Section 109 – Certificate of Occupancy].

GEN-2: Prior to submittal of the initial engineering designs for CBO review, the project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM when requested.

Verification: At least 60 days (or 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 1998 CBC [Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be as otherwise agreed by the project owner and the CBO.

Verification: The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next Monthly Compliance Report indicating that the applicable fees have been paid.

GEN-4: Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer or civil engineer, as a resident engineer (RE), to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24, § 4-209, Designation of Responsibilities).] All transmission facilities (lines, switchyards, switching stations, and substations) are 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 Code (CBC); the 1998 CBC 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"[1] 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.

[1] Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

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.

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 conjunction with air and water quality, public health and safety, environmental and other applicable regulations, guidelines, and conditions adopted or established by the Commission and specified in the written decision on the Application for Certification or otherwise required by law.

The Compliance Plan is composed of the following elements:

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

2. Specific Conditions of Certification:

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

GENERAL CONDITIONS OF CERTIFICATION

DEFINITIONS

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

SITE MOBILIZATION: Moving trailers and related equipment onto the site, usually accompanied by minor ground disturbance, grading for the trailers and limited vehicle parking, trenching for 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: 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-site.

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

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

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

COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

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

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

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

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a Condition of Certification requires CPM approval, it should be understood that the approval would involve all appropriate staff and management.

The Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Commission about power plant construction or operation-related questions, complaints or concerns.

Pre-Construction and Pre-Operation Compliance Meeting

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

Energy Commission Record

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

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

PROJECT OWNER RESPONSIBILITIES

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.

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 records maintained on-site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

Compliance Record

The project owner shall maintain project files on-site or at an alternative site approved by the CPM, for the life of the project. The files shall contain copies of all "as-built" drawings, all documents submitted as verification for conditions, and all other project-related documents for the life of the project, unless a lesser period is specified by the Conditions of Certification.

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

Compliance Verifications

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

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

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

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

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

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

All submittals shall be addressed as follows:

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

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

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

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

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

Completed or satisfied conditions do not need to be included in the compliance matrix after they have been identified as completed/satisfied in at least one monthly or annual compliance report.

Pre-Construction Matrix
Prior to commencing construction, a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the

CPM. This matrix will be included with the project owner's **first** compliance submittal. It will be in the same format as the compliance matrix referenced above.

Tasks Prior to Start of Construction

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. Project owners frequently anticipate starting project construction as soon as the project is certified. In some cases it may be necessary for the project owner to file submittals prior to certification if the required lead-time for a required compliance event extends beyond the date anticipated for start of construction. It is also important that the project owner understand that pre-construction activities that are initiated prior to certification are performed at the owner's own risk. Failure to allow specified lead-time may cause delays in start of construction.

Various lead times for verification submittals 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.

Monthly Compliance Report

The first Monthly Compliance Report is due the 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 is found at the end of this section.

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

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

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

3. an initial, and thereafter updated, compliance matrix 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);

4. a list of conditions which 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; and

10. any requests to dispose of items that are required to be maintained in the project owner's compliance file.

11. a listing of complaints, notices of violation, official warnings, and citations received during the month; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

Annual Compliance Report

After the air district has issued a Permit to Operate, 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, and

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

10. a listing of complaints, notices of violation, official warnings, and citations received during the year; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

Confidential Information

Any information, which 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, which is determined to be confidential, shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

Department of Fish and Game Filing Fee

Pursuant to the provisions of Fish and Game Code Section 711.4, the project owner shall pay a filing fee in the amount of eight hundred and fifty dollars ($850). The payment instrument shall be provided to the Commission's Project Manager at the time of project certification and shall be made payable to the California Department of Fish and Game. The Commission's Project Manager will submit the payment to the Office of Planning and Research at the time of filing of the notice of decision pursuant to Public Resources Code Section 21080.5.

Reporting of Complaints, Notices, and Citations

Prior to the start of construction, the project owner must provide notification in accordance with **NOISE-1** notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering, with date and time stamp recording. The telephone number shall be posted at the project site and easily visible to passersby during construction and operation.

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 on the following page.

COMPLAINT REPORT/RESOLUTION FORM

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

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

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 which provide the flexibility to deal with the specific situation and project setting that exist at the time of closure. 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, unexpected temporary closure and unexpected permanent closure.

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.

Unexpected Temporary Closure

An unplanned unexpected 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.

Unexpected Permanent Closure

An unplanned unexpected permanent closure occurs if the project owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes unexpected closure where the owner remains accountable for implementing the on-site contingency plan. It can also include unexpected closure where the project owner is unable to implement the contingency plan, and the project is essentially abandoned.

General Conditions for Facility Closure

Planned Closure

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.

Also, 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 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 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 Commission approval of the facility closure plan is obtained.

Unexpected Temporary Closure
In order to ensure that public health and safety and the environment are protected in the event of an unexpected 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, and environmental impacts, are taken in a timely manner.

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

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

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days (unless other arrangements are agreed to by the CPM), the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and

other equipment and the safe shutdown of all equipment (also see specific conditions of certification for the technical areas of Hazardous Materials Management and Waste Management).

In addition, consistent with requirements under unexpected 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 unexpected temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., 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 a temporary closure is likely to be permanent, or for a duration of more than twelve months, a closure plan consistent with that 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).

Unexpected Permanent Closure
The on-site contingency plan required for unexpected temporary closure shall also cover unexpected permanent facility closure. All of the requirements specified for unexpected temporary closure shall also apply to unexpected 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 unexpected permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., 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 that for a planned closure shall be developed and submitted to the CPM within 90 days of the permanent closure (or other period of time agreed to by the CPM).

DELEGATE AGENCIES
To the extent permitted by law, the Energy Commission may delegate authority for compliance verification and enforcement to various state and local agencies that have expertise in subject areas where specific requirements have been established as a Condition of Certification. If a delegate agency does not participate in this program, the Energy Commission staff will establish an alternative method of verification and enforcement. Energy Commission staff reserves the right to independently verify compliance.

In performing construction and operation monitoring of the project, the Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). The Commission staff retains this authority when delegating to a local CBO. Delegation of authority for compliance verification includes the authority for enforcing codes, the responsibility for code interpretation where required, and the authority to use discretion, as necessary, in implementing the various codes and standards.

Whenever an agency's responsibility for a particular area is transferred by law to another entity, all references to the original agency shall be interpreted to apply to the successor entity.

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 Conditions of the Commission Decision. The specific action and amount of any fines the 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, inadvertence, unforeseeable events, and other factors the Commission may consider.

Moreover, to ensure compliance with the Conditions of Certification and applicable laws, ordinances, regulations, and standards, 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 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 Conditions of Certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the matter must be referred to the full Energy Commission for consideration via the complaint and investigation process. The procedure for informal dispute resolution is as follows:

Request for Informal Investigation
Any individual, group, or agency may request the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission's 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 (7) 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 forty-eight (48) hours, followed by a written report filed within seven (7) 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 fourteen (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 agency 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 either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et. seq.

The 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 Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Title 20, California Code of Regulations, sections 1232 - 1236).

POST CERTIFICATION CHANGES TO THE 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, to 1) delete or change a condition of certification; 2) modify the project design or operational requirements; and 3) transfer ownership or operational control of the facility.

A petition is required for amendments and for insignificant project changes. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209.

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

Amendment (1769(A)(3))
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, may violate applicable laws, ordinances, regulations or standards, or involves an ownership change.

Insignificant project Change (1769(A)(2))
If a proposed modification does not alter the intent or purpose of a condition of certification, have potential for significant adverse environmental impact, violate applicable laws, ordinances, regulations, or standards, or 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.

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.

KEY EVENT LIST

PROJECT _____ DATE ENTERED

DOCKET # _____ PROJECT MANAGER

EVENT DESCRIPTION	***DATE ASSIGNED***
Date of Certification	
Start of Construction	
Completion of Construction	
Start of Operation (1st Turbine Roll)	
Start of Rainy Season	
End of Rainy Season	
Start T/L Construction	
Complete T/L Construction	
Start Fuel Supply Line Construction	
Complete Fuel Supply Line Construction	
Start Rough Grading	
Complete Rough Grading	
Start of Water Supply Line Construction	
Completion of Water Supply Line Construction	
Start Implementation of Erosion Control Measures	
Complete Implementation of Erosion Control Measures	

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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. 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 decision is adopted on (date), consistent with Public Resources Code section 25530 and California Code of Regulations, title 20, section 1720.4.

5. 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.)

6. Judicial review of certification decisions is governed by Section 25531 of the Public Resources Code.

7. 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

_____
Vacant